CHAPTER 1

Executive Summary

1.1 PURPOSE OF THE FINAL ENVIRONMENTAL IMPACT REPORT

Under the California Environmental Quality Act (CEQA) and the University of California procedures for implementing CEQA, following completion of a Draft Environmental Impact Report (Draft EIR) the University is required to consult with and obtain comments from public agencies that have jurisdiction by law or discretionary approval power with respect to the proposed project, and to provide the general public with opportunities to comment on the Draft EIR. The University also is required to respond to environmental issues raised in the review and consultation process. The Draft EIR for the UC Santa Cruz Long Range Development Plan (LRDP) and three specific development projects was circulated for 86 days, from October 18, 2005 to January 11, 2006. Based on comments received on the Draft EIR, the University conducted additional traffic analysis and re-issued a portion of the Draft EIR for public and agency review under the title Recirculated Draft EIR – Additional Traffic Analysis (RDEIR). The RDEIR was issued for public review on March 20, 2006. The public review period lasted 45 days, from March 20, 2006 through May 3, 2006. This Final EIR has been prepared to respond to agency and public comments received on the Draft EIR and the RDEIR.

The Final EIR consists of the Draft EIR (Volumes I, II, and III), the RDEIR, and this three-volume document. Volume IV of the Final EIR includes an Executive Summary, a description of project refinements, changes to the Draft EIR text, and the Mitigation Monitoring Programs for the LRDP and the three specific development projects. Volumes V and VI contain copies of all comment letters, and responses to comments. The RDEIR is included in the Final EIR as Appendix A to Volume VI. This Final EIR, including all documents referenced therein, is available for public review during normal business hours by appointment at UC Santa Cruz, Physical Planning & Construction, Barn G, UC Santa Cruz. Copies of this Final EIR are also available for review at the McHenry Library and the Science and Engineering Library on the campus, and at the Central Branch of the Santa Cruz City/County Library in downtown Santa Cruz. Paper copies of the Final EIR or electronic copies on compact disk may be ordered for purchase at Kinko's Copies in downtown Santa Cruz and XpressIt copy services on the main campus through October 31, 2006. The Final EIR is also available on the UC Santa Cruz web site at http://lrdp.ucsc.edu.

As the public agency principally responsible for approving or denying the proposed project, the University of California is the Lead Agency under CEQA. The Board of Regents of the University of California (The Regents) is responsible for reviewing and certifying the adequacy of this environmental document and making a decision with respect to the proposed LRDP.

1.2 FINAL DRAFT 2005 LRDP

1.2.1 Introduction

The Draft EIR analyzed the impacts of the proposed January 2005 Draft LRDP (Draft 2005 LRDP), which planned for an enrollment of up to 21,000 three-quarter-average full-time equivalent (FTE) students, and associated growth in faculty and staff. In addition to identifying mitigation measures to reduce the significant impacts of the Draft 2005 LRDP, the Draft EIR analyzed four alternatives to the Draft 2005 LRDP that also would reduce impacts. The Draft EIR identified an environmentally superior alternative, the Reduced Enrollment Growth Alternative (EIR Alternative 2) that would meet most of the objectives of the Draft 2005 LRDP. The Reduced Enrollment Growth Alternative would reduce the Draft 2005 LRDP's significant impacts with respect to aesthetics, air quality, biological resources, cultural resources, geology, hydrology, noise, population and housing, recreation, transportation, and utilities. In response to agency and public comments regarding the environmental impacts of the Draft 2005 LRDP, the Campus has decided to recommend to the President and The Regents that they consider the Reduced Enrollment Growth Alternative for adoption as the 2005 LRDP to guide the growth of the campus through the planning horizon of 2020-21. Although this alternative would not support the level of enrollment growth through 2020-21 that was anticipated in the January 2005 Draft LRDP, as originally proposed, and thus would limit program expansion, the Reduced Enrollment Growth Alternative would meet most of the other objectives of the proposed project, in that it would provide a physical framework sufficiently flexible to accommodate new initiatives, and create a dynamic teaching environment and opportunities for collaboration, research, and teaching. The Campus has revised the proposed LRDP consistent with the Reduced Enrollment Growth Alternative, and will present the revised version to The Regents for consideration as the Final Draft 2005 LRDP (September 2006).

The following subsections provide a summary description of the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative) and a summary of impacts. Chapter 2 of this volume, *Project Refinements*, provides a full description of project refinements included in the Final Draft 2005 LRDP (September 2006), particularly as related to adoption of the previously analyzed Reduced Enrollment Growth Alternative, as well as those related to one of the three specific development projects evaluated in Draft EIR Volume III. The implications of these project refinements for the Draft EIR analysis also are provided in Chapter 2.

1.2.2 Summary of Final Draft 2005 LRDP (September 2006)[1]

The Final Draft 2005 LRDP was analyzed previously in the Draft EIR as EIR Alternative 2, Reduced Enrollment Growth Alternative (see Draft EIR Volume II, Chapter 5). The Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative) would accommodate an on-campus increase in enrollment of 5,450 students over 2003-04 enrollment levels, to a total projected enrollment of 19,500 students by 2020-21, which constitutes about 78 percent of the enrollment growth envisioned in the Draft 2005 LRDP

and analyzed in the Draft EIR. It also anticipates an increase of about 1,340 in faculty and staff population for a total of 5,074 faculty and staff, and an increase of about 200 in non-UC Santa Cruz employees working on campus, for a total of about 750 by 2020-21. The Reduced Enrollment Growth Alternative was summarized in Chapter 5 of the Draft EIR, and is described in greater detail in Chapter 2 of this volume.

The Final Draft 2005 LRDP is a plan for the types and locations of campus development; it is generally the same as the Draft 2005 LRDP land use plan, but includes minor revisions to the amount of land for two of the land use designations previously proposed in the Draft 2005 LRDP. Taking into account these minor revisions, the Final Draft 2005 LRDP plans for growth within what is essentially the same footprint for development identified in the Draft 2005 LRDP. The Final Draft 2005 LRDP allows for the development of 1.2 million assignable square feet (asf) (1.98 gross square feet (gsf)) of additional academic and administrative space, and about 0.92 million asf (1.2 million gsf) of additional housing space on the campus by 2020-21. This would represent about 22 percent less growth in building space than that proposed under the Draft 2005 LRDP. The Final Draft 2005 LRDP provides for on-campus student housing to accommodate 50 percent of the undergraduate students and 25 percent of the graduate students (about 2,300 new bed spaces). The same number of campus employee housing units would be provided as were proposed under the Draft 2005 LRDP (125 units). This planning and development would support projected population growth on campus, enable new and expanded program initiatives, and provide for increased research activities to meet the education and research demand that is projected for the next 15 years.

Based on an overall reduction in the total building space, under the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative) there would be slightly less development within the campus core and/or in the north campus than envisioned in the Draft 2005 LRDP. The proposed expansions of the on-campus road network would still take place, and the new campus entrance at the western margin of the north campus would still be developed under the Final Draft 2005 LRDP.

It should be recognized that although the Final Draft 2005 LRDP proposes overall reductions in development and population relative to the Draft 2005 LRDP, as described in the Draft EIR (Volume II, Chapter 5, Reduced Enrollment Growth Alternative), each element of the proposed program is not reduced proportionately to the reduction in proposed new enrollment. The elements of the Final Draft 2005 LRDP have been adjusted to reflect reduced overall growth, but also to take into account varying program needs, campus priorities, and functional requirements. For example, while the proposed enrollment growth is reduced by about 22 percent, the overall land use plan is only marginally changed and the development footprint is reduced by about two or three percent. The square footage of various types of building space are reduced in varying ways, with space allocations based on program requirements and projections. Off-campus UC population proposed for facilities in the west side of Santa Cruz remains the same in the Final Draft 2005 LRDP as proposed in the Draft 2005 LRDP; however, employee population on the main campus is reduced. The Final Draft 2005 LRDP does not reduce the number of employee housing units proposed in the Draft. At the same time, while the student housing

[1] Rounded numbers are presented in this summary, and therefore these differ slightly from the actual numbers reported in the tables in Chapter 2.

percentage goals of the Draft 2005 LRDP are retained, the number of student beds to be provided under the Final Draft 2005 LRDP is reduced to reflect current accounting by Colleges and University Housing Services (CUHS), which takes into consideration the fact that a portion of the new student enrollment each year includes students already residing in Santa Cruz who do not contribute to the demand for on-campus housing. More detail on each element of the Final Draft 2005 LRDP is provided in Chapter 2 of this volume, which also assesses any changes in environmental effects that would result from adoption of the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative).

1.2.3 Impact Summary

As indicated above, the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative) would result in a reduced campus-related population, a reduced building program, and a small reduction in the land area subject to development, as compared to the Draft 2005 LRDP. As a result, the Final Draft 2005 LRDP would reduce significant and potentially significant impacts identified in the Draft EIR with respect to aesthetics, air quality, biological resources, cultural resources, geology, hydrology, noise, population and housing, recreation, transportation, and utilities. However, it should be noted that the overall impact conclusions presented in the Draft EIR for the Draft 2005 LRDP remain unchanged for the Final Draft 2005 LRDP. As a result, the impact statements and conclusions presented in Table 1-1 of this volume are the same as those previously presented in the Draft EIR for the Draft 2005 LRDP (Draft EIR Table 2-1). The 11 significant unavoidable impacts of the Draft 2005 LRDP also would occur under the Final Draft 2005 LRDP. Chapter 2 of this volume, *Project Refinements*, provides a more detailed discussion of the environmental impacts of the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative) in comparison to those for the previously proposed Draft 2005 LRDP, as identified in the Draft EIR. The evaluation and analysis in Chapter 2 demonstrates that the Draft EIR impact analysis for the Draft 2005 LRDP adequately analyzes the Final Draft 2005 LRDP now being proposed for adoption.

Table 1-1, at the end of this section, provides a complete list of all environmental impacts of the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative), and mitigation measures that have been identified to reduce the impacts where applicable. For each impact, Table 1-1 reports the significance of the impact before mitigation, applicable mitigation measures, and the level of significance of the impact after the implementation of the mitigation measures. As indicated above, the Draft EIR impact statements, conclusions, and mitigation measures for the Draft 2005 LRDP also apply to the Final Draft 2005 LRDP. However, it should be noted that, while no new impacts have been identified, in many cases the implementing language of Draft EIR mitigation measures has been clarified in response to public comment, and several new mitigation measures have been added to more effectively address the identified environmental impacts. Table 1-1 includes these added and revised measures. Revised Table 2-1 in Chapter 3, *Changes to Draft EIR Text*, of this volume provides the full text of the revised measures in underline/strikeout format so that the nature of the revisions can be seen.

1.3 SPECIFIC DEVELOPMENT PROJECTS

1.3.1 Infrastructure Improvements Project

1.3.1.1 Project Description

UC Santa Cruz proposes to implement a series of improvements to the utilities and infrastructure on campus, primarily to address problems and deficiencies in the existing systems. These improvements would be implemented in two phases. Construction of the Phase 1 Infrastructure Improvements would begin in late 2006 or early 2007, and would be completed in the first half of 2008. Construction of the Phase 2 Infrastructure Improvements would begin in the summer of 2008 and would be completed in approximately January 2010. With the exception of cooling water system improvements, all of these improvements would address existing deficiencies and problems and would not result in additional capacity to serve the growth under the 2005 LRDP. The Infrastructure Improvements Project (IIP) consists of the following improvements:

- **Storm Water Drainage System Improvements.** To address existing flooding and erosion problems, the Campus would construct improvements at approximately 95 locations. Work would occur during both Phase 1 and Phase 2.
- **Domestic/Fire Protection Water System Improvements.** To address deficiencies in the domestic/fire protection water system and improve its reliability under fire flow conditions, the Campus would add or replace sections of pipeline, and add or replace pressure-reducing valves. Work would occur during Phase 1.
- **Campus Core Cooling Water System Improvements.** To address the projected need for more cooling water on the campus, the Campus would add a new multi-cell cooling tower to the campus core cooling water system and install short new pipeline segments. Work would occur during Phase 1.
- **Campus Core Heating Water System Improvements.** To address inefficiencies in the campus core heating water system, improvements to the campus core heating water system would be implemented. These would include replacement of low-temperature–rated piping in the campus core and modifications to the Sinsheimer Laboratories heating and cooling system to absorb excess heat from the cogeneration system and allow it to function more effectively. Work would occur during Phase 2.
- **Electrical System Improvements.** Improvements to the campus electrical system would consist primarily of switch replacements. Work would occur during Phase 2.
- **Natural Gas System Improvements.** Problems of inadequate pressure in the natural gas distribution system to the upper portion of the campus core would be addressed by piping upgrades. Work would occur during Phase 2.

Minor changes to the IIP relative to its description in the Draft EIR are presented in Chapter 2 of this volume, *Project Refinements.* The implications of the minor project description changes for the analysis of environmental effects in the Draft EIR are also discussed in that chapter. That evaluation shows that the project refinements would not result in new significant impacts nor would they increase the severity of

previously analyzed impacts. Chapter 3, *Changes to Draft EIR Text*, of this volume provides the full text of project revisions in underline/strikeout format so that the nature of the revisions can be seen.

1.3.1.2 Impact Summary

Table 1-2, *Infrastructure Improvements Project Summary of Environmental Effects and Mitigation Measures*, presents a summary of the environmental impacts that could potentially result from the approval and implementation of the Infrastructure Improvements Project. As shown in the analysis of the project in the Draft EIR, Volume III, Section 2.4, *Environmental Setting, Impacts, and Mitigation Measures*, the proposed Infrastructure Improvements Project has the potential to result in significant impacts with respect to: impact on waters of the United States (IIP-SW Impact BIO-1); temporary and permanent loss of riparian vegetation (IIP-SW Impact BIO-2); temporary direct and indirect impact to California red-legged frog habitat (IIP-SW/DW Impact BIO-5); loss of nesting and roosting habitat for special-status raptors (IIP-SW Impact BIO-6); impact on portions of significant cultural resources (IIP-SW Impact CULT-1); risk to life and property from location on unstable geologic unit (IIP-ALL Impact GEO-1); impact from exposure to contaminated building materials (IIP-ALL Impact HAZ-2); water quality impacts from construction site runoff (IIP-ALL Impact HYD-2); impact from erosion and siltation (IIP-SW Impact HYD-3); substantial increase in noise during construction (IIP-ALL Impact NOIS-1); and substantial permanent increase in noise levels (IIP-CW Impact NOIS-2). The majority of these impacts are reduced to less-than-significant levels by the mitigation measures in Table 1-2.

1.3.2 Family Student Housing Project

1.3.2.1 Project Description

The proposed project is the redevelopment of the existing Family Student Housing (FSH) complex, which would consist of demolition of the existing 199 family student housing units, and construction of 400 new units. The expanded and improved housing facilities would provide on-campus housing for 400 student families. Residential population of the site would increase from 511 students and family members at present, to about 1,025 persons, including 400 students. The proposed project also includes redevelopment and expansion of existing child care facilities at the site to include an Early Education and Child Care Center, consolidated administrative offices for the campus child care program, and community facilities for the FSH community. After redevelopment, the expanded facility would increase child care capacity from the present 78-child capacity to 178 children, with a child care staff of 52 persons. The Campus proposes to demolish and rebuild the existing complex in two phases, with the first phase starting in 2008, and the second phase within the 2005 LRDP planning period, as feasible, based on funding availability, and other constraints and opportunities.

While no refinements were made to the description of this project since the publication of the Draft EIR, Chapter 3, *Changes to Draft EIR Text*, of this volume provides revisions in underline/strikeout format to the Draft EIR text for this project based on internal review and Draft EIR comments.

1.3.2.2 Impact Summary

Table 1-3, *Family Student Housing Redevelopment Project Summary of Environmental Effects and Mitigation Measures*, presents a summary of the environmental impacts that could potentially result from the approval and implementation of the FSH Redevelopment Project. As shown in the analysis of the project in the Draft EIR, Volume III, Section 3.4, *Environmental Setting, Impacts, and Mitigation Measures*, the proposed FSH Redevelopment Project has the potential to result in significant impacts with respect to: deterioration of the visual character and quality of the project site (FSH Impact AES-3); result in new light and glare (FSH Impact AES-4); PM_{10} emissions during construction (FSH Impact AIR-1); conflict with the Air Quality Management Plan (FSH Impact AIR-4); nesting raptors (FSH Impact BIO-2); an archaeological site (FSH Impact CULT-1); caves in Cave Gulch (FSH Impact CULT-2); construction on expansive soils (FSH Impact GEO-1); construction on karst topography (FSH Impact GEO-2); exposure to contaminated building materials (FSH Impact HAZ-1); erosion and polluted runoff (FSH Impact HYD-2); construction noise (FSH Impact NOIS-1); traffic at two off-campus intersections (FSH Impact TRA-1); and construction traffic hazards (FSH Impact TRA-3). The majority of these impacts are reduced to less-than-significant levels by the mitigation measures in Table 1-3.

1.3.3 2300 Delaware Avenue Project

1.3.3.1 Project Description

The 2300 Delaware Avenue Project, analyzed in the Draft EIR, Volume III, Chapter 4, proposes interior reconfiguration and retrofitting of former electronics manufacturing facilities on a site in the west side of the City of Santa Cruz acquired by the University in 2004. The long term use of these facilities is a component of the proposed 2005 LRDP for the main campus. The acquisition and initial occupancy of the facility were addressed under a Categorical Exemption (supported by an environmental checklist assessment in the project file), approved in 2004. Buildings A and B at the site were occupied in 2005, consistent with that approval. These two buildings presently provide office space for 246 UC employees and, as of Fall 2006, were almost fully occupied. For purposes of providing a conservative analysis of environmental impacts, the 246 persons who already occupy Buildings A and B, are considered to be part of and are included within the proposed new population for the facility.

Under the proposed project, 54 additional work stations would be accommodated through minor interior remodeling in Buildings A and B, which would increase office capacity in these two buildings from 246 to about 300 persons. In addition, an existing kitchen and cafeteria in Building B would be retrofitted to provide café services to the occupants of the 2300 Delaware Avenue facility.

The proposed project also includes interior remodeling of Building C, at the same site, to provide a computer facility, laboratory and other research space, and to accommodate University Receiving, Mail and Printing services that would be moved from the main campus. The remodeling of Building C also would provide laboratory and office space for faculty, staff, and graduate and postdoctoral scholars affiliated with campus research. At full development, Building C would have a total population of up to 482 people. Under the proposed project, the three buildings at 2300 Delaware Avenue, thus, could accommodate a total population of up to 782 persons.

While no refinements were made to the description of this project since the publication of the Draft EIR, Chapter 3, *Changes to Draft EIR Text*, of this volume provides revisions in underline/strikeout format to the Draft EIR text for this project based on internal review and Draft EIR comments.

1.3.3.2 Impact Summary

Table 1-4, *2300 Delaware Avenue Project Summary of Environmental Effects and Mitigation Measures*, presents a summary of the environmental impacts that could potentially result from the approval and implementation of the 2300 Delaware Avenue Project. As shown in the analysis presented in Draft EIR, Volume III, Section 4.4, *Environmental Setting, Impacts, and Mitigation Measures,* the proposed 2300 Delaware Avenue Project has the potential to result in significant impacts with respect to: use of hazardous materials by non-UC entities (DA Impact HAZ-1); quality of storm water runoff (DA Impact HYD-2); deterioration of recreational facilities (DA Impact REC-1); degradation of LOS at two city intersections (DA Impact TRA-1); and demand for transit (DA Impact TRA-3). The majority of these impacts would be reduced to less-than-significant levels by the mitigation measures included in Table 1-4.

1.4 ORGANIZATION OF THE FINAL ENVIRONMENTAL IMPACT REPORT

A Final EIR is required to include the Draft EIR, a list of persons or entities commenting on the Draft EIR, copies of comments received during public review of the Draft EIR, and responses to comments received on the Draft EIR. The previously published Draft EIR is presented as Volumes I, II, and III of this Final EIR. Volumes IV, V, and VI of this Final EIR are organized as follows:

- **Chapter 1, Executive Summary.** Presents the decision of the Campus to recommend the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative) to the President and The Regents of the University of California for adoption as the 2005 LRDP for the Santa Cruz Campus. It includes a brief description of the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative) and summarizes the environmental impacts and mitigation measures that would be implemented to minimize the impacts of the project. It also presents a brief description of each of the three specific development projects and the environmental impacts of these projects. The organization of the Final EIR is also explained.
- **Chapter 2, Project Refinements.** Describes refinements made to the proposed Draft 2005 LRDP to reflect the Reduced Enrollment Growth Alternative, (previously analyzed in the Draft EIR). It also describes changes to the Infrastructure Improvements Project since the publication of the Draft EIR, and presents relevant additional information that became available during the circulation of the Draft EIR. It presents an assessment of environmental impacts from these changes and concludes that the changes would not result in new significant impacts or an increase in the severity of impacts previously identified in the Draft EIR.

- **Chapter 3, Changes to Draft EIR Text.** Consists of excerpts from the text of the Draft EIR, Volumes I, II, and III, revised where appropriate based on internal review and in response to comments received. Changes to the wording of impact or mitigation statements, and material added to or deleted from the impact analyses and discussions, are presented. Changes are shown in underscore and strikeout, so that the original and revised text may be compared. Because the project analyzed in detail in the Draft EIR has been refined, as described above, this chapter focuses on changes to the technical sections of the Draft EIR that are relevant to the analysis of environmental impacts of the Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative). However, it should be noted that not every section of the Draft EIR has been revised to reflect the project refinements contained in the Final Draft 2005 LRDP. Rather, a full description of the project changes associated with the Final Draft 2005 LRDP, and an assessment of the environmental impacts related to these changes, is presented in Chapter 2, *Project Refinements,* of the Final EIR.
- **Chapter 4, Mitigation Monitoring Program.** Presents the mitigation monitoring programs (MMP) for the proposed LRDP and the three specific development projects.
- **Chapter 5, Response to Comments.** Includes a list of all agencies, organizations and individuals that submitted comments on the Draft EIR and the RDEIR during the two public review periods. This section also includes all comments received on the Draft EIR, including comment letters and transcripts from public hearings, and responses to each written and verbal comment received. Each letter/transcript and each comment within a letter/transcript has been numbered. Responses are assigned corresponding numbers. Where appropriate, responses are cross-referenced. In addition to individual responses to the comments received, master responses are provided to address multiple comments submitted on a single topic.
- **Chapter 6, List of Preparers.** Lists the University staff, technical specialists and consultants, the production team, and other key individuals who assisted in the preparation and review of the Final EIR.
- **Appendix A, Recirculated Draft EIR.** The additional traffic analysis conducted and circulated after the publication of the Draft EIR is included in Appendix A at the end of Volume VI.
- **Appendix B, Main Campus Water Demand Projections and Wastewater Flows.** The water demand projections and wastewater flow information for the Draft 2005 LRDP are included in Appendix B, at the end of Volume VI.
- **Appendix C, Housing Impact Study.** Two memoranda regarding the housing impact study conducted by Bay Area Economics in 2005 are included in Appendix C, at the end of Volume VI.
- **Appendix D, Level of Service Calculations for Final EIR.** The level of service worksheets for additional traffic analysis conducted in response to comments are included in Appendix D, at the end of Volume IV.

Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
4.1 Aesthetics					
AES-1	Development under the 2005 LRDP would not significantly affect scenic vistas from key vantage points across the campus to the Monterey Bay.	LS	Mitigation not required		NA
AES-2	Development under the 2005 LRDP would not have a substantial effect on uphill scenic vistas that include the campus as viewed from vantage points on the campus and in the city of Santa Cruz.	LS	Mitigation not required		NA
AES-3	Development under the 2005 LRDP could substantially damage scenic resources on campus around the lower campus meadows.	PS	**AES-3A**	For development projects around the lower campus meadows that have the potential to affect scenic resources, the Campus shall conduct visual simulations and, when necessary, shall modify project design to maintain scenic resources through measures such as changes in scale, massing, building orientation, building finish, screening or other measures to reduce the visual obtrusiveness of the construction.	LS
			AES-3B	For Academic Core development in and bordering the Great Meadow, the Campus shall limit the removal of natural vegetation outside building footprints, and cluster development at meadow edges.	
			AES-3C	The Campus shall design the alignment and grades of the new Meyer Drive extension to be below the line of sight as viewed from Hagar Drive. If necessary, earthen berms shall be incorporated into the roadway design for purposes of screening the new roadway.	
AES-4	Development under the 2005 LRDP could substantially damage the aesthetic quality of the Cowell Ranch Historic District as a scenic resource.	PS	**AES-4**	Until the final Cowell Ranch Historic District Management Plan is completed, for projects in the Cowell Ranch Historic District or within 500 feet of its boundaries, the Campus shall take the following measures into account in project design to preserve the historic visual quality of the historic district: • To the greatest extent feasible, a buffer of at least 200	LS

[1]**NA**: Not applicable; **NI**: No impact; **LS**: Less than significant; **PS**: Potentially significant; **S**: Significant; **SU**: Significant and unavoidable

Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
AES-4 (cont)				feet shall be maintained between the boundaries of the historic district and new building development that would be visible against the backdrop of historic buildings from significant campus viewpoints. • New buildings or structures within 500 feet of the district boundaries shall be subject to review by the Design Advisory Board to ensure that design is consistent with or complementary to the historic aspect of the district and its buildings with respect to scale, massing, architectural style and materials, such that the rural historic visual character of the district is maintained. Once the Final Cowell Ranch Historic District Management Plan is adopted, all projects within adjacent areas identified in the management plan shall be evaluated for consistency with the visual design guidelines included in the Management Plan.	
AES-5	Development under the 2005 LRDP could substantially degrade the existing visual character of the campus and adjacent areas.	PS	**AES-5A**	Prior to design approval of development projects under the 2005 LRDP, the UC Santa Cruz Design Advisory Board shall review project designs for consistency with the valued elements of the visual landscape identified in the 2005 LRDP, and the character of surrounding development so that the visual character and quality of the project area are not substantially degraded.	LS
			AES-5B	For projects in redwood forest areas that are visible from areas outside the forest, building heights will be designed to be no higher than the height of the surrounding trees. If a building taller than all the surrounding trees is proposed for construction in a redwood forest area, visual simulations shall be prepared. If the proposed design is determined, in consultation between the visual consultant and the campus, to be degrading to the visual character of the campus, the design will be modified to reduce the visual obtrusiveness of	

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Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
AES-5 (cont)				the proposed project.	
			AES-5C	Campus development shall be designed and construction activities shall be undertaken in a manner that shall minimize removal of healthy and mature trees around new projects, except where the proximity of adjacent mature trees to new development is expected to result in a safety hazard or the ultimate decline of the trees.	
			AES-5D	The Campus shall continue its Site Stewardship Program to help maintain and restore natural areas on campus.	
			AES-5E	The Campus shall ensure that the site plan and design of any development in the Campus Support area on Empire Grade Road adjacent to Cave Gulch: (1) includes an undeveloped visual buffer between the new structures and Empire Grade Road; (2) maintains the natural vegetation in this buffer while adequately managing the fire hazard; and (3) provides an arrangement of buildings and vegetation on the site to screen views of on-site activities from Empire Grade Road and Santa Cruz Waldorf School.	
			AES-5F	Trees identified for removal will be evaluated for their aesthetic value as part of the environmental review process of individual projects. Individual construction projects that result in the removal of large oak trees or other large unique trees considered to be aesthetically valuable components of the landscape shall replace such trees at a 1-to-1 ratio, either on site, or elsewhere on campus via a contribution to the campus's Site Stewardship program for planting replacement trees.	

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Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
AES-6	Development under the 2005 LRDP could create new sources of substantial light or glare on campus that could adversely affect daytime or nighttime views in the area.	PS	**AES-6A**	Where there is a potential for reflective glare, as along meadow margins, project design shall provide for the use of non-reflective exterior surfaces, or other design measures to avoid new sources of reflected light.	LS
			AES-6B	Lighting for new development projects shall be designed to include directional lighting methods shielded to minimize light spillage and minimize atmospheric light pollution. This lighting should be compatible with the visual character of the project site and meet the UC Regents' Green Building Policies.	
			AES-6C	As part of the design review process, the UC Santa Cruz Design Advisory Board shall consider project-related light and glare and the Campus shall require the incorporation of measures into the project design to limit both to the extent allowed by code.	
			AES-6D	The Campus shall require that field lights used for the illumination of sports and recreation fields be turned off after 11 PM to minimize night lighting sources on campus, except when special events are scheduled.	
			AES-6E	As part of the design review process, UC Santa Cruz Design Advisory Board shall review outdoor lighting fixtures for roads, pathways, and parking facilities to ensure that the minimum amount of lighting needed to achieve safe routes is used, and to ensure that the proposed illumination limits adverse effect on nighttime views.	
AES-7	Development under the 2005 LRDP, in conjunction with other regional development, would not result in significant cumulative impacts on scenic vistas of the Monterey Bay and the Santa Cruz Mountains as viewed from key vantage points.	LS	Mitigation not required		NA

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Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures	Level of Significance Following Mitigation[1]
AES-8	Development under the 2005 LRDP, in conjunction with other regional development, would result in cumulative visual changes, which however, would not substantially degrade the existing visual character or quality of the region.	LS	Mitigation not required	NA
AES-9	Development under the 2005 LRDP, in conjunction with other regional development, could result in increased light and glare but would not adversely affect daytime or nighttime views in the region.	LS	Mitigation not required	NA
4.2 Agricultural Resources				
AG-1	Development under the 2005 LRDP would not convert any lands on campus identified as Important Farmland under the State Farmland Mapping and Monitoring Program to nonagricultural uses	NI	Mitigation not required	NA
AG-2	Development under the 2005 LRDP would not result in changes in the existing environment, which, due to their location or nature, could result in the conversion of farmland to nonagricultural use.	NI	Mitigation not required	NA
AG-3	Growth under the 2005 LRDP, in conjunction with other growth in the region, would not result in the conversion of substantial acreages of Important Farmlands to nonagricultural uses.	LS	Mitigation not required	NA
4.3 Air Quality				
AIR-1	Construction activities under the 2005 LRDP would result in emissions of PM_{10} on a short-term basis.	LS	**AIR-1** The Campus shall apply standard MBUAPCD-recommended mitigation measures during construction of new facilities under the 2005 LRDP, as appropriate: • Water all active construction areas at least twice daily. • Prohibit all grading activities during periods of high wind (over 15 mph). • Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).	NA

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LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
AIR-1 (cont.)				• Apply non-toxic binders (e.g., latex acrylic copolymer), as appropriate, to exposed areas after cut and fill operations and hydroseed area. • Require haul trucks to maintain at least 2 feet of freeboard. • Cover all trucks hauling dirt, sand, or loose materials. • Plant vegetative ground cover in disturbed areas as soon as possible. • Cover inactive storage piles. • Install wheel washers at the entrances to construction sites for all exiting trucks. • Pave all roads on construction sites. • Damp-sweep streets if visible soil material is carried out from the construction site. • Post a publicly visible sign that specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay Unified Air Pollution Control District shall be visible to ensure compliance with Rule 402. • Each project shall limit the area under construction at any one time.	
AIR-2	Campus growth under the 2005 LRDP would result in daily operational emissions above the MBUAPCD thresholds, and therefore the proposed project may contribute substantially to a violation of air quality standards or hinder attainment of the regional air quality plan.	S	**AIR-2A**	The Campus shall incorporate in each new project design and construction features that conserve natural gas and/or minimize air pollutant emissions from space and water heating. Specific measures that will be considered for each project include, but are not limited to the following: • Orientation of buildings to optimize solar heating and natural cooling; • Use of solar or low-emission water heaters in new	SU

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AIR-2 (cont)			buildings; and/or • Installation of best available wall and attic insulation in new buildings		
			AIR-2B	The Campus shall implement LRDP Mitigation TRA-2B to reduce motor vehicle trips.	
			AIR-2C	The Campus shall install VOC and NO_x controls on the new gas turbines to reduce emissions by 90 percent (e.g., Oxidation catalyst and SCR).	
AIR-3	Traffic generated by development under the 2005 LRDP, in conjunction with traffic associated with other regional growth, would result in an increase in local CO concentrations at study area intersections.	LS	Mitigation not required		NA
AIR-4	Growth associated with the 2005 LRDP would conflict with the Air Quality Management Plan.	S	**AIR-4A**	The Campus will work with AMBAG to ensure that campus growth associated with the 2005 LRDP is accounted for in the regional population forecasts.	SU
			AIR-4B	The Campus will work with MBUAPCD to ensure that the campus growth-related emissions are accounted for in the regional emissions inventory and mitigated in future regional air quality planning efforts.	
AIR-5	Campus operations under the 2005 LRDP would not result in a substantial human health risk to campus occupants and other populations in the vicinity of the campus from long-term exposures to TACs, but would result in a substantial health risk to campus occupants at certain on-campus locations from short-term exposures to TACs.	S	**AIR-5A**	The Campus shall develop and implement an emergency generator maintenance testing schedule consistent with Table 4.3-22.	LS
			AIR 5B	If the Campus does not replace the existing cogeneration system with a new system with lower emissions within three years of LRDP approval, the Campus shall conduct source tests for acrolein for the Central Plant emergency generator and the Delaval engine, and recalculate the hazard index for acute exposure (HIA) using the results of those tests. If the HIA is greater than 1.0 with Mitigation AIR-5A, the Campus shall reduce emissions from the emergency generator either by: (1) replacing the generator, (2) replacing	

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AIR-5 (cont)				the engine with a more efficient one, or (3) installing a catalytic oxidizer or other emissions controls.	
AIR-6	Construction activities under the 2005 LRDP could potentially result in a substantial health risk to campus occupants at certain on-campus locations from short-term exposures to TACs.	Speculative	**AIR-6**	The Campus will minimize construction emissions by implementing measures such as those listed below: • Require the use of cleaner fuels (e.g., natural gas, ethanol) in construction equipment • Require that construction contractors use electrical equipment where possible • Require construction contractors to minimize the simultaneous operation of multiple pieces equipment at a construction site • Minimize idling time to a maximum of 5 minutes when construction equipment is not in use • Schedule operations of construction equipment to minimize exposure to emissions from construction equipment	NA
AIR-7	Regional growth could result in an increase in toxic air contaminants but the implementation of technological improvements would reduce air toxics and associated human health risks.	LS	**AIR-7**	UC Santa Cruz will continue its efforts in the area of TAC emission reduction.	NA
4.4 Biological Resources					
BIO-1	Development on the main campus under the 2005 LRDP could result in a substantial adverse effect, directly and indirectly, on northern maritime chaparral, a sensitive natural community identified by CDFG, and Santa Cruz manzanita, a special-status plant that generally occurs within northern maritime chaparral areas.	PS	**BIO-1A**	**Avoidance.** The Campus shall avoid removal or fragmentation of any patch of northern maritime chaparral greater than 10 acres in size and any patch of Santa Cruz manzanita greater than 0.25 acres in size, where feasible, and shall establish a habitat buffer between development and adjacent northern maritime chaparral. The habitat buffer will consist of a band of native vegetation, at least 30-feet wide, between the chaparral patch and the adjacent development. This habitat buffer may be included within the 100-foot-wide fire buffer around buildings in cases where	LS

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BIO-1 (cont.)				this buffer would be managed by fuel reduction strategies compatible with habitat management (see LRDP Mitigation HAZ-10B). The Campus shall document northern maritime chaparral and Santa Cruz manzanita avoidance and impact minimization efforts in project-level environmental documents. If avoidance is determined to be infeasible, the environmental document shall also explain this conclusion.	
			BIO-1B	**Compensatory Preservation and Management on Campus.** Where avoidance as specified in LRDP Mitigation BIO-1A is determined not to be feasible, and a patch 10 acres or larger of northern maritime chaparral will be removed, the Campus shall designate for permanent preservation and shall manage comparable areas of existing northern maritime chaparral habitat on campus at a ratio of at least 1:1. Similarly, for any patch of Santa Cruz manzanita 0.25 acres or larger in size that will be removed, the Campus shall designate for permanent preservation and shall manage other areas of Santa Cruz manzanita on campus. Mitigation ratios for Santa Cruz manzanita may vary depending on the density of the stands affected and preserved, as indicated in Draft EIR Table 4.4-3, but must provide preservation at a ratio of at least 1:1. Preservation of northern maritime chaparral and Santa Cruz manzanita may occur at the same site as long as both required mitigation ratios are met. The acreage of northern maritime chaparral to be removed, the acreage and density of Santa Cruz manzanita patches to be removed, and the density of proposed preservation patches shall be assessed based on project-specific analyses using the most detailed and reliable vegetation mapping available. Protection and management planning for the proposed	

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LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures	Level of Significance Following Mitigation[1]
BIO-1 (cont.)			preservation areas of northern maritime chaparral and Santa Cruz manzanita shall occur prior to the removal of these resources due to development. Management to enhance habitat and species dominance and prevent succession to hardwood or evergreen forest shall continue in perpetuity. Within one year of protecting a stand, the Campus shall prepare a management and monitoring plan that describes quantitative biological goals, management techniques, safety procedures, monitoring protocols, schedules and success criteria for that stand. The management plan will be developed in consultation with CDFG and in coordination with the Campus Vegetation Management Plan (see LRDP Mitigation HAZ-10B) and will be consistent with safety requirements. Management plan components shall include monitoring and control of non-native invasive species and monitoring and removal of mixed hardwood forest trees. The goals of management for northern maritime chaparral and Santa Cruz manzanita shall be to reduce the incursion of mixed hardwood forest and non-native invasive species into these stands, encourage regeneration of chaparral species including Santa Cruz manzanita, and to maintain or increase the density of Santa Cruz manzanita in the chaparral, with the overall goal of maintaining and enhancing 1 acre of comparable or better quality chaparral habitat or Santa Cruz manzanita for every 1 acre removed. The effectiveness of the management plan will be reviewed at five-year intervals. If success criteria, as defined in the Management Plan, are not achieved within five years, the Campus shall review and revise the management plan. If it is determined after 10 years that the management effort was not successful at the selected site, or was successful for only a portion of the site, and is not likely to be successful, the Campus either shall designate another area of chaparral on campus for long term management; or shall implement	

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BIO-1 (cont.)				LRDP Mitigation BIO-IC (Restoration). If management was successful in a portion of the preserved area, sufficient acreage will need to be designated in a new area only to mitigate that portion of the acreage not previously mitigated at the original site. Each patch successfully managed to prevent succession will be protected and managed in perpetuity either through land use designation such as HAB (Campus Habitat Reserve), through a conservation easement or deed restriction, or through a similar permanent mechanism.	
			BIO-1C	**Restoration.** If no patch of northern maritime chaparral or Santa Cruz manzanita of adequate size or suitable density can be identified for preservation and management on campus, or if mitigation is not successful or only partially successful after 10 years at a preservation site, the Campus may designate a comparable, preferably contiguous, area of chaparral-forest transition habitat on campus for preservation and restoration. Northern maritime chaparral or Santa Cruz manzanita removed through development, or any portion of the patch not previously mitigated through preservation of a comparable patch, shall be mitigated through designation of chaparral-forest transitional habitat for restoration, at a ratio of 3:1, with the management goal of successfully restoring the acreage to chaparral at a 1:1 ratio for every acre lost to development. Portions of the chaparral-forest transition area that are contiguous with protected northern maritime chaparral and Santa Cruz manzanita areas will be given the highest priority for restoration in order to minimize edge effects. Within 1 year of designation, as specified in Mitigation BIO-1B, above, a management and restoration and monitoring plan, including quantitative success criteria, shall be prepared for the restoration area. Success criteria for	

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LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
BIO-1 (cont)				the restoration shall include providing equivalent or greater overall cover of native chaparral species (such as brittleleaf manzanita, Santa Cruz manzanita, sensitive manzanita, wartleaf ceanothus, blue blossom and chamise) as is found in the northern maritime chaparral that will be lost to development. Among the restoration techniques that could be used in the chaparral-forest transition areas are tree removal, monitoring and control of non-native species, and prescribed burning, where this can be conducted safely. Management of the site shall continue in perpetuity to protect the northern maritime chaparral management areas from succession to mixed evergreen forest. If northern maritime chaparral restoration does not meet the success criteria after 10 years, restoration areas shall be either replanted, or restoration attempted on another, suitable site on campus. Once the management success criteria have been met, the Campus will designate the parcel for preservation in perpetuity, as described under Mitigation BIO-1B, above. If restoration efforts on campus are not successful, the Campus may explore options for mitigation off campus, through mechanisms such as contribution to a mitigation bank or other management effort, provided that this will ensure protection and management of chaparral at the ratio of at least 1:1 for every acre lost on campus. Should the Campus elect to participate in an off-site mitigation program, priority will be given to sites that are closest to UC Santa Cruz in order to protect local genetic diversity.	
BIO-2	Development on the main campus under the 2005 LRDP could result in a substantial adverse impact to coastal prairie, a sensitive natural community.	PS	**BIO-2A**	The Campus shall avoid removal of coastal prairie through redesign of proposed development areas and road alignments. The design of all campus facilities shall include a buffer between development and prairie in order to reduce indirect impacts from edge effects such as increases in	LS

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BIO-2 (cont)				noxious weed species. The width of each buffer will depend on the site and the nature of adjacent development. The minimum buffer shall be 30 feet from the edge of paved areas or buildings to the edge of coastal prairie. Landscaped areas are acceptable within the habitat buffer, provided that they are planted with species that are not invasive in coastal prairie (i.e., no non-native grasses) and are not fire prone.	
			BIO-2B	The Campus shall mitigate for unavoidable losses of coastal prairie by restoring coastal prairie at a 3:1 ratio. Before impacts to coastal prairie occur, a management and monitoring plan, including quantitative success criteria, shall be prepared for the restoration site. Success criteria for the restoration shall include providing equivalent or greater overall (rather than species specific) cover of native perennial bunchgrasses (such as purple needlegrass, California oatgrass, and Pacific panic grass) and native forbs (such as white hyacinth and dwarf brodiaea) as is found in the coastal prairies that will be lost to development. Management of the site shall continue for at least 15 years to protect the coastal prairie management areas from reverting to annual grassland. If coastal prairie restoration does not meet the success criteria after 5 years, restoration shall be remedied (e.g., replanting) or restoration attempted on a new, more suitable site.	
BIO-3	Development under the 2005 LRDP could result in substantial, adverse direct and indirect impacts to jurisdictional wetlands.	PS	**BIO-3A**	At the time that a specific development project is proposed, the Campus shall conduct a site reconnaissance to determine whether wetlands are present on the site. If no potential wetlands are found, no further mitigation is necessary.	LS
			BIO-3B	If potential wetlands are found, the Campus shall retain a qualified biologist to conduct a delineation of waters of the state and waters of the United States during the environmental review phase of the project to determine the location, extent, and function of wetlands within 200 feet of	

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BIO-3 (cont)				development footprints.	
			BIO-3C	Direct impacts to jurisdictional wetlands shall be avoided in the design of the project. If avoidance is not feasible, the Campus shall implement LRDP Mitigation BIO-3D.	
			BIO-3D	If avoidance of wetlands is not feasible, to compensate for temporary or permanent loss of jurisdictional wetlands, the Campus shall restore or create wetland habitat to ensure no net loss of the extent and function of these communities. Prior to any work that could disturb jurisdictional or other wetland habitat within the project area, the Campus shall obtain the following permits as required: • U.S. Army Corps of Engineers – Nationwide or individual permit as required under Clean Water Act Section 404. • Central Coast Regional Water Quality Control Board – Water quality certification or waiver under Clean Water Act Section 401. • California Department of Fish and Game – Streambed Alteration Agreement. • Consultation with these agencies shall govern how the disturbance of wetlands will be mitigated, including the location and extent of wetland restoration or creation.	
BIO-4	Construction of bridge crossings and other improvements under the 2005 LRDP could result in substantial temporary and permanent adverse impact on riparian vegetation.	PS	**BIO-4A**	Campus construction projects shall avoid patches of riparian vegetation greater than 0.1 acre in size or longer than 300 linear stream feet. If avoidance is not feasible, LRDP Mitigation BIO-4B shall be implemented.	LS
			BIO-4B	The Campus shall compensate for the loss of patches of riparian vegetation greater than 0.1 acre in size or longer than 300 linear stream feet through onsite and/or offsite restoration and/or enhancement of riparian habitat in order	

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BIO-4 (cont)				to ensure that no significant loss of riparian habitat functions and values occurs. The size of the area(s) to be restored will be determined based on a 1:1 mitigation ratio. UC Santa Cruz shall retain a qualified restoration ecologist to develop a conceptual restoration and monitoring plan that describes how riparian habitat will be enhanced or restored and monitored over a minimum period of time. UC Santa Cruz shall be responsible for ensuring that the restoration and monitoring plan is implemented. The terms of the restoration and monitoring plan shall be determined in consultation with the CDFG and other permitting agencies.	
			BIO-4C	If more than 0.2 acre or 600 linear stream feet of riparian vegetation is temporarily disturbed or removed at UC Santa Cruz as a result of proposed storm water drainage improvements or other development under the 2005 LRDP, UC Santa Cruz shall restore riparian vegetation within the project area or in the nearest suitable upstream or downstream reach. Riparian vegetation shall be restored following the construction of each project that has a temporary impact on more than 0.2 acre or 600 linear feet of riparian vegetation. UC Santa Cruz shall compensate for the loss through onsite restoration and/or enhancement of riparian habitat in order to ensure that no significant loss of riparian habitat functions and values occurs. The size of the area(s) to be restored will be determined based on a 1:1 mitigation ratio. UC Santa Cruz shall retain a qualified restoration ecologist to develop a conceptual restoration and monitoring plan that describes how riparian habitat will be enhanced or restored and monitored over a minimum period of time. UC Santa Cruz shall be responsible for ensuring that the restoration and monitoring plan is implemented. The terms of the restoration and monitoring plan shall be determined in consultation with the CDFG and other permitting agencies.	

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BIO-5	Development under the 2005 LRDP would not result in an adverse impact, directly and indirectly, to special-status plant species.	LS	Mitigation not required		NA
BIO-6	Development under the 2005 LRDP has the potential to introduce or cause the spread of noxious weeds, which could reduce the abundance of native plants and sensitive communities.	PS	**BIO-6**	To avoid or minimize the introduction or spread of noxious weeds, sudden oak death or pitch canker into uninfested areas, UC Santa Cruz shall incorporate the following measures into project plans and specifications for work on the north campus to be conducted under the 2005 LRDP. • Only certified, weed-free materials shall be used for erosion control. • UC Santa Cruz shall identify appropriate best management practices to avoid the dispersal of noxious weeds, sudden oak death and pitch canker. The Campus shall then include appropriate practices in Campus Standards for construction to be implemented during construction in all north campus areas. Typical best management practices include the use of weed-free erosion control materials and revegetation of disturbed areas with seed mixes that include native species and exclude invasive non-natives. Best management practices to avoid the spread of sudden oak death and pitch pine canker will be determined in consultation with the California Department of Forestry. • In uninfested areas, topsoil removed during excavation shall be stockpiled and used to refill the trench on site if it is suitable as backfill	LS
BIO-7	Development under the 2005 LRDP could result in a substantial adverse impact on Ohlone tiger beetle populations on the campus from increased bicycle use on trails and obstruction of potential movement corridors by trees planted in the Arboretum.	PS	**BIO-7A**	During periods of adult beetle activity or larval development (January to June), bicycles will not be allowed on trails in Marshall Field or West Marshall Field that support Ohlone tiger beetles. Temporary fencing and signs will be installed and maintained during this period at trail entry points. The	LS

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BIO-7 (cont)				information signs will advise all trail users of the need to avoid these areas. UC Santa Cruz Police or Campus Maintenance Staff also shall patrol these areas during this period in order to alert or issue citations to violators and help ensure compliance.	
			BIO-7B	Any modification of the vegetation composition and/or fencing of Arboretum lands north of the currently enclosed Arboretum or the jointly-managed Campus Natural Reserve immediately northwest of the Arboretum will be developed in consultation with the USFWS in order to protect and maintain potential movement corridors for the Ohlone tiger beetle.	
BIO-8	Development under the 2005 LRDP would not result in a substantial adverse impact (i.e., loss or degradation of habitat) for cave invertebrates, including the Santa Cruz telemid spider, Dollof Cave spider, Empire Cave pseudoscorpion, or Mackenzie's Cave amphipod.	LS	**BIO-8A**	The Campus shall discourage activities by members of the public that could jeopardize the physical integrity, condition or scientific value of the caves, through appropriate signage and educational materials, Campus Natural Reserve website information, or other appropriate measures.	NA
			BIO-8B	The Campus shall consult with U.S. Fish and Wildlife Service and California Department of Fish and Game to develop a design for a barrier for the entrance of Empire Cave that will not harm special-status species inhabiting the cave. The barrier shall be installed, if determined to be advisable by USFWS and CDFG, to prevent illegal access to the cave.	
BIO-9	Development under the 2005 LRDP could result in a substantial adverse effect on breeding or important movement habitat for California red-legged frog; direct impacts to California red-legged frog populations; or indirect impacts on the species from downstream hydrological changes in the Moore Creek watershed.	PS	**BIO-9**	To minimize disturbance of breeding and dispersing California red-legged frogs, all ground-disturbing construction activity within the Moore Creek watershed, such as vegetation clearing, site leveling and grading, that occurs within designated red-legged frog habitat shall be conducted during the dry season, (after May 1 and before October 15). If ground-disturbing activities cannot be completed within the dry season, UC Santa Cruz shall	LS

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BIO-9 (cont))			contact the USFWS field office to initiate the following measures and determine whether additional mitigation measures are necessary to minimize potential impacts. • To prevent California red-legged frogs from moving through the construction site during the rainy season, temporary exclusion fencing shall be placed around the construction work area at least one week prior to the start of construction activities. The fence shall be made of a fine-meshed material that does not allow red-legged frogs to pass through, and the bottom shall be buried to a depth of two inches so that California red-legged frogs cannot crawl under the fence. • A qualified wildlife biologist shall monitor all construction activities within California red-legged frog upland habitat daily during initial ground-disturbing activities. The biological monitor shall look for red-legged frogs during grading, excavation, and vegetation removal activities. Once all initial ground-disturbing activities are completed, the biologist shall perform spot checks of the site once a week. If a red-legged frog is discovered, construction activities shall cease in the immediate vicinity of the individual until USFWS is contacted and the frog has been removed from the construction area by a qualified biologist with a permit to handle the species or by USFWS personnel, and released near a suitable burrow at least 300 feet away from the construction area. • Prior to the start of daily construction activities, the biological monitor shall inspect the perimeter fence to ensure that it is not ripped or has holes and that the base is still buried. The fence will also be inspected to ensure that no frogs are trapped in the fence. Any frogs found along and outside the fence will be closely monitored until they move away from the construction	

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			area.		
BIO-10	Development under the 2005 LRDP would not result in a substantial adverse impact associated with the loss of potential habitat or other indirect impacts to the southwestern pond turtle or coast horned lizard.	LS	Mitigation not required		NA
BIO-11	Development under the 2005 LRDP could result in the loss or abandonment of active nests for special-status raptors.	PS	**BIO-11**	Prior to construction or site preparation activities, a qualified biologist shall be retained to conduct nest surveys at each site that has appropriate nesting habitat. The survey shall be required for only those projects that will be constructed during the nesting/breeding season of sharp-shinned hawk, golden eagle, northern harrier, long-eared owl, or white-tailed kite (typically February 1 through August 31). • The survey area shall include all potential nesting habitat, including mixed evergreen forest, redwood forest, and isolated trees that are within 200 feet of the proposed project grading boundaries. The survey shall be conducted no more than 14 days prior to commencement of construction activities. • If active nests of sharp-shinned hawk, Cooper's hawk, golden eagle, northern harrier, Vaux's swift, long-eared owl, and white-tailed kite (or other species protected under the Migratory Bird Treaty Act and the California Fish and Game Code) are present in the construction zone or within 200 feet of the construction zone, a temporary fence shall be erected at a distance of 200 feet around the nest site (or less if determined to be appropriate by the biologist according to the species and site conditions). Clearing and construction within the fenced area shall be postponed until juveniles have fledged and there is no evidence of a second nesting attempt as determined by the biologist.	LS
BIO-12	Development under the 2005 LRDP would not	LS	**BIO-12A**	Prior to any ground disturbance of grassland habitats on the	NA

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BIO-12 (cont.)	potentially result in a substantial adverse impact on western burrowing owl.			lower campus, a qualified biologist will conduct a preconstruction survey to identify western burrowing owls and/or potential habitat features (e.g., burrows) and to evaluate use by burrowing owls in accordance with current CDFG survey guidelines (CDFG 1995). • Surveys will be conducted within the proposed disturbance footprint and a 500-foot radius of the disturbance boundary of each proposed project. For construction activities occurring within the western burrowing owl habitat (whether during breeding or non-breading seasons), surveys will be conducted within 30 days prior to construction. The surveys will document whether burrowing owls are nesting on or directly adjacent to disturbance areas. Survey results will be valid only for the season during which the survey is conducted. • If western burrowing owls are found during the breeding or nonbreeding season, LRDP Mitigation BIO-12B will be implemented.	
			BIO-12B	If burrowing owls are found, the Campus will avoid all burrowing owl nest sites to the extent feasible. Avoidance will include establishment of a non-disturbance buffer zone of at least 250 feet around each nest site during the breeding season. If burrowing owls are found outside the breeding season (September 1–January 31), avoidance will include the establishment of at least a 160-foot non-disturbance buffer zone around each burrow being used. In both cases, highly visible temporary construction fencing will delineate the buffer zone. • If burrowing owl nest sites cannot be avoided, the Campus will conduct passive relocation by installing one-way doors in suitable burrow entrances that are used or may be used by the owls. This measure is	

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LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
BIO-12 (cont)				described in detail below. • In order to displace burrowing owls without destroying eggs, young, or adults, one-way doors will be installed on owl burrows before February 1 prior to disturbance, and each burrow will be monitored following CDFG's protocol (CDFG 1995). Suitable artificial burrows will be created nearby according to the conservation measures established for this species. The protocol includes monitoring the burrow for a 48-hour period after the one-way doors are installed. The doors will be checked every 24 hours following installation to determine whether they are still intact. If the one-way door is still correctly installed after a continuous 48-hour period (i.e., no animals have dug up the door and rendered it useless), then the one-way door will be removed and the burrows will be excavated using hand tools and plastic tubing to maintain an escape route for any animals still inside the burrow.	
BIO-13	Development under the 2005 LRDP could result in a substantial adverse impact associated with the disturbance of roosting sites for special-status bats.	PS	**BIO-13A**	If tree removal or grading activity commences on a project site in the north campus during the breeding season of native bat species (April 1 through August 31), a field survey shall be conducted by a qualified biologist to determine whether active roosts of special-status bats (pallid bat, Pacific Townsend's big-eared bat, western red bat, long-eared myotis, fringed myotis, long-legged myotis, yuma myotis, or greater western mastiff bat) are present on the project site or in areas containing suitable roosting habitat within 50 feet of the project site. Field surveys shall be conducted in late April or early May in the season before construction begins, when bats are establishing maternity roosts but before pregnant females give birth. If no roosting bats are found, no further mitigation would be required.	LS

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			BIO-13B	If roosting bats are found, disturbance of the maternity roosts shall be avoided by halting construction until either (1) the end of the breeding season or, (2) a qualified biologist removes and relocates the roosting bats in accordance with CDFG requirements.	
BIO-14	Development under the 2005 LRDP could result in a substantial adverse impact associated with the loss of potential San Francisco dusky-footed woodrat nests.	PS	**BIO-14**	A pre-construction/grading survey of all suitable San Francisco dusky-footed woodrat habitat within 100 feet of the proposed grading footprint shall be conducted by a qualified biologist to detect any woodrat nests. • The survey shall be conducted no more than 14 days prior to commencement of construction activities. If active nests (stick houses) are identified within the construction zone or within 100 feet of the construction zone, a fence shall be erected around the nest site with a 100-foot minimum buffer from construction activities. At the discretion of the biologist, clearing and construction within the fenced area would be postponed or halted until juveniles have left the nest. The biologist shall serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur. If any woodrat is observed within the grading footprint outside of the breeding period, individuals shall be trapped and relocated to a suitable location in proximity to the project site by a qualified biologist in accordance with CDFG requirements, and the nest dismantled so it cannot be reoccupied.	LS
BIO-15	Development under the 2005 LRDP could interfere substantially with the movement of wildlife species or with established native resident or migratory wildlife corridors.	PS	**BIO-15**	New fencing planned for installation around Arboretum plantings between Moore Creek and the Great Meadow shall be constructed to allow for the movement of mammals across or around the barrier.	LS

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BIO-16	Development under the 2005 LRDP would not conflict with the approved HCP for California red-legged frog and Ohlone tiger beetle on campus.	LS	Mitigation not required		NA
BIO-17	Campus development under the 2005 LRDP, in conjunction with other regional development in northern Santa Cruz County, would not result in a substantial adverse cumulative impact on sensitive natural communities.	LS	Mitigation not required		NA
BIO-18	Development under the 2005 LRDP, in conjunction with other regional development, would not result in a substantial adverse cumulative impact on other special-status wildlife species or wildlife movement.	LS	Mitigation not required		NA
BIO-19	Campus population growth under the 2005 LRDP, in conjunction with other regional population growth, would result in a substantial adverse cumulative impact to Ohlone tiger beetle populations on campus from increased bicycle traffic on trails suitable for this species.	PS	**BIO-19**	The Campus shall implement LRDP Mitigations BIO-7A and BIO-7B.	LS
4.5 Cultural Resources					
CULT-1	Implementation of the 2005 LRDP could damage or destroy an archaeological resource as the result of grading, excavation, ground disturbance or other project development.	PS	**CULT-1A**	As early as possible in the project planning process, the Campus shall define the project's area of potential effects (APE) for archaeological resources based on the extent of ground disturbance and site modifications anticipated for the proposed project. The Campus shall also review confidential resource records[2] to determine whether complete intensive archaeological survey has been performed on the site and whether any previously recorded cultural resources are present.	LS
			CULT-1B	Where native soils will be disturbed, the Campus shall	

[2] Monterey Bay Archaeological Archives, Department of Anthropology, UC Santa Cruz and California Historical Resources Information System. Northwest Information Center, Sonoma State University.

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CULT-1 (cont)				provide and shall require contractor crews to attend an informal training session prior to the start of earth moving, regarding how to recognize archaeological sites and artifacts. In addition, campus employees whose work routinely involves disturbing the soil shall be informed how to recognize evidence of potential archaeological sites and artifacts. Prior to disturbing the soil, contractors shall be notified that they are required to watch for potential archaeological sites and artifacts and to notify the campus if any are found. In the event of a find, the Campus shall implement LRDP Mitigation CULT-1G, below.	
			CULT-1C	For project sites that have not been subject to prior complete intensive archaeological survey, the Campus shall ensure that a complete intensive surface survey is conducted by a qualified archaeologist during project planning and design and prior to soil disturbing activities. If an archaeological deposit is discovered, the archaeologist will prepare a site record and file it with the California Historical Resource Information System. In the event of a find within the area of potential effects, the Campus shall consult with a qualified archaeologist to design and conduct an archaeological subsurface investigation and/or a construction monitoring plan of the project site to ascertain the extent of the deposit relative to the project's area of potential effects, to ensure that impacts to potential buried resources are avoided.	
			CULT-1D	If it is determined that the resource extends into the project's area of potential effects, the Campus shall ensure that the resource is 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. This evaluation may require additional research, including subsurface testing, If the resource does not qualify, or if no resource is present within the project APE, this will be reported in the environmental document	

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CULT-1 (cont)				and no further mitigation will be required unless there is a discovery during construction.	
			CULT-1E	If a resource within the project's area of potential effects 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, or other means that will permit avoidance or substantial preservation in place of the resource.	
			CULT-1F	If avoidance or substantial preservation in place is not possible for an archaeological site that has been determined to meet CEQA significance criteria, the Campus shall retain a qualified archaeologist who, in consultation with the Campus, shall prepare a research design, and plan and conduct archaeological data recovery and monitoring that will capture those categories of data for which the site is significant, prior to or during development of the site. The Campus shall also ensure that appropriate technical analyses are performed, and a full written report prepared and filed with the California Historical Resources Information System, and also shall provide for the permanent curation of recovered materials.	
			CULT-1G	If an archaeological 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 extent of 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	

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CULT-1 (cont)				CULT-1F shall also be implemented.	
			CULT-1H	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 CULT-3A.	
CULT-2	Implementation of the proposed 2005 LRDP could damage or destroy a historic building or structure as the result of alteration of the building or of the site, or other project development.	PS	**CULT-2A**	For projects within Cowell Ranch Historic District overlay; the Campus shall implement LRDP Mitigations AES-4A and AES-4B.	LS
			CULT-2B	As early as possible in the project planning process, the Campus shall define the project's area of potential effects (APE) for historic structures. The Campus shall determine the potential for the project to result in impacts to or alteration of historic structures, based on the extent of site and building modifications anticipated for the proposed project.	
			CULT-2C	Before altering or otherwise affecting a building or structure 50 years old or older that has not been evaluated previously, the Campus shall retain a qualified architectural historian to record it at professional standards, and assess its significance 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	

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CULT-2 (cont)			is required and the impact is less than significant.		
			CULT-2D	For a building or structure that qualifies for listing on the CRHR, the Campus shall consult with the architectural historian 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.	
			CULT-2E	If the project cannot avoid modifications to a significant building or structure, the Campus shall ensure that documentation and treatment shall be carried out by a qualified architectural historian, as described below: • If the building or structure can be preserved on site, but remodeling, renovation or other alterations are required, this work shall be conducted in compliance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings" (Weeks and Grimmer 1995). • If a significant historic building or structure is proposed for major alteration or renovation, or to be moved and/or demolished, the campus shall ensure that a qualified architectural historian thoroughly documents the building and associated landscaping and setting. Documentation shall include still and video photography and a written documentary record of the building to the standards of the Historic American Building Survey (HABS) or Historic American Engineering Record (HAER), including accurate scaled mapping, architectural descriptions, and scaled architectural plans, if available. A copy of the record shall be deposited in the McHenry Library	

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CULT-2 (cont)			Special Collections, and with the California Historical Resources Information System. The record shall be accompanied by a report containing site-specific history and appropriate contextual information. This information shall be gathered through site specific and comparative archival research, and oral history collection as appropriate. • If preservation and reuse at the site are not feasible, the historical building shall be documented as described in item (ii) and, when physically and financially feasible, be moved and preserved or reused. **CULT-2F** If, in the opinion of the qualified architectural historian, the nature and significance of the building is such that its demolition or destruction cannot be fully mitigated through documentation, the Campus shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the proposed project that would allow the structure to be preserved intact. These could include project redesign, relocation or abandonment. If no such measures are feasible, the Campus shall implement LRDP Mitigation CULT-3B.	

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CULT-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	**CULT-3A**	If a significant archaeological resource cannot be preserved intact, before the property is damaged or destroyed, the Campus shall ensure that the resource is appropriately documented by implementing a program of research-directed data recovery, consistent with LRDP Mitigation CULT-1F.	SU
			CULT-3B	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 important information represented by the resource is preserved, by implementing a program of documentation as described in LRDP Mitigation CULT-2D.	
CULT-4	Implementation of the proposed 2005 LRDP could disturb human remains, including those interred outside of formal cemeteries.	PS	**CULT-4A**	The Campus shall implement LRDP Mitigations CULT-1A through CULT-1H to minimize the potential for disturbance or destruction of human remains in an archaeological context and to preserve them in place, if feasible.	LS
			CULT-4B	The Campus shall 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.	
			CULT-4C	In the event of a discovery on campus of human bone, suspected human bone, or a burial, the Campus shall ensure that all excavation in the vicinity halts immediately and the area of the find is 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 Santa Cruz County Coroner of the find and protect the find without further disturbance until the Coroner has made a finding relative to PRC 5097 procedures. 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	

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CULT-4 (cont)				Likely Descendant (MLD).	
			CULT-4D	If human remains cannot be left in place, the Campus shall ensure that the qualified archaeologist and the MLD are provided an opportunity to confer on archaeological treatment of human remains, and that appropriate studies, as identified through this consultation, are carried out. The Campus shall provide results of all such for local Native American involvement in any interpretative reporting. As required by the provisions of the California Native American Graves Protection and Repatriation Act (NAGPRA), 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, provided that the appropriate group can be identified through California NAGPRA procedures.	
CULT-5	Development under the 2005 LRDP has the potential to disturb or destroy unique paleontological resources.	PS	**CULT-5A**	During project planning, the Project Manager shall consult the most recent Campus Soils and Geology map to determine whether the proposed project is underlain by a formation that is known to be sensitive for paleontological resources.	LS
			CULT-5B	If the project site is underlain by paleontogically sensitive formations, the Campus shall retain a qualified paleontologist to determine, through assessment of results of geotechnical investigations or site inspection, whether proposed excavation or grading has the potential to encounter the members of sensitive formations that are fossiliferous, and if so, to develop a paleontological monitoring and data recovery plan and implement it during the construction period as appropriate. In addition, the paleontologist shall conduct a construction crew education session regarding paleontological potential and significance, and stop-work provisions in the event of a discovery.	
			CULT-5C	In the event of a discovery of a paleontological resource on	

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CULT-5 (cont)				campus, work within 50 feet of the find shall halt until a qualified paleontologist has examined and assessed the find and, if the resource is determined to be a unique paleontological resource, the resource is recovered. The Campus shall ensure that all finds are adequately documented, analyzed, and curated at an appropriate institution.	
			CULT-5D	In the event that a proposed project would result in impacts to a unique paleontological resource, the project planning team shall work together to reduce impacts to the find through design and construction modifications, to the extent feasible.	
CULT-6	Increased population on campus as a result of implementation of the 2005 LRDP could result in damage to the scientific value of unique geologic resources.	PS	**CULT-6**	The Campus shall implement LRDP Mitigations BIO-8A and -8B.	LS
CULT-7	Development under the 2005 LRDP could contribute to cumulative damage to and loss of the resource base of unique archaeological resources, historical resources (including archaeological sites and historic buildings and structures) and human remains in the Santa Cruz west side.	PS	**CULT-7**	The Campus shall implement LRDP Mitigations CULT-1 through CULT-4.	LS
CULT-8	Development under the 2005 LRDP would not contribute to cumulative damage to and loss of the resource base of unique paleontological resources in Santa Cruz County.	LS	Mitigation not required		NA
CULT-9	Development under the 2005 LRDP would not contribute to cumulative damage to and loss of the resource base of unique geological resources in Santa Cruz County.	LS	Mitigation not required		NA
4.6 Geology, Soils, and Seismicity					
GEO-1	Development under the 2005 LRDP could occur on a	PS	**GEO-1**	Where existing information is not adequate, detailed	LS

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	geologic unit or soil that would become unstable as a result of the project and could result in on- or off-site landslides, lateral spreading, or liquefaction, creating potential risks to life or property.		geotechnical studies shall be performed for areas that will support buildings or foundations. Recommendations of the geotechnical investigations will be incorporated into project design.	
GEO-2	Development under the 2005 LRDP could result in construction of campus facilities on expansive soil, but this would not create potential risks to life and property.	PS	**GEO-2** The Campus shall implement LRDP Mitigation GEO-1.	LS
GEO-3	Development under the 2005 LRDP would not result in substantial erosion of soils as a result of construction, including tree removal, and increased traffic.	LS	Mitigation not required	NA
GEO-4	Development under the 2005 LRDP could result in construction of facilities on sites underlain by karst features, which could lead to settling or collapse beneath the structures.	PS	**GEO-4** The Campus shall implement LRDP Mitigation GEO-1.	LS
GEO-5	Development under the 2005 LRDP would not expose people and structures on campus to potentially adverse effects associated with seismic ground shaking or seismic-related ground failure.	LS	Mitigation not required	NA
GEO-6	Cumulative development, including the development on campus under the 2005 LRDP, could expose people or structures to potential adverse effects involving seismic ground shaking.	LS	Mitigation not required	NA
4.7 Hazards and Hazardous Materials				
HAZ-1	Implementation of the 2005 LRDP would increase routine use of hazardous chemicals, radioactive materials, and/or biohazardous materials on campus by UC Santa Cruz laboratories and departments and in maintenance and support operations, which would not create significant hazards to the public or the environment.	LS	Mitigation not required	NA

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HAZ-2	Development under the 2005 LRDP could increase routine generation of hazardous, radioactive, or biohazardous wastes on campus by UC Santa Cruz laboratories and departments and in maintenance and support operations, which would not create significant hazards to the public or the environment because hazardous waste would continue to be comprehensively managed by UC Santa Cruz pursuant to state and federal law and campus policies and procedures.	LS	**HAZ-2**	The Campus will enhance its hazardous waste minimization program by (1) monitoring chemical purchases and use; and (2) maintaining a hazardous waste website to provide campus waste generators with the latest information on hazardous waste requirements; recycling, treatment, and disposal options; and waste minimization techniques.	NA
HAZ-3	Development under the proposed 2005 LRDP would increase the routine transport of hazardous materials to and from the UC Santa Cruz campus, which would not create significant hazards to the public or the environment.	LS	Mitigation not required		NA
HAZ-4	Development under the 2005 LRDP would not create significant hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LS	Mitigation not required		NA
HAZ-5	Development under the proposed 2005 LRDP would result in increased handling of hazardous or acutely hazardous materials within ¼ mile of an existing or proposed school, which would not create a significant hazard for those attending the school.	LS	Mitigation not required		NA
HAZ-6	Construction and demolition activities under the proposed 2005 LRDP would not expose construction workers and campus occupants to contaminated soil or groundwater.	LS	Mitigation not required		NA
HAZ-7	Demolition or renovation of buildings under the proposed 2005 LRDP could potentially expose construction workers and campus occupants to contaminated building materials.	LS	**HAZ-7**	The Campus shall survey buildings for potential contamination before any demolition or renovation work is performed. If contamination is discovered, appropriate remediation will be completed.	NA

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HAZ-8	Hazardous materials use on campus under the proposed 2005 LRDP would not exceed emergency response capabilities.	LS	Mitigation not required		NA
HAZ-9	Campus development under the 2005 LRDP could potentially interfere physically with the campus's Emergency Operations Plan (EOP).	PS	**HAZ-9A**	The Campus shall continue to include the following requirements in its Campus Standards and implement them under the 2005 LRDP: • Construction work shall be conducted so as to ensure the least possible obstruction to traffic. • Contractors shall notify the University's Representative at least two weeks before any road closure. • When paths, lanes, or roadways are blocked, detour signs must be installed to clearly designate an alternate route. Fire hydrants shall be kept accessible to fire fighting equipment at all times. To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, Physical Plant and Physical Planning and Construction shall continue to require that construction and maintenance project managers notify campus police and fire departments and the campus dispatchers of the closures and alternative travel routes.	LS
			HAZ-9B	The Campus shall test the effectiveness provisions of the Emergency Operations Plan (EOP) annually, and update as necessary.	
			HAZ-9C	Before the beginning of the construction of the north campus loop road, the Campus shall expand existing main campus EOP to cover new development areas. In addition, the Campus will develop a site-specific EOP prior to occupancy of Building C at 2300 Delaware Avenue.	
			HAZ-9D	Any new development project on the north campus shall be	

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HAZ-9 (cont)				provided with a secondary emergency egress route prior to occupancy of the development.	
HAZ-10	Campus development under the proposed 2005 LRDP would result in increased risk from wildland fires.	PS	**HAZ-10A**	UC Santa Cruz Fire Department will continue to conduct annual inspections of all residential and laboratory buildings and biennial inspections of all other buildings.	LS
			HAZ-10B	Prior to beginning north campus construction, UC Santa Cruz will develop a new Vegetation Management Plan aimed at preventing wildland fires in the north campus. This Vegetation Management Plan will include provisions governing vegetation management and will specify pruning guidelines and provide a minimum of 30 feet of clearance between existing vegetation and buildings. The Vegetation Management Plan will include a rigorous inspection schedule of the interior and exterior of buildings with particular focus on ensuring that surrounding vegetation does not endanger buildings. The Plan will ensure that fire hydrants are adequately spaced and accessible and that fire roads are maintained and accessible. The Plan will also address limiting the risk of fires in the undeveloped regions on the campus.	
			HAZ-10C	The Campus shall provide wildland fire prevention signage in the north and upper campus areas in conjunction with the new development.	
			HAZ-10D	Building component protection as prescribed in the International Uniform Wildland Interface Code (UWIC) shall be required where appropriate as determined by the Campus Fire Marshal.	
HAZ-11	Implementation of the proposed 2005 LRDP would increase use of hazardous materials by non-UC Santa Cruz entities on campus, which could create hazards to the public or the environment under routine and upset conditions.	PS	**HAZ-11**	For projects proposed by non-UC Santa Cruz entities on campus that involve laboratory space, non-UC Santa Cruz entities shall be required, through contracts and agreements, to implement programs and controls that provide the same level of protection required of campus laboratories and	LS

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HAZ-11 (cont)			departments. The following project-specific mitigation measures would be implemented for non-UC Santa Cruz tenants: • Non-UC Santa Cruz entities shall submit the qualifications of designated laboratory directors to UC Santa Cruz EH&S prior to commencing laboratory operations. Such documentation shall be in the form of educational and professional qualifications/experience. • Non-UC entities shall submit certification of compliance with NIH biosafety principles to the UC Santa Cruz EH&S prior to commencing on-site research. Non-UC entities shall submit copies of completed medical waste management plans, biosafety management plans, inventories of infectious or select agents, applicable permits and updates. • If hazardous material quantities are proposed to be increased above applicable threshold quantities as defined in California Code of Regulations, Title 19, Division 2, Chapter 4.5, non-UC entities shall implement a Risk Management Plan/California Accidental Release Prevention Plan (RMP/CalARP), which discusses the handling and storage of acutely hazardous materials on site. The RMP/CalARP shall be approved by the CUPA and filed with the UC Santa Cruz EH&S prior to commencing proposed operations. • Non-UC entities shall submit certification to the UC Santa Cruz EH&S to verify that applicable requirements for handling and disposal of hazardous wastes have been met prior to commencing on-site research. Non-UC entities shall submit copies of management plans for handling and disposal of hazardous wastes, and written verification of contracts with licensed waste disposal firms.	

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			• Non-UC entities shall provide to the UC Santa Cruz EH&S copies of all required environmental reports to local, state, and federal environmental and safety regulators.	
HAZ-12	Development under the proposed 2005 LRDP, in conjunction with other regional development, would result in increased use and transport of hazardous materials, but the increase would not result in a significant cumulative hazard or hazardous materials impact. It is unlikely that there will be a cumulative increase in risk of hazardous materials release, risk to existing and proposed schools from handling of hazardous materials, or risk of wildland fires.	LS	Mitigation not required	NA
4.8 Hydrology and Water Quality				
HYD-1	Campus development under the 2005 LRDP would not result in wastewater that would violate wastewater discharge requirements.	LS	Mitigation not required	NA
HYD-2	Campus development under the 2005 LRDP could result in storm water runoff during construction, which could substantially degrade water quality.	PS	**HYD-2A** For all construction projects less than one acre in area, the Campus shall continue to require the use of construction site controls and best management practices in compliance with the campus draft Storm Water Management Program, the campus Erosion Control Standards, and the Site Requirements for Erosion Control and Drainage in the Campus Standards Handbook. **HYD-2B** No grading shall be conducted on hillsides (sites with slopes greater than 10 percent) during the wet season (October 1 through May 31) unless controls that prevent sediment from leaving the site are implemented. Erosion control measures, such as erosion control blankets, seeding or other stabilizing mechanisms shall be incorporated into the project erosion control plan or SWPPP and applied to graded hillside prior to predicted storm events.	LS

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Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
HYD-3	Campus development under the 2005 LRDP would alter drainage patterns in the project area, and increase the rate or amount of surface runoff, which could result in substantial siltation or erosion on or off site, and increase the amount of urban pollutants in storm water runoff, which could affect water quality.	S	**HYD-3A**	The Campus shall install additional signs and expand the public education program to inform and educate the campus population about the importance of staying on paved roads and approved paths to prevent vegetation disturbance and soil erosion.	SU
			HYD-3B	The Campus shall implement control measures to reduce erosion along new and existing unpaved fire roads, including but not limited to water bars to redirect flow off the road and flow dispersion of runoff from roads.	
			HYD-3C	Each new capital project proposed under the 2005 LRDP that creates new impervious surface shall include design measures to ensure that post-development peak flows from 2-, 5- and 10-year storms do not exceed the 2-, 5-, and 10-year pre-development peak flows and that post-development peak flows from a 25-year storm do not exceed the pre-development peak flow from a 10-year storm.	
			HYD-3D	The Campus shall require each new capital project to include design measures to minimize, to the maximum extent practicable, the increase in the volume of storm water runoff discharged from the project site to sinkholes or natural drainages. These design measures shall include features that maximize infiltration and dissipation of runoff, preferably near the area where new runoff is generated, and may include, but will not be limited to: vegetated swales, bioretention areas, infiltration trenches and basins, level spreaders, permeable pavement, minimizing directly connected impervious surfaces, storage and re-use of roof runoff, and green roofs. Within one year following approval of the 2005 LRDP, the Campus shall provide a protocol for design consultants to use in demonstrating that measures to reduce runoff are included in the project design to the maximum extent practicable.	
			HYD-3E	Design and planning for new pathways and bikeways shall	

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HYD-3 (cont)			include fencing, signage and/or other design features to control pedestrian/bicycle circulation and minimize the potential for shortcuts. Bridges shall be provided where new pathways cross drainages that become inundated during the rainy season.	
HYD-4	Campus development under the 2005 LRDP could alter drainage patterns in the project area and would increase the rate or amount of surface runoff, which could exceed the capacity of storm water drainage systems, resulting in flooding on or off site.	LS	Mitigation not required	NA

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HYD-5	Campus development under the 2005 LRDP would not deplete groundwater supplies through pumping of groundwater for beneficial use, interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, or affect groundwater quality.	LS	**HYD-5A**	The Campus shall implement LRDP Mitigation HYD-3D.	LS
			HYD-5B	For projects involving construction on karst, if: (a) groundwater is encountered beneath the building site during the geotechnical investigation, and (b) the proposed foundation type would require pressure grouting, the Campus will follow the procedures outlined below: • Perform a dye tracing study to determine if there is a potential for pressure grouting to affect water quality in springs and seeps around the UC Santa Cruz campus. If a potential impact is indicated, alternative building foundation plans will be considered. • As an alternative, the Campus may conduct a preliminary hydrogeological study to evaluate whether the groundwater zone encountered during the geotechnical investigation is hydraulically connected to the karst aquifer. If the hydrogeological study indicates that the groundwater zone is hydraulically independent of the karst aquifer, such that there is no potential for grout injected during construction to affect karst water quality, a dye tracing study need not be performed. If results of the hydrogeological study indicate hydraulic connectivity between the groundwater encountered beneath the site and the karst aquifer, the Campus shall conduct a dye tracing study as described above.	
			HYD-5C	If the existing or a new groundwater well is used the Campus shall perform monitoring of water levels within that well and any adjacent wells, and monitoring of those springs in the campus vicinity shown to be connected to the well with a dye tracing study or other applicable testing method for the duration of groundwater pumping to ascertain whether there is any long-term decline in water levels or spring discharge.	

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HYD-5 (cont)				If monitoring of water levels and springs indicates that campus use of groundwater is contributing to a net deficit in aquifer volume, as indicated by a substantial decrease in average water levels in any monitored wells or a substantial reduction of flows in monitored springs, the Campus will terminate or reduce its use of groundwater from the aquifer. The average water levels and flows in springs will be defined through a statistical analysis of historic data, with consideration of associated seasonal rainfall and seasonal variations in spring discharge flow rates.	
HYD-6	Implementation of the 2005 LRDP would alter drainage patterns on the campus, increase the rate and amount of surface runoff, potentially affect the quality of runoff, and therefore could cause flooding and water quality impacts in caves on or off site.	PS	**HYD-6**	The Campus shall implement LRDP Mitigations HYD-3C and 3D.	LS
HYD-7	Campus development under the 2005 LRDP, in conjunction with other development in the region, would increase impervious surface coverage in the study area watersheds and increase storm water runoff, but would not result in substantial sources of runoff in off-campus watersheds, and therefore would not have a substantial adverse effect on receiving water quality.	LS	Mitigation not required		NA
HYD-8	Groundwater extraction by the Campus during drought periods would not contribute to a net deficit in the regional aquifer volume or a lowering of the local groundwater table.	LS	Mitigation not required		NA
4.9 Land Use and Planning					
LU-1	Development under the 2005 LRDP would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project that was adopted for the purpose of avoiding or mitigating an environmental effect.	LS	Mitigation not required		NA

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LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
LU-2	Campus growth under the 2005 LRDP would not result in the development of land uses that are substantially incompatible with existing adjacent or planned land uses within the campus or at its periphery.	LS	Mitigation not required		NA
LU-3	Development under the 2005 LRDP would not conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan, either directly or indirectly.	LS	Mitigation not required		NA
LU-4	Development under the 2005 LRDP, together with other regional growth, would not result in the development of land uses that are substantially incompatible with existing adjacent land uses or planned uses in the northwestern portion of the city of Santa Cruz.	LS	Mitigation not required		NA
4.10 Noise					
NOIS-1	Construction of campus facilities pursuant to the 2005 LRDP could expose nearby sensitive receptors to excessive airborne noise but not to excessive groundborne vibration or groundborne noise.	PS	**NOIS-1**	Prior to initiation of construction of a specific development project, the Campus shall approve a construction noise mitigation program that shall be implemented for each construction project. This shall include but not be limited to the following: • Construction equipment used on campus is properly maintained and has been outfitted with feasible noise-reduction devices to minimize construction-generated noise. • Laydown and construction vehicle staging areas shall be located at least 100 feet away from noise-sensitive land uses as feasible. • Stationary noise sources such as generators or pumps shall be located at least 100 feet away from noise-sensitive land uses as feasible. • Notices of the dates and hours of anticipated construction shall be posted in academic,	SU

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NOIS-1 (cont)				administrative, and residential buildings within 100 feet of construction noise sources at least 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 break, Christmas break, Spring break, or Summer break. • Loud construction activity within 100 feet of a residential building shall be restricted to the hours between 7:30 AM and 7:30 PM, Monday through Saturday. • Loud construction activity within 100 feet of an academic building shall be scheduled to the extent feasible on weekends.	
NOIS-2	Campus growth under the 2005 LRDP would result in increased vehicular traffic on the city road network, which would not result in a noticeable increase in ambient noise levels at modeled locations.	LS	**NOIS-2**	Campus Standards shall be amended to include a requirement to be imposed on all campus contracts that only City-designated truck routes shall be used for contractor truck trips accessing the campus.	NA
NOIS-3	Future residents on the campus would not be exposed to high noise levels from increased vehicular traffic on the campus road network.	LS	**NOIS-3**	For future noise-sensitive land uses such as Family Student Housing and other housing complexes that would be constructed under the 2005 LRDP, building and area layouts shall incorporate noise control as a design feature, as feasible. Noise control features would include increased setbacks, landscaped berms or vegetation screens, and building placement to shield noise-sensitive exterior areas from direct roadway exposures. The Campus may also use other noise attenuation measures such as double-pane	NA

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			windows and insulation to minimize interior noise levels.	
4.11 Population and Housing				
POP-1	Development under the 2005 LRDP would directly induce substantial population growth in the study area by accommodating increased enrollment and additional employment.	S	No mitigation available	SU
POP-2	Campus growth under the 2005 LRDP would not indirectly induce substantial population growth in the area through extension of roads or other infrastructure.	LS	Mitigation not required	NA
POP-3	Growth of the campus under the 2005 LRDP, in conjunction with other regional growth, would create a demand for housing that combined with demand created by other growth in the county, would exceed the supply.	S	**POP-3A** The Campus will continue to monitor demand for student housing on an annual basis, and will ensure that a sufficient number of students beds are available on campus, through a combination of new housing construction and temporary modification of existing housing space ("overflow housing"), to accommodate at least 50 percent of undergraduate student enrollment and 25 percent of graduate student enrollment, as demand dictates. **POP-3B** Within one year following approval of the 2005 LRDP, the Campus will fund and carry out a study to identify ways in which the Campus can collaborate with other large employers, the City of Santa Cruz, and the County of Santa Cruz to assist in providing wider access to available housing for UC employees and affiliates and other community members, through mechanisms such as a jointly-funded housing trust augmented by grants and other funding sources. **POP-3C** The Campus will consult with the City and County of Santa Cruz on data needs and potential future joint projects and, within one year following approval of the 2005 LRDP, the Campus will fund and carry out a market analysis of the local housing market, including demand for housing by housing type and other demand factors, costs, vacancy, and	SU

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POP-3 (cont)			occupancy rates, to provide data to assist the City in its planning activities related to housing needs, to assist the Campus in planning Campus housing, and to assist in the planning of potential joint projects. The Campus will update this study at no greater than five-year intervals.	
4.12 Public Services				
PUB-1	On-campus development and on-campus population under the 2005 LRDP would not result in significant environmental impacts associated with the provision of new or altered facilities for the UC Santa Cruz Police Department or the City of Santa Cruz's Police Department in order to maintain each department's applicable service objectives.	NI	Mitigation not required	NA
PUB-2	On-campus development and on-campus population under the 2005 LRDP would not result in significant environmental impacts associated with the provision of new or physically altered fire department facilities in order to maintain the response standards and service ratios.	LS	Mitigation not required	NA
PUB-3	On-campus residential population growth under the 2005 LRDP could create demand for public school facilities, but this increase could be accommodated in existing facilities. The demand would not require new facilities, the construction of which could result in significant environmental impacts.	LS	Mitigation not required	NA
PUB-4	On-campus population growth under the 2005 LRDP could increase the demand for library facilities, the construction of which would not result in significant environmental impacts.	LS	Mitigation not required	NA
PUB-5	Cumulative growth in study area population, including 2005 LRDP-related off-campus population, would result in demand for new or expanded police and fire service facilities in the study area, the construction of which would not result in significant adverse	LS	Mitigation not required	NA

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	environmental impacts.			
PUB-6	Cumulative growth in study area population, including 2005 LRDP-related off-campus population, would not result in demand for new school facilities.	LS	Mitigation not required	NA
PUB-7	Cumulative growth in study area population could result in the need for new regional libraries, the construction of which could result in significant environmental impacts. The contribution of the project to this cumulative impact would not be cumulatively considerable.	LS	Mitigation not required	NA
4.13 Recreation				
REC-1	Increased on-campus population under the 2005 LRDP would result in increased demand for recreational facilities on campus and in the City of Santa Cruz, which would require the construction of new facilities, which would not result in significant environmental impacts.	LS	Mitigation not required	NA
REC-2	Increased on-campus population under the 2005 LRDP would result in increased use of recreational facilities on campus and in the city of Santa Cruz, which could result in deterioration of the facilities.	PS	**REC-2A** The Campus shall ensure that open space, tot lots, and similar facilities for use by families are included in all new family housing developments built on the campus under the 2005 LRDP. **REC-2B** The Campus shall implement LRDP Mitigations HYD-3A and HYD-3B. **REC-2C** To discourage the illegal use of bicycles on trails in Pogonip City Park, the Campus shall: (1) install signage on campus property near entrances to the park indicating that trail users are leaving University property and that bicycles are prohibited on some trails in the park; (2) maintain fencing and signage on University property at the Coolidge Drive lookout as needed to discourage unauthorized access into the park from the University; (3) work with campus and other local outdoor recreation groups to undertake measures to regularly inform and educate students, faculty and staff	LS

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REC-2 (cont)				about caretaking of the regional trail system and regional open spaces; and (4) revise campus bicycle maps to explicitly identify the park boundary and Pogonip City Park rules regarding bicycle use.	
			REC-2D	The Campus shall coordinate with the City of Santa Cruz's efforts in organizing an annual or semi-annual volunteer trail maintenance day, and shall assist in the recruitment of volunteers for these events from the UC Santa Cruz campus through campus advertising and education efforts.	
REC-3	Development in the north campus under the 2005 LRDP would not result in the fragmentation of or other changes to the designated trails on the north campus.	LS	Mitigation not required		NA
REC-4	Cumulative growth in study area population, including 2005 LRDP-related off-campus population, could result in the development of new off-campus recreation facilities, the construction of which would not result in significant environmental impacts.	LS	**REC-4**	The Campus will continue to make campus recreational facilities available to the public, and will provide casual recreation amenities, such as walking paths and picnic tables, that will be available for public use.	NA
REC-5	Cumulative growth in study area population, including 2005 LRDP-related off-campus population, would result in increased use of regional recreational facilities, which would not result in deterioration of most facilities. The contribution of the project to this impact would not be cumulatively considerable.	LS	**REC-5**	The Campus shall implement LRDP Mitigations REC-2C, REC-2D and REC-4, above.	NA
4.14 Traffic, Circulation, and Parking					
TRA-1	Campus growth under the 2005 LRDP would cause an increase in on-campus traffic that could result in unacceptable levels of service at two on-campus intersections if the growth in traffic outpaces the modifications to the on-campus circulation system proposed under the 2005 LRDP.	PS	**TRA-1**	The Campus shall monitor the level of service at two intersections (Hagar Drive/McLaughlin Drive and Heller Drive/Meyer Drive) every three years beginning in 2007, and implement intersection improvements or signalization as needed to maintain an acceptable level of service.	LS
TRA-2	Campus growth under the 2005 LRDP would cause unacceptable levels of service at 10 off-campus	S	**TRA-2A**	In addition to any project- level traffic analyses required by CEQA, UC Santa Cruz shall, at intervals of no more than	SU

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TRA-2 (cont)	intersections.			three years or increments of no more than 1,000 students in enrollment growth (whichever occurs first), conduct traffic counts at the identified intersections to determine if the additional traffic generated by campus growth or a specific project would trigger the need for the specific intersection improvements listed in Table 4.14-18, or other improvements to achieve the City's level of service standards. If the analysis indicates that, with the traffic contribution of campus growth or of a specific proposed project, the levels of service would degrade to unacceptable levels, the Campus shall inform the City of this conclusion, and contribute its "fair share" (as defined below) of the cost of the needed improvements.	
			TRA-2B	UC Santa Cruz shall continue to implement and will expand its existing Transportation Demand Management programs with the objectives of increasing sustainable transportation modes (use of modes other than single-occupant vehicles) above 55 percent during the planning horizon of the 2005 LRDP and reducing peak hour traffic volumes. Potential measures that the Campus will consider for achieving this objective are listed in Table 4.14-19.	
TRA-3	If the development of planned parking does not keep pace with other growth on campus, or if parking supply is reduced as a result of development on existing parking lots, campus growth under the 2005 LRDP could generate demand for parking in excess of on-campus parking capacity.	PS	**TRA-3A**	The Campus shall implement LRDP Mitigation TRA-2B TDM measures to reduce on-campus parking demand associated with single-occupant vehicle commuters and with long-term storage of infrequently used vehicles.	LS
			TRA-3B	The Campus shall monitor on-campus parking utilization rates annually, and will construct additional parking when demand approaches capacity. The Campus will use projected average daytime utilization rate in excess of 90 percent in a given parking zone as a measure of parking capacity.	
			TRA-3C	The Campus shall continue to enhance existing parking management systems to maximize utilization of existing	

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TRA-3 (cont)				parking capacity. Parking capacity enhancements may include real-time monitoring of lot utilization, changeable message signs identifying available parking spaces, use-based parking permits, zoned parking permits, or other measures.	
TRA-4	Campus growth under the 2005 LRDP would result in increases in circulation volumes (numbers of pedestrians, bicycles, and transit and other motor vehicles) that would conflict with and reduce the effectiveness of alternative modes of transportation, including transit, bicycle and pedestrian travel.	PS	**TRA-4A**	UC Santa Cruz shall monitor campus and Metro transit service and other alternative modes of transportation on an annual basis, to assess the need for improvements in campus circulation to accommodate changes in campus-related circulation demands.	LS
			TRA-4B	Based on results of LRDP Mitigation TRA-4A, the Campus shall improve the operational efficiency and capacity of the campus transit system as needed to maintain transit cycle time, and shall work with SCMTD and other agencies to maintain and improve efficiency and capacity of the public transit system serving University facilities.	
			TRA-4C	Based on the results of LRDP Mitigation TRA-4A, the Campus shall implement measures, including physical and operational improvements, that will ensure that transit travel times between the two most widely-separated colleges does not exceed the time interval between class periods. These measures may include, but are not limited to; channelization of pedestrian crossings, installation of signal-controlled pedestrian crossings, and grade-separated pedestrian crossings where appropriate.	
			TRA-4D	The Campus shall coordinate implementation of needed campus roadway and circulation improvements identified in the 2005 LRDP with the pace of campus development.	
			TRA-4E	Based on the results of LRDP Mitigation TRA-4A, the Campus shall implement the bicycle circulation elements of the 2005 LRDP as needed to maintain and enhance the effectiveness of bicycles as a transportation mode.	
			TRA-4F	The Campus shall implement integrated transit, bicycle and	

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				pedestrian way-finding systems on the main campus.	
TRA-5	Traffic generated by simultaneous full-capacity special events on campus would cause the off-campus intersections listed in Table 4.14-21 to operate at LOS E or F during event-related peak hours. On-campus, the special event traffic could cause congestion related to visitors searching for parking.	LS	**TRA-5A**	The Campus shall implement LRDP Mitigations TRA-2A, TRA-2B, TRA-3B, TRA-3C, and TRA-4A through -4E.	NA
			TRA-5B	The Campus shall improve parking management for special events, through appropriate expansion of on-campus parking enforcement at nights and on weekends in order to better manage parking resources to accommodate campus needs.	
			TRA-5C	The Campus shall provide on-line parking permit sales and way-finding information for visitors in order to reduce back-ups of vehicles at the main entrance kiosk.	
			TRA-5D	The Campus will continue to promote use of the on-line Campus Events Calendar System to improve coordination between Campus units, and to coordinate traffic and parking management for traffic producing events. An automatic link will be added to the Calendar System to notify TAPS of the proposed scheduling of any event of over 50 persons in size so that the potential for parking and traffic congestion can be assessed. Upon notification, TAPS will consult with event planners to endeavor, through rescheduling or schedule coordination, to minimize the number of simultaneous full-capacity events and, in particular, those that might occur during traffic peak commute hours. In addition, TAPS and the Event Coordination Committee will collaborate to formulate a Traffic Management Plan, which may include special shuttles from on- or off-campus sites, special designated temporary parking, and other parking and traffic management measures to minimize traffic and parking congestion associated with special events.	
TRA-6	Campus growth under the 2005 LRDP would contribute to unacceptable freeway LOS operations.	S	**TRA-6A**	The Campus shall implement LRDP Mitigation TRA-2B.	SU
			TRA-6B	UC Santa Cruz shall contribute its fair share of the local cost of the needed improvements as identified by the state at the five significantly affected freeway facilities based on the cost of the needed improvements less the value of any	

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				regional, state and federal funds to be provided for each improvement.	
4.15 Utilities					
UTIL-1	Development under the 2005 LRDP would require the expansion of campus and off-campus domestic/fire water conveyance systems, which would not cause significant environmental impacts.	LS	Mitigation not required		NA
UTIL-2	Development under the 2005 LRDP would require expansion of on- and off-campus wastewater conveyance facilities, the construction and operation of which would not result in significant environmental impacts.	LS	Mitigation not required		NA
UTIL-3	Development under the 2005 LRDP would require the expansion of campus storm drainage conveyance and detention facilities, which would not result in significant environmental impacts.	LS	Mitigation not required		NA
UTIL-4	Development under the 2005 LRDP would increase the volume of municipal solid waste that would require disposal, but would not require an expansion of the city landfill.	LS	**UTIL-4**	The Campus will continue to improve its recycling and waste reduction programs and identify additional means of reducing waste.	NA
UTIL-5	Development under the 2005 LRDP would require the expansion of the campus electrical system, which would not result in significant environmental impacts.	LS	**UTIL-5**	Where feasible, new campus buildings will be added to the Campus Energy Management System. Heating and cooling will be controlled based on time of use of building and outside temperature.	NA
UTIL-6	Development under the 2005 LRDP would require the expansion of natural gas transmission systems, which would not result in significant environmental impacts.	LS	Mitigation not required		NA
UTIL-7	Development under the 2005 LRDP would require the expansion of campus cooling water and heating water generation and conveyance facilities, which would result in significant environmental impacts.	S	**UTIL-7**	The Campus shall implement LRDP Mitigation AIR-2A.	SU

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LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures	Level of Significance Following Mitigation[1]
UTIL-8	Development under the 2005 LRDP would require expansion of campus communication facilities, which would not result in significant environmental impacts.	LS	Mitigation not required	NA
UTIL-9	Development under the 2005 LRDP, in conjunction with other regional growth in the SCWD service area, would generate increased demand for water during normal and drought years, and the development of new water supplies and infrastructure to serve normal and drought year demand could result in significant environmental impacts. The contribution of the proposed project to this impact would be cumulatively considerable.	S	**UTIL-9A** The Campus shall continue to implement and improve all current water conservation strategies to reduce demand for water, including the following: • Continue the leak detection and repair program. • Install an individual water meter in each new employee housing unit to encourage residential water conservation. • Install waterless urinals in all new buildings. • Require that new contracts for washing machines in student residences be certified by the Consortium on Energy Efficiency 6 to have a water factor of 5.5 or less or meet an equivalent standard. New washing machines purchased for use in athletic facilities shall meet applicable standards for water-efficiency for institutional machines. • Incorporate water-efficient landscaping practices in all new landscape installations. Water-conservative landscaping practices shall include, but will not be limited to the following: use of water-efficient plants, temporary irrigation systems for plant establishment areas where mature plants will be able to survive without regular irrigation, grouping of plants according to their water requirements, design of planting areas to maximize irrigation pattern efficiency, and mulch covering in planting areas. • To facilitate monitoring of water usage in all new development, the Campus shall: (1) install separate meters on water lines for individual buildings and (2) install meters on irrigation lines where one point of	SU

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Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
UTIL-9 (cont)				connection irrigates 1 acre or more.	
			UTIL-9B	As new technologies become available, the Campus shall continue to conduct pilot programs for high-efficiency plumbing fixtures including, but not limited to, dual-flush toilets. If a piloted technology proves to be successful (i.e., the high-efficiency fixtures are effective in water savings and do not require more frequent or expensive maintenance than the existing standard), the Campus shall revise its standards to require use of the fixtures in all new buildings.	
			UTIL-9C	Within one year following approval of the 2005 LRDP, the Campus shall implement a water conservation education program for campus residents. This will include but would not be limited to: • Distribution to residents of employee housing of educational materials covering the following topics: basic home water conservation practices, plumbing retrofits and replacements, and strategies to conserve landscape irrigation. • Designation of a staff member who will be responsible for developing and implementing a water conservation education and awareness program to reduce water consumption in student residences, dining halls, and student affairs facilities.	
			UTIL-9D	Within one year following approval of the 2005 LRDP, the Campus shall consult with the City of Santa Cruz regarding the appropriate scope of and initiate, an engineering audit of campus water use. The audit will assess existing campus water uses, identify options for reducing water consumption, prioritize feasible improvements based on the amount of potential water savings and cost effectiveness, and recommend top priority measures for implementation within the succeeding five years, and lower priority measures for potential subsequent implementation. The audit will include,	

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Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures		Level of Significance Following Mitigation[1]
UTIL-9 (cont)			but will not be limited to the following: • An inventory of plumbing fixtures in non-housing facilities on campus, which will identify the number and locations of fixtures and identify those that do not meet current campus standards for water efficiency. (Regarding retrofit of plumbing fixtures in student housing, see LRDP Mitigation UTIL-9H.) • An inventory of irrigation systems on the campus, including identification of systems that are not metered, the methods used to control the irrigation schedule, and potential for improvement. • An inventory of locations on campus where buildings and irrigation are on the same meter. • An analysis of potential water conservation measures for the campus cooling water system. • Identification of landscaped areas on campus that have plants that are high water-use.		
			UTIL-9E	The Campus shall begin implementation of the top priority recommendations of the water audit conducted under UTIL-9D within one year of completion of the audit and complete implementation of the top priority recommendations within five years after completing the audit.	
			UTIL-9F	The Campus shall, at five-year intervals during the term of the 2005 LRDP, revisit the results of the water audit conducted under LRDP Mitigation UTIL-9D, consult with the City of Santa Cruz Water Department, conduct round table discussions with representatives of relevant campus departments, and conduct additional study of new technologies as needed to identify additional feasible and effective water conservation measures for implementation on the campus during the subsequent five year period. The following are among the measures that shall be considered:	

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Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures	Level of Significance Following Mitigation[1]
UTIL-9 (cont)			• Adding existing irrigation systems to the campus's central control system. • Retrofitting existing water meters such that building use and irrigation are separately metered. • Replacing natural turf on athletic fields with artificial turf. • Installing timers on showers in student residences. **UTIL-9G** Within two years following approval of the 2005 LRDP, the Campus shall initiate a study on feasible measures for utilization of reclaimed water (including rainwater, grey water, cooling tower blowdown water and/or recycled water) in new development. Potential uses of reclaimed water include cooling, irrigation, and toilet flushing. The study shall contain a plan to utilize reclaimed water in new development as feasible and effective in water conservation, and shall include an implementation schedule. **UTIL-9H** Within five years following approval of the 2005 LRDP, the Campus shall complete the retrofit of all plumbing fixtures in student housing not meeting the efficiency standards current in 2005 (1.6 gallons per flush for toilets). The new fixtures installed under the retrofit program shall conform to the campus standard for new buildings current at the time of the retrofit. **UTIL-9I** If and when the City implements drought emergency management measures, the University will implement the following measures for the duration of the drought emergency: • Reduce use of potable water for irrigation on the campus landscape, the CASFS and the Arboretum in accordance with reductions required by the City for similar users. • Utilize water from the existing supply well in Jordan	

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Table 1-1
Final Draft 2005 LRDP (Reduced Enrollment Growth Alternative)
Summary of Impacts and Mitigation Measures

LRDP Impact		Level of Significance Prior to Mitigation[1]	LRDP Mitigation Measures	Level of Significance Following Mitigation[1]
UTIL-9 (cont)			Gulch for non-potable uses. The Campus shall implement a program of monitoring flow at downgradient springs during the time when the well is being used. • Require that residential water use on campus be reduced consistent with the City's target for multifamily residential facilities.	
UTIL-10	Development under the 2005 LRDP, in conjunction with other regional development, would generate increased demand for wastewater treatment facilities, landfills, energy, and natural gas in the region, and the expansion of associated utilities and service systems to meet this demand would not result in significant environmental impacts.	LS	Mitigation not required	NA

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Table 1-2
Infrastructure Improvements Project
Summary of Impacts and Mitigation Measures

IIP Impact		Level of Significance Prior to Mitigation[1]	IIP Mitigation Measures	Level of Significance Following Mitigation[1]
2.4.1 Aesthetics				
IIP-SW Impact AES-1	Construction of the proposed storm water drainage improvements could temporarily affect the visual quality in the vicinity of the improvements.	LS	Mitigation not required	NA
IIP-CW Impact AES-2	Construction of the cooling tower would not adversely affect the visual quality of the project vicinity, as it would not be visible from many vantage points.	LS	Mitigation not required	NA
IIP-NG Impact AES-2	Construction of the College Eight natural gas pressure-reducing station would not adversely affect the visual quality of the project vicinity.	LS	Mitigation not required	NA
2.4.3 Air Quality				
IIP-ALL Impact AIR-1	Construction of the proposed project would generate short-term fugitive dust and PM_{10} exhaust emissions.	LS	**IIP–ALL Mitigation AIR-1:** The Campus shall implement LRDP Mitigation AIR-1 (Apply standard MBUAPCD recommended mitigation measures).	NA
2.4.4 Biological Resources				
IIP-SW Impact BIO-1	Construction of storm water drainage improvements could result in placement of fill in waters of the U.S. and of the State.	PS	**IIP-SW Mitigation BIO-1:** The Campus shall implement LRDP Mitigations BIO-3B through –3D.	LS
IIP-SW Impact BIO-2	Construction of storm water drainage improvements could result in temporary degradation and permanent loss of riparian vegetation.	PS	**IIP-SW Mitigation BIO-2:** The Campus shall implement LRDP Mitigations BIO-4A through BIO-4C.	LS
IIP-SW Impact BIO-3	Construction of storm water drainage improvements could result in temporary impacts to water quality due to increased sediment inputs and potential impacts to water quality from spills of toxic chemicals in construction equipment into the creek.	LS	Mitigation not required	NA

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Table 1-2
Infrastructure Improvements Project
Summary of Impacts and Mitigation Measures

IIP Impact		Level of Significance Prior to Mitigation[1]	IIP Mitigation Measures	Level of Significance Following Mitigation[1]
IIP-SW Impact BIO-4	Construction of storm water drainage improvements would not result in potential degradation of habitat via alterations in hydrology for special-status cave invertebrates (Santa Cruz telemid spider, Dollof Cave spider, Empire Cave pseudoscorpion, or Mackenzie's Cave amphipod).	LS	Mitigation not required	NA
IIP-SW/DW Impact BIO-5	Construction of storm water drainage improvements, could result in temporary direct and indirect impacts to movement habitat for California red-legged frog in the east fork and west entrance fork of the Moore Creek drainage.	S	**IIP-SW/DW Mitigation BIO-5:** The Campus shall implement LRDP Mitigation BIO-9.	LS
IIP-SW Impact BIO-6	Construction of storm water drainage improvements could result in the loss of nesting and roosting habitat for special-status raptors, and disturbance to active nests or roosts.	S	**IIP-SW Mitigation BIO-6:** The Campus shall implement LRDP Mitigation BIO-11.	LS
IIP-SW Impact BIO-7	Construction of storm water drainage improvements would not result in a substantial loss of western burrowing owl habitat and potential direct and indirect impacts to owls from construction.	LS	**IIP-SW Mitigation BIO-7:** The Campus shall implement LRDP Mitigations BIO-12A and –12B.	NA
IIP-SW Impact BIO-8	Construction of storm water drainage improvements could result in temporary disturbance of suitable foraging habitat for pallid bat, Pacific Townsend's big-eared bat, western red bat, long-eared myotis, fringed myotis, long-legged myotis, yuma myotis, and greater western mastiff bat.	LS	Mitigation not required	NA
IIP-SW Impact BIO-9	Construction of storm water drainage improvements would not result in the potential loss of San Francisco dusky-footed woodrat nests.	LS	Mitigation not required	NA
IIP-SW Impact BIO-10	Construction of storm water drainage improvements would not interfere with the movement of wildlife species or with established native resident or migratory wildlife corridors.	LS	Mitigation not required	NA

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Table 1-2
Infrastructure Improvements Project
Summary of Impacts and Mitigation Measures

IIP Impact		Level of Significance Prior to Mitigation[1]	IIP Mitigation Measures	Level of Significance Following Mitigation[1]
2.4.5 Cultural Resources				
IIP-SW Impact CULT-1	Proposed infrastructure improvements could damage or destroy portions of significant cultural resources SCR-182H, SCR-183H, SCR-181, SCR-142, UCSC-001 and UCSC-004, or other undiscovered resources or human remains, as a result of grading, excavation, other ground-disturbing activity, or other project development activities associated with the improvements or related access routes.	PS	**IIP-SW Mitigation CULT-1A:** Pursuant to LRDP Mitigation CULT-1E, the campus shall ensure that the final design of each improvement avoids impact to significant cultural resources, as identified in Table 2-7. The Campus shall also consult confidential cultural resources mapping and the project archaeologist, as needed, to delineate each resource and resource element on construction plans as avoidance areas, and shall implement the resource avoidance measures identified in Table 2-7, below. Table 2-7 is appended to this measure by reference. **IIP-SW Mitigation CULT-1B:** If the measures identified in Table 2-7 or other measures to avoid impacts to significant resource elements are not feasible for any of the identified significant cultural resources, the Campus shall implement the research design and data recovery provisions of LRDP Mitigation LRDP CULT-1F and, for a prehistoric resource, CULT-4B. In the event that these measures, in the professional judgment of a qualified archaeologist in consultation with the campus, cannot mitigate the impact to a less-than-significant level, the Campus shall implement LRDP Mitigation CULT-3A and 3B, as applicable. **IIP-SW Mitigation CULT-1C:** The Campus shall implement LRDP Mitigations CULT-1G, CULT-4C and CULT-4D, as pertinent. **IIP-SW Mitigation CULT-1D:** The Campus shall implement LRDP CULT-1B.	LS

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Table 1-2
Infrastructure Improvements Project
Summary of Impacts and Mitigation Measures

IIP Impact		Level of Significance Prior to Mitigation[1]	IIP Mitigation Measures	Level of Significance Following Mitigation[1]
2.4.6 Geology, Soils, and Seismicity				
IIP-ALL Impact GEO-1	Proposed improvements could be located on a geologic unit or soil that would become unstable as a result of the project and result in a potential risk to life or property.	PS	**IIP-ALL Mitigation GEO-1:** The Campus shall implement LRDP Mitigation GEO-1.	LS
2.4.7 Hazards and Hazardous Materials				
IIP-CW Impact HAZ-1	Construction and operation of the cooling tower would increase the routine use, transport, and disposal of hazardous chemicals and wastes on the campus, but would not create significant hazards to the public or the environment.	LS	Mitigation not required	NA
IIP-ALL Impact HAZ-2	Construction of the cooling water, heating water and domestic/fire water improvements could potentially expose construction workers and campus occupants to contaminated building materials.	PS	**IIP-CW Mitigation HAZ-2A:** The Campus shall implement LRDP Mitigation HAZ-7. **IIP-CW Mitigation HAZ-2B:** Consistent with standard campus practices, EH&S will investigate whether chromium has been used in the cooling water system in the past and, if appropriate, will conduct testing. If testing reveals that the cooling tower debris is contaminated, it will be handled in accordance with applicable federal, state and local regulations.	LS
2.4.8 Hydrology and Water Quality				
IIP-CW Impact HYD-1	Implementation of the Infrastructure Improvements Project would not result in wastewater that would violate wastewater discharge requirements.	LS	Mitigation not required	NA
IIP-ALL Impact HYD-2	Implementation of the Infrastructure Improvements Project could result in storm water runoff during construction, which could violate water quality standards.	PS	**IIP-ALL Mitigation HYD-2:** The Campus shall implement LRDP Mitigation HYD-2B.	LS
IIP-SW Impact HYD-3	Implementation of the storm water drainage improvements under the Infrastructure Improvements Project would alter drainage patterns and could result in erosion and siltation.	PS	**IIP-SW Mitigation HYD-3A:** The Campus shall monitor dispersion manifolds for evidence of erosion on an annual basis. If there is evidence that the dispersion manifolds are causing erosion, the Campus shall repair the erosion damage and implement any repairs or alterations to the design of the	LS

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Table 1-2
Infrastructure Improvements Project
Summary of Impacts and Mitigation Measures

IIP Impact		Level of Significance Prior to Mitigation[1]	IIP Mitigation Measures	Level of Significance Following Mitigation[1]
			manifolds necessary to prevent further erosion. **IIP-SW Mitigation HYD-3B:** For improvements included in the Infrastructure Improvements Project that increase impervious surfaces (the new cooling tower), the Campus shall implement LRDP Mitigations HYD-3C and HYD-3D.	
IIP-SW Impact HYD-4	Implementation of the Infrastructure Improvements Project would alter drainage patterns but would not result in increased flooding on or off site.	LS	Mitigation not required	NA
2.4.10 Noise				
IIP-ALL Impact NOIS-1	Construction activities associated with the Infrastructure Improvements Project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	S	**IIP-ALL Mitigation NOIS-1:** The Campus shall implement LRDP Mitigation NOIS-1 for all improvements that are within 100 feet of an existing campus building or sensitive receptor.	SU
IIP-CW Impact NOIS-2	Operation of the new cooling tower would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	PS	**IIP-CW Mitigation NOIS-2:** The Campus shall achieve an exterior noise level of 70 dBA CNEL at the Earth and Marine Sciences Building adjacent to the new cooling tower by selecting a less noisy cooling tower or by design measures and operational changes.	LS
2.4.14 Traffic, Circulation, and Parking				
IIP-ALL Impact TRA-1	The proposed project would add vehicle trips to the study area transportation network.	LS	Mitigation not required	NA

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Table 1-3
Family Student Housing Redevelopment Project
Summary of Impacts and Mitigation Measures

FSH Impact		Level of Significance Prior to Mitigation[1]	FSH Mitigation Measures	Level of Significance Following Mitigation[1]
3.4.1 Aesthetics				
FSH Impact AES-1	Implementation of the FSH Redevelopment Project would not significantly affect scenic vistas.	LS	Mitigation not required	NA
FSH Impact AES-2	Implementation of the FSH Redevelopment Project would not substantially damage scenic resources on campus, including forested areas and meadows.	LS	Mitigation not required	NA
FSH Impact AES-3	Construction of the proposed project could substantially degrade the existing visual character of the site.	PS	**FSH Mitigation AES-3:** The Campus will minimize potential degradation of the existing visual character of the site by implementation of LRDP Mitigations AES-5A through 5D.	LS
FSH Impact AES-4	Development under the FSH could create new sources of substantial light or glare at the site that would adversely affect daytime or nighttime views in the area.	PS	**FSH Mitigation AES-4:** The Campus shall implement LRDP Mitigations AES-6A through AES-6C, and AES-6E.	LS
3.4.3 Air Quality				
FSH Impact AIR-1	Construction of the proposed project would generate substantial short-term PM_{10} emissions.	PS	**FSH Mitigation AIR-1:** The Campus shall implement LRDP Mitigations AIR-1.	LS
FSH Impact AIR-2	Operation of the proposed project would increase regional emissions of criteria pollutants.	LS	Mitigation not required	NA
FSH Impact AIR-3	Operation of the project would increase CO concentrations at study area intersections.	LS	Mitigation not required	NA
FSH Impact AIR-4	The population growth associated with the FSH Redevelopment Project is not consistent with the regional Air Quality Management Plan.	S	**FSH Mitigation AIR-4:** The Campus shall implement LRDP Mitigations AIR-4A and 4B.	SU

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Table 1-3
Family Student Housing Redevelopment Project
Summary of Impacts and Mitigation Measures

FSH Impact		Level of Significance Prior to Mitigation[1]	FSH Mitigation Measures	Level of Significance Following Mitigation[1]
FSH Impact AIR-5	Construction activities for the proposed project could potentially result in a substantial health risk from short-term exposures to toxic air contaminants.	Speculative	**FSH Mitigation AIR-5A:** The Campus will minimize construction emissions by implementing LRDP Mitigation AIR-6. **FSH Mitigation AIR-5B:** For the duration of Phase 1 construction, the Campus shall relocate the childcare center at one of the identified alternative sites, away from the construction zone. **FSH Mitigation AIR-5C:** Before construction of Phase 2 is commenced, the Campus will evaluate available information with respect to acrolein emission factors to determine whether the potential for significant impact would still exist. If this assessment indicates that there is a potential health risk, the Campus shall ensure that the child care center in the FSH complex is not occupied during the Phase 2 construction period.	NA
3.4.4 Biological Resources				
FSH Impact BIO-1	The project would not result in the loss of western burrowing owl habitat and potential direct and indirect impacts to owls from construction.	LS	Mitigation not required	NA
FSH Impact BIO-2	Construction of the proposed project could result in the loss of nesting and roosting habitat for special-status raptors, and disturbance to active nests or roosts.	PS	**FSH Mitigation BIO-2:** The Campus shall implement LRDP Mitigation BIO-11.	LS
FSH Impact BIO-3	Construction of the proposed project could result in temporary degradation of suitable foraging habitat for pallid bat, Pacific Townsend's big-eared bat, western red bat, long-eared myotis, fringed myotis, long-legged myotis, yuma myotis, and greater western mastiff bat.	LS	Mitigation not required	NA
FSH Impact BIO-4	Construction of the proposed project would not result in a substantial adverse impact associated with the loss of potential San Francisco dusky-footed woodrat nests.	LS	**FSH Mitigation BIO-4:** The Campus shall implement LRDP Mitigation BIO-14.	NA

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Table 1-3
Family Student Housing Redevelopment Project
Summary of Impacts and Mitigation Measures

FSH Impact		Level of Significance Prior to Mitigation[1]	FSH Mitigation Measures	Level of Significance Following Mitigation[1]
3.4.5 Cultural Resources				
FSH Impact CULT-1	Construction associated with the proposed project could result in the disturbance of previously undiscovered historic or prehistoric cultural resources, deposits, artifacts, or human remains, including buried material potentially associated with CA-SCR-142, which is located nearby.	PS	**FSH Mitigation CULT-1:** The Campus shall retain a qualified archaeologist to monitor initial site grading in the area of the proposed southern storm water detention basin and any grading within 50 feet of the known margin of CA-SCR-142, to determine whether intact deposits are present. If archaeological materials are exposed by grading, the Campus shall implement LRDP Mitigation CULT-1G and LRDP Mitigation CULT-4B. If human remains are exposed and the County Coroner determines them to be of Native American origin, the Campus shall implement LRDP Mitigation CULT-4C.	LS
FSH Impact CULT-2	The proposed project will result in increased population in the vicinity of Cave Gulch, which could result in increased recreational use of nearby caves that are unique geological resources.	PS	**FSH Mitigation CULT-2:** The Campus shall implement LRDP Mitigations BIO-8A and –8B.	LS
3.4.6 Geology				
FSH Impact GEO-1	The proposed FSH Redevelopment Project could result in construction of campus facilities on expansive soils.	PS	**FSH Mitigation GEO-1:** The Campus shall implement LRDP Mitigation GEO-1.	LS
FSH Impact GEO-2	The proposed FSH Redevelopment Project could result in construction of facilities in an area underlain by karst features, which could lead to settling or collapse beneath the structures.	PS	**FSH Mitigation GEO-2:** The Campus shall implement LRDP Mitigation GEO-1.	LS
3.4.7 Hazards and Hazardous Materials				
FSH Impact HAZ-1	Demolition of the FSH could potentially expose construction workers, children at the childcare center, and other occupants to contaminated building materials.	PS	**FSH Mitigation HAZ-1:** The Campus shall implement LRDP Mitigation HAZ-7 and FSH Mitigation AIR-5B.	LS
LRDP Impact HAZ-2	Redevelopment of the FSH complex would not result in increased risk from wildland fires.	LS	**FSH Mitigation HAZ-2:** The Campus shall implement LRDP Mitigations HAZ-10A, 10B, and 10D.	LS

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Table 1-3
Family Student Housing Redevelopment Project
Summary of Impacts and Mitigation Measures

FSH Impact		Level of Significance Prior to Mitigation[1]	FSH Mitigation Measures	Level of Significance Following Mitigation[1]
3.4.8 Hydrology and Water Quality				
FSH Impact HYD-1	FSH construction activities would not contribute substantial loads of sediment or other pollutants in storm water runoff that could degrade receiving water quality.	LS	**FSH Mitigation HYD-1:** The Campus shall implement LRDP Mitigation HYD-2B.	NA
FSH Impact HYD-2	Redevelopment of the FSH complex could create or contribute runoff that would exceed the capacity of an existing or planned drainage system, cause erosion, or provide substantial additional sources of polluted runoff.	PS	**FSH Mitigation HYD-2A:** The Campus shall implement LRDP Mitigations HYD-3C and HYD-3D. **FSH Mitigation HYD-2B:** The Campus shall develop a storm water management system for the proposed FSH Redevelopment Project during detailed project design and shall document that the selected storm water management system adequately retains, detains, and infiltrates runoff such that the peak flows and total volume of water released to Moore Creek do not exceed the design capacity of existing downstream erosion control structures.	LS
FSH Impact HYD-3	Redevelopment of the FSH would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site.	LS	Mitigation not required	NA
3.4.9 Land Use and Planning				
FSH Impact LU-1	Implementation of the FSH Redevelopment Project would not result in development that is substantially incompatible with existing or planned adjacent land uses.	LS	Mitigation not required	NA
3.4.10 Noise				
FSH Impact NOIS-1	Construction activities associated with the FSH Redevelopment Project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity.	S	**FSH Mitigation NOIS-1:** The Campus shall implement LRDP Mitigation NOIS-1.	SU
FSH Impact NOIS-2	The proposed project would not expose residents to a substantial permanent increase in vehicular traffic noise levels.	LS	Mitigation not required	NA

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Table 1-3
Family Student Housing Redevelopment Project
Summary of Impacts and Mitigation Measures

FSH Impact		Level of Significance Prior to Mitigation[1]	FSH Mitigation Measures	Level of Significance Following Mitigation[1]
3.4.12 Population and Housing				
FSH Impact POP-1	The capacity of family student housing at the project site would be reduced by approximately 50 percent for up to 2 years.	LS	Mitigation not required	NA
3.4.13 Recreation				
FSH Impact REC-1	The proposed project would not result in a significant impact related to temporary and seasonal loss of the use of the informal FSH playing field.	LS	Mitigation not required	NA
3.4.14 Traffic, Circulation, and Parking				
FSH Impact TRA-1	The project under the 2010 conditions would contribute to unacceptable levels of service at two off-campus intersections (Empire Grade Road / Western Drive and King Street / Storey Street) and would also contribute more than 3 percent of the traffic to those intersections.	S	**FSH Mitigation TRA-1A:** The University shall contribute its "fair share" (as defined in Section 4.14, Volume II of this EIR) toward the cost of the improvements to the two affected intersections, as identified in Draft EIR Table 3-12.	SU
FSH Impact TRA-2	Parking demand for the FSH site would not exceed the available supply.	LS	Mitigation not required	NA
FSH Impact TRA-3	Traffic associated with FSH demolition and construction could result in conflicts with other vehicles, bicyclists, transit, and pedestrians complex and could physically interfere with the campus Emergency Operations Plan.	PS	**FSH Mitigation TRA-3:** The Campus shall develop a construction traffic management plan to delineate and monitor construction routes and schedule, and monitor construction traffic into and through the FSH complex, in order to prevent conflicts between construction traffic, other vehicles, and pedestrians and bicycles.	LS

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Table 1-4
2300 Delaware Avenue Project
Summary of Impacts and Mitigation Measures

DA Impact		Level of Significance Prior to Mitigation[1]	DA Mitigation Measures	Level of Significance Following Mitigation[1]
4.4.3 Air Quality				
DA Impact AIR-1	Operation of the proposed project would increase regional emissions of criteria pollutants.	LS	Mitigation not required	NA
DA Impact AIR-2	Wet laboratories operating at the project site would emit toxic air contaminants but the level of anticipated emissions would not result in a significant human health risk.	LS	Mitigation not required	NA
4.4.7 Hazards and Hazardous Materials				
DA Impact HAZ-1	Implementation of 2300 Delaware Avenue would increase routine use, transport, and disposal of hazardous chemicals, radioactive materials, and/or biohazardous materials by UC Santa Cruz laboratories and departments, by campus and non-campus entities, and in maintenance and support operations. The use of hazardous materials by non-UC entities could create significant hazards to the public or the environment	PS	**DA Mitigation HAZ-1:** The Campus shall implement LRDP Mitigations HAZ-2 and HAZ-11.	LS
DA Impact HAZ-2	Development under the 2005 LRDP would result in increased handling of hazardous or acutely hazardous materials within ¼ mile of an existing or proposed school, which would not create a significant hazard to those attending the school.	LS	Mitigation not required	NA
4.4.8 Hydrology and Water Quality				
DA Impact HYD-1	Implementation of 2300 Delaware Avenue Project would not result in wastewater discharges that would violate wastewater discharge requirements.	LS	Mitigation not required	NA

Table 1-4
2300 Delaware Avenue Project
Summary of Impacts and Mitigation Measures

DA Impact		Level of Significance Prior to Mitigation[1]	DA Mitigation Measures	Level of Significance Following Mitigation[1]
DA Impact HYD-2	Implementation of 2300 Delaware Avenue Project could result in storm water runoff that could affect surface water quality.	PS	**DA Mitigation HYD-2:** The Campus shall ensure that any pesticides, herbicides or chemical fertilizers used on the landscaping or exterior of the buildings on the 2300 Delaware Avenue property are applied in such a manner as to prevent migration off site, and that they are not applied during inclement weather.	LS
4.4.9 Land Use and Planning				
DA Impact LU-1	Implementation of the 2300 Delaware Avenue Project would not result in development that is substantially incompatible with existing or planned adjacent land uses.	LS	Mitigation not required	NA
4.4.10 Noise				
DA Impact NOIS-1	Construction activities at the 2300 Delaware Avenue site would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project	LS	Mitigation not required	NA
DA Impact NOIS-2	Project operations would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	LS	Mitigation not required	NA
4.4.13 Recreation				
DA Impact REC-1	2300 Delaware Avenue Project could increase the use of the Antonelli Pond area such that substantial physical deterioration of recreational facilities could occur or be accelerated.	PS	**DA Mitigation REC-1A:** UC Santa Cruz shall provide trash and litter collection services for containers along the east side of Antonelli Pond. **DA Mitigation REC-1B:** UC Santa Cruz shall consult with the Santa Cruz Land Trust and the City of Santa Cruz regarding the Campus's fair share contribution (as defined in Section 4.14, Volume II of this EIR) toward providing and maintaining picnic and trail facilities at Antonelli Pond. **DA Mitigation REC-2D:** The Campus shall implement LRDP Mitigation REC-2D.	LS

Table 1-4
2300 Delaware Avenue Project
Summary of Impacts and Mitigation Measures

DA Impact		Level of Significance Prior to Mitigation[1]	DA Mitigation Measures	Level of Significance Following Mitigation[1]
4.4.14 Traffic, Circulation, and Parking				
DA Impact TRA-1	Under the 2010 conditions, the 2300 Delaware Avenue Project would contribute traffic that would cause unacceptable levels of service at two off-campus intersections: Empire Grade Road/Western Drive, and Mission Street/Bay Street.	S	**DA MitigationTRA-1A:** The Campus shall contribute its fair share, as defined and described in Section 4.0, Volume I of this EIR, toward the cost of installing a traffic signal at the intersection of Empire Grade Road and Western Drive and updating the signal timing at the intersection of Mission Street / Bay Street. **DA Mitigation TRA-1B:** The Campus shall implement LRDP Mitigation TRA-2B.	SU
DA Impact TRA-2	Parking demand for the 2300 Delaware Avenue site would not exceed available supply if the occupancies and ratios achieved on the main campus can be achieved at the project site.	S	**DA Mitigation TRA-2:** The Campus shall implement Parking Management and Transportation Demand Management measures at the project site and monitor parking demand. If parking occupancy reaches 90 percent of the supply, the Campus shall work with City of Santa Cruz to designate permit parking on adjacent streets for use by employees and visitors; provide additional incentives for staff to use transit; or expand the existing parking lots to provide additional spaces if necessary.	LS
DA Impact TRA-3	The proposed project would generate transit riders who would utilize SCMTD Route 20, which currently exceeds capacity during peak commute periods. This could reduce the effectiveness of alternative modes of transportation as TDM elements for the project site.	PS	**DA Mitigation TRA-3:** The University shall implement, or coordinate with SCMTD to implement a transit route or route that adequately serves the project site.	LS
4.4.15 Utilities				
DA Impact UTIL-1	The proposed project would not require the construction of new or expanded water supply facilities.	LS	**DA Mitigation UTIL-1A:** The Campus shall implement LRDP Mitigations UTIL-9A through 9H at the project site in conjunction with the occupancy of the 2300 Delaware Avenue site. **DA Mitigation UTIL-1B:** The Campus shall, in conjunction with the redevelopment of Building C, implement a program of landscape redesign and renewal at 2300 Delaware Avenue to reduce the area of turf and replace planting of drought-tolerant	NA

Table 1-4
2300 Delaware Avenue Project
Summary of Impacts and Mitigation Measures

DA Impact		Level of Significance Prior to Mitigation[1]	DA Mitigation Measures	Level of Significance Following Mitigation[1]
DA Impact UTIL-1			native plants, as feasible. **DA Mitigation UTIL-1C:** Concurrent with landscape renewal, the Campus shall implement a transpiration irrigation system at the site similar to that used on the main campus to minimize irrigation water use.	