

ES.1 PROJECT DESCRIPTION

This Environmental Impact Report evaluates the potential for environmental impacts from the implementation of the University of California, Merced Long Range Development Plan (hereinafter LRDP) and from construction of Phase 1 of the UC Merced campus. The University of California (UC) proposes to establish a new major research university campus in the San Joaquin Valley for a student population of 25,000 full-time equivalent (FTE) students. The proposed campus would be located approximately 2 miles northeast of the city limits of Merced on property owned by the Virginia Smith Trust and the County of Merced. The site is immediately east of Lake Yosemite Regional Park and a portion of Lake Road. The 197-acre Merced Hills Golf Course, owned by the Virginia Smith Trust, is located on the southernmost portion of the site.

The purpose of the proposed LRDP is to guide the physical planning and development to achieve the academic needs and goals of the new campus in Merced County. The core of the LRDP is a land use map that designates major land use areas to guide the siting of the future physical development. There are three primary campus sub-areas addressed in the LRDP: the Main Campus, the Campus Land Reserve, and the Campus Natural Reserve. The Main Campus, which would comprise about 910 acres, would include the academic core, support services, student and faculty housing, parking, circulation, recreation, and open space. The academic core, located at the center of the site would accommodate the undergraduate teaching facilities in the center of the core, with less intensive research and graduate education facilities, professional schools and institutes in more peripheral areas of the core. The Campus Land Reserve would be a 340-acre area with no development. The Campus Natural Reserve, a 750-acre area contiguous to the Campus Land Reserve, would encompass a permanently undeveloped area dedicated to environmental conservation, open space, and scientific research.

The campus layout has been developed in a manner that is sensitive to the adjacent land uses. The proposed campus layout is developed in a grid pattern. The campus core grid corridors traverse northeast to southwest and southwest-northeast. The orientation takes advantage of views of the lake and the Sierras. To buffer the adjacent park, an open space is provided along the west edge of the campus. In addition, low-density uses (such as research labs 1 to 2 stories high) are planned for the first row of campus blocks adjacent to the open space. Similarly, in planning campus land uses adjacent to the proposed University Community, uses that complement the adjacent community uses are proposed. This proposed density of development is a result of a concerted effort on the part of the University to strike a balance between the need to minimize the footprint impacts of the campus and to develop a campus that is compatible with its rural setting.

In addition to the full development under the LRDP, this EIR addresses the impacts from the first phase of campus development. The Phase 1 Campus involves the construction of the first set of buildings for the opening of the UC Merced campus in 2004 and the provision of adequate space for envisioned programs until 2008. The Phase 1 academic core, upon opening, would consist of a Science and Engineering Building, a Classroom Building, and a Library/Information Technology Center, all of which would be located between Fairfield and Le Grand canals on a portion of the present site of the Merced Hills Golf Course. Initial campus housing would consist of 161 units located to the southwest of the academic facilities. Necessary utilities

including a Central Plant, and road infrastructure would also be constructed. Additional facilities are planned for construction between 2004 and 2008. These include additional student housing and a Campus Support building at the southeastern portion of the site by 2006, a second Science and Engineering Building by 2007, and a Social Science and Management Building by 2008. Please see Volume 1, Project Description (Section 2) for a complete description of the LRDP. See Volume 2, Project Description (Section 2) for a complete description of the Phase 1 campus.

ES.2 PROJECT OBJECTIVES

The University of California, Merced, as the tenth campus of the University of California, would increase the University's enrollment capacity and provide benefits of a research university to Californians in the San Joaquin Valley. The purpose of this campus is to develop a premier research university consistent with the University of California's mission of teaching, research and service excellence. The following project objectives will facilitate achievement of this purpose:

- Meet anticipated increases in enrollment demand for the University of California system, both short-term and long-term.
- Maximize the University's mission of service excellence by enabling the University to better serve populations that are historically underrepresented in UC enrollments.
- Provide an attractive, livable campus in order to attract high-caliber students and faculty.
- Plan and develop a new campus as a research university of the same academic quality as the other UC campuses.
- Plan and develop the campus to facilitate faculty-student interaction, ease and enjoyment of use of academic facilities, and an environment conducive to learning.
- Recruit and retain high-quality faculty.
- Offer attractive and centrally located on-campus housing, consistent with UC-wide student housing policies.
- Offer sufficient student support services.
- Provide sufficient athletic facilities to offer high quality NCAA, recreational, and club athletic programs commensurate with other premiere universities.
- Provide for a Campus Land Reserve.
- To the extent practicable, plan and develop the campus to model environmental stewardship.
- Reflect the "poetry" of the San Joaquin Valley—its landscape, history, resources, and diverse cultures—in both physical development and in unique features of the curriculum.

- Ensure that UC Merced is sustained by a strong, unifying sense of community –one founded upon the values, academic principles, and diverse cultural experiences that bind its members together in common commitments.
- Develop the campus at a reasonable cost, avoiding unnecessary expenses.

ES.3 DRAFT EIR

This Environmental Impact Report (EIR) assesses the potential environmental effects of the proposed LRDP and construction of the first phase of the campus. This EIR (1) serves as a Supplement to the Site Selection EIR that was prepared and certified in 1995 by The Regents of the University of California; (2) addresses the overall long-term impacts from the full development of the LRDP; and (3) addresses impacts of the first phase of campus development.

As required by the California Environmental Quality Act, this EIR (1) assesses the expected individual and cumulative impacts of the University’s physical development and land use plan to meet the academic and institutional objectives for the Merced campus, (2) identifies means of minimizing potential adverse impacts, and (3) evaluates reasonable alternatives to the proposed project, including the required No Project Alternative. The Regents of the University of California is the “lead agency” for the project evaluated in this EIR and as such has the principal responsibility for approving the project.

ES.4 IMPACT SUMMARY

Table ES-1 that follows provides a complete listing of all impacts and mitigation measures. Table ES-2 lists all impacts and mitigation measures for the development of the Phase 1 Campus. For each impact, it reports the significance of the impact before mitigation, applicable mitigation measures and the level of significance of the impact after implementation of the mitigation measures.

ES.5 ALTERNATIVES TO THE PROPOSED LRDP

The following alternatives were examined in detail in the EIR and compared to the proposed LRDP. The first set of alternatives examined changes in campus sizes and locations on the Virginia Smith Trust property for their ability to reduce or avoid the project’s significant environmental impacts:

- **Smaller Main Campus/Decreased Population:** Reduce the size of the Main Campus footprint to correspond to a reduced campus population;
- **Smaller Main Campus/Increased Density:** Reduce the size of the Main Campus footprint by increasing campus density;
- **Smaller Main Campus/Fewer On-Site Programs:** Reduce the size of the Main Campus footprint by eliminating program elements or moving program elements away from the campus site;

- **Larger Main Campus/Increased Population:** Increase the size of the Main Campus footprint to correspond to an increased campus population;
- **Larger Main Campus/More On-Site Programs:** Increase the size of the Main Campus footprint to accommodate more on-site program elements;
- **Larger Main Campus/On-Site Avoidance:** Increase the size of the Main Campus footprint in order to avoid sensitive resource areas within the overall campus footprint.

The second set of alternatives studied whether relocating the Main Campus elsewhere on the Virginia Smith Trust property could at the same time accomplish project objectives and reduce the project's significant environmental impacts:

- **Refined Concept Plan Alternative:** Locate the campus in the central, upland portion of the Virginia Smith Trust Property in the area of the site proposed in the Site Selection EIR;
- **Northeast Alternative:** Shift the campus to the north of the Refined Concept Plan Alternative and rotate it to a northeast/southwest alignment.
- **East Shore Lakefront Alternative:** Create an elongated campus extending from the east shore of Lake Yosemite to the upland portions of the Virginia Smith Trust property;
- **West Alternative:** Locate the campus in an "L" shape configuration with a portion of the campus to the west of the Refined Concept Plan Alternative;
- **Southwest Alternative:** Create a campus of the same size and density at the proposed location, but with slightly different boundaries on the northern part of the Main Campus.

The third set evaluated a range of off-site alternatives to the proposed site:

- **Castle Air Force Base:** Create either a 458-acre or a 910-acre campus on portions of the former Castle Air Force Base and surrounding land, north of the City of Atwater.
- **North Merced/Bellevue Ranch Site "A":** Locate the campus on 910 acres in North Merced at the northwest corner of Bellevue Road and "G" Street.
- **South Merced City Infill:** Locate the campus in South Merced immediately south of Highway 99.
- **North Merced Rangeland:** Locate the campus on grazing land north of Merced, west of Snelling Road.
- **Southern Highway 99:** Locate the campus southeast of Merced along Highway 99.
- **Highway 140:** Locate the campus east of Merced, near the unincorporated community of Planada, adjacent to Highway 140.
- **East Livingston:** Locate the campus east of the City of Livingston.
- **Delhi Area:** Locate the campus northeast of the unincorporated community of Delhi.

The last set of alternatives updated information about sites that were previously considered in the Site Selection EIR:

- **Table Mountain:** Locate the campus on two non-contiguous parcels totaling about 3,000 acres in Madera County, east of the City of Madera, within the Rio Mesa Planning Area.
- **Academy:** Locate the campus on approximately 5,000 acres in Fresno County, 9 miles north of the City of Clovis.
- **North Merced/Bellevue Ranch Site “B”:** Locate the campus on 600 acres in North Merced bounded by Highway 59 to the west and Bellevue Road to the north.
- **Downtown Fresno:** Create a high-density campus on approximately 170 acres in downtown Fresno, near the junction of Highways 99, 41, and 180.
- **Metropolitan Fresno – Herndon:** Locate the campus on approximately 600 acres along the Herndon Avenue corridor just west of Highway 99, about 7 miles northwest of the City of Fresno.

Detailed descriptions and an analysis of potential impacts of these alternatives are presented in Volume 1, Section 5. Tables ES-3 and ES-4 present a comparison of the environmental impacts of these alternatives to the impacts that would result from the proposed project.

The No Project alternative would not result in any of the impacts identified for the proposed LRDP, except that a portion of the site may later be developed by the County for park purposes. Therefore, in the short-term, that alternative is the environmentally superior alternative. However, even if the University does not develop a campus at this location, it likely would develop a new campus somewhere in the State or expand existing campuses, which would result in impacts that cannot be known at this time.

Comparing the alternatives other than the No-Project alternative, no alternative is clearly environmentally superior to the other alternatives. Superiority in this case largely is a value judgment between impacts to farmland of statewide significance and impacts to wetlands. The North Merced Rangeland alternative would avoid direct and cumulative loss of farmland of statewide significance, but would result in substantially greater cumulative impacts to wetlands and vernal pool habitat than the proposed project. The Highway 140, East Livingston and Delhi Area alternatives would result in the least amount of direct impacts to wetlands, but would result in substantially greater direct and cumulative loss of farmland of statewide significance than the proposed project.

The Smaller Campus/Decreased Population alternative would not reduce cumulative loss of farmland of statewide significance as much as the North Merced Rangeland Alternative; and would not reduce loss of wetlands as much as the Highway 140, East Livingston and Delhi Area alternatives. However, the Smaller Campus/Decreased Population alternative would proportionately reduce most impacts associated with the campus population. Those impacts would not be reduced under the North Merced Rangeland and Highway 140, East Livingston and Delhi Area alternatives.

Table ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES IN THE DRAFT EIR

Impact	Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹	
4.1 Aesthetics				
4.1-1	Implementation of the LRDP could affect scenic vistas. This impact is considered <i>less than significant</i> .	LS	<i>4.1-1 Major vehicular and pedestrian transportation corridors on-campus should be located and designed to provide views of the Sierra Nevada. (Applicability-project level)</i>	LS
4.1-2	Implementation of the LRDP could affect scenic resources. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.1-3	Implementation of the LRDP would affect existing visual character and quality of the site and its surroundings. This impact is considered <i>significant</i> .	S	<i>No mitigation available.</i>	SU
4.1-4	Lighting of the buildings and other facilities on the proposed campus would create a new source of substantial light or glare. This is considered to be a <i>significant</i> impact.	S	<i>4.1-4 All outdoor lighting should be focused and directed to the specific location (e.g. roads, walkways), be shielded to avoid the production of glare, minimize up-light, and light spill. All light fixtures shall be located, aimed, or shielded so as to minimize stray light trespassing across property boundaries onto Lake Yosemite Regional Park and other sensitive areas (Applicability-project level).</i>	SU
4.1-5	Implementation of the LRDP together with cumulative development in the vicinity will change the visual character of the area. This impact is considered <i>significant</i> .	S	<i>No mitigation available.</i>	SU
4.1-6	Implementation of the LRDP together with cumulative development in the vicinity will not result in a substantial adverse change to the visual quality of the	LS	<i>No mitigation required.</i>	LS

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	Impact	Level of Significance Prior to Mitigation¹	Mitigation Measures	Level of Significance Following Mitigation¹
	area. This impact is considered <i>less than significant</i> .			
4.1-7	Implementation of the LRDP together with cumulative development in the vicinity will create new sources of light and glare that could affect nighttime views in the area. This impact is considered <i>significant</i> .	S	<i>See mitigation measure 4.1-4.</i>	SU
4.1-8	Implementation of the LRDP together with cumulative development in the vicinity could adversely affect scenic vistas and scenic resources. This impact is considered <i>significant</i> .	S	<i>No mitigation available.</i>	SU
4.2 Agricultural Resources				
4.2-1	Implementation of the LRDP would result in the conversion of about 684 acres of grazing land into nonagricultural uses. This impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.2-2	Implementation of the LRDP would not substantially conflict with existing zoning for agricultural use. This impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.2-3	Cumulative development will result in the conversion of prime farmland, farmland of statewide importance, and unique farmland to nonagricultural use. This is a <i>significant</i> cumulative impact.	S	<i>No mitigation available.</i>	SU
4.3 Air Quality				
4.3-1	Construction activities as part of development allowed under the LRDP could result in short term generation of fugitive dust (PM ₁₀). This is considered to be a <i>potentially significant</i> impact.	PS	<i>4.3-1(a) The Campus shall include in all construction contracts the measures specified in SJVUAPCD Regulation VIII (as it may be amended for application to all construction projects generally) to reduce fugitive dust impacts, including but not limited to the following:</i>	LS

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Impact	Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
		<ul style="list-style-type: none"> • All disturbed areas, including storage piles, which are not being actively utilized for construction purpose, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover. • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. • With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition. • When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. • All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.) • Following the addition of materials to, or the 	

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			<p>4.3-1(b) <i>removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions by utilizing sufficient water or chemical stabilizer/suppressant.</i></p> <p><i>The campus will include in construction contracts for large construction projects near sensitive receptors the following control measures characterized by the SJVAUPCD as enhanced and optional control measures:</i></p> <ul style="list-style-type: none"> • <i>Limit traffic speeds on unpaved roads to 15 mph;</i> • <i>Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent; and</i> • <i>To the extent feasible, limit area subject to excavation, grading, and other construction activity at any one time.</i> 	
4.3-2	<p>Construction activities and development allowed under the LRDP would generate increased levels of CO, O₃ precursors (ROG and NO_x), and PM₁₀ emissions. This could hinder air quality attainment and maintenance efforts even though those emissions were included in air quality planning efforts. This is considered to be a <i>significant</i> impact at the LRDP level.</p>	S	<p>4.3-2(a) <i>Construction Sources</i></p> <p><i>The following mitigation measures will be implemented to reduce impacts of ozone precursor emissions from construction equipment exhaust. (Applicability—project level)</i></p> <ul style="list-style-type: none"> • <i>When feasible, use alternative fuel construction equipment</i> • <i>Minimize idling time to a maximum of 10 minutes when construction equipment is not in use.</i> • <i>To the extent practicable, manage operation of heavy-duty equipment to reduce emissions.</i> • <i>Employ construction activity management techniques such as extending the construction period outside the ozone season of May through October.</i> 	SU

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		<p>4.3-2(b) <i>Use low-emission on-site station equipment. The campus will work with the SJVUAPCD to ensure that emissions directly and indirectly associated with the campus, University Community, and induced growth are adequately accounted for and mitigated in applicable air quality planning efforts. The SJVUAPCD can and should adopt adequate measures consistent with applicable law to ensure that air quality standard violations are avoided. (Applicability—program level)</i></p> <p>4.3-2(c) <i>Vehicular Sources</i></p> <p><i>The following measures will be implemented to reduce emissions from vehicles, as feasible. (Applicability—program level)</i></p> <ul style="list-style-type: none"> • <i>Provide pedestrian-enhancing infrastructure to encourage pedestrian activity and discourage vehicle use.</i> • <i>Provide bicycle facilities to encourage bicycle use instead of driving.</i> • <i>Provide transit-enhancing infrastructure to promote the use of public transportation.</i> • <i>Provide facilities to accommodate alternative-fuel vehicles such as electric cars and CNG vehicles.</i> • <i>Improve traffic flows and congestion by timing of traffic signals to facilitate uninterrupted travel.</i> <p>4.3-2(d) <i>Area Sources</i></p> <p><i>The following measures will be implemented to reduce emissions from area sources, as feasible.</i></p>	

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			<p><i>(Applicability—project level)</i></p> <ul style="list-style-type: none"> • Use solar or low-emission water heaters. • Orient buildings to take advantage of solar heating and natural cooling and use passive solar designs. • Increase wall and attic insulation. • For fireplaces or wood-burning appliances, require low-emitting EPA certified wood-burning appliances, or residential natural-gas fireplaces. • Provide electric equipment for landscape maintenance. <p>4.3-2(e) Turbines and Boilers</p> <p>Mitigation is already accounted for by assuming BACT will be applied to these sources.</p>	
4.3-3	Development allowed under the LRDP would result in an increase in localized CO concentration from vehicle traffic at intersections but the increase would not result in localized concentrations that would exceed air quality standards. This is a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.3-4	Development allowed under the LRDP would not include sources of odorous emissions, with the exception of a small recycled water facility. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.3-5	Campus occupants and residents in the immediate vicinity of the Campus would not be exposed to significant quantities of toxic air contaminants emitted from uses on the campus. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS

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4.3-6	Development allowed under the LRDP, in conjunction with cumulative development in the region, could hinder air quality attainment and maintenance efforts for criteria pollutants. This is considered to be a <i>significant</i> impact.	S	<i>See mitigation measure 4.3-2 (a-e).</i>	SU
4.3-7	Development allowed under the LRDP, in conjunction with cumulative development in the region, would not cause an exceedance of CO standards. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.3-8	Development allowed under the LRDP, in conjunction with cumulative development in the project vicinity, would not result in significant health risks from emissions of toxic air contaminants. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.4 Biological Resources				
4.4-1	Development under the LRDP would result in a substantial adverse effect on federally protected wetlands. This is considered to be a <i>potentially significant</i> impact.	PS	4.4-1(a) <i>The University of California shall develop and implement a Resource Mitigation Program to be reviewed and approved by the USACE, USFWS and CDFG through the state and federal permit processes. The Resource Mitigation Program shall result in the acquisition and preservation of substantial acreages of vernal pool-dominated grassland habitat and other wetland resources throughout eastern Merced County and the restoration, enhancement or creation of wetland resources within these preserved areas. The Resource Mitigation Program shall be designed to address impacts on wetlands and associated upland habitat and the special status species that depend upon those habitats.</i>	LS

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		<p><i>Areas to be preserved under the Resource Mitigation Program will be protected in perpetuity by conservation easements held by a third party or by transfer to the University of California Natural Reserve System. The Resource Mitigation Program shall include a plan for the monitoring and management of preserved wetland and upland habitats, based upon adaptive management principles, that ensures the ongoing funding of those efforts and incorporates measures (e.g., grazing management, restrictions on rodenticides, watershed protections and other measures) necessary to maintain the biological diversity and integrity of native flora and fauna relative to existing or enhanced conditions.</i></p> <p><i>The total number of acres of grassland habitat to be preserved under the Resource Mitigation Program will be driven by the implementation of a combination of wetland-specific mitigation ratios set forth below. The combined effect of these mitigation ratios, which address the preservation, creation and enhancement of specific wetland types, are expected to result in the preservation of approximately 1,152 to 1,728 acres of vernal pool-dominated grasslands in eastern Merced County. Given that the Main Campus will result in the permanent disturbance of about 684 acres of vernal pool-dominated grassland habitat, this represents an overall mitigation ratio (i.e., impacted habitat to preserved habitat) of approximately 1:7 to 2.5:1, which will mitigate impacts on both wetland and upland species occurring within the Campus site.</i></p>	

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		<p><i>Lands to be acquired for preservation under the Resource Mitigation Program shall be selected in accordance with a number of criteria intended to ensure a broad look at the values and functions of the lands under consideration. These factors shall include, among others, the following:</i></p> <ul style="list-style-type: none"> • <i>Species composition</i> • <i>Species diversity</i> • <i>Density of special status species populations</i> • <i>Proportion of native vs. nonnative species</i> • <i>Utilization of both wetland and upland characteristics by special status species</i> • <i>Utilization as a migration corridor for wildlife species</i> • <i>Concentrations of rare plant populations or important geographic segments of rare plant populations</i> • <i>Connectivity with regional conservation efforts</i> • <i>Watershed size</i> • <i>Wetland density</i> • <i>Soil and substrate types</i> • <i>Wetland hydrology</i> • <i>Potential for future direct or indirect impacts</i> <p><i>Preserve areas shall be compatible with requirements imposed by USACE, USFWS and CDFG during the state and federal permit processes.</i></p> <p><i>To ensure no net loss of wetland functions and values due to development of the Main Campus, the Resource Mitigation Program shall include a plan for wetland</i></p>	

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		<p><i>preservation, creation and enhancement to be accomplished within the lands preserved through the Program. This Program is designed to achieve a minimum overall ratio of a total of 3 acres of wetlands preserved, restored, enhanced or created for every 1 acre of impact (3:1 ratio). Table 4.4-4 summarizes the proposed Resource Mitigation Program as it applies to wetlands.</i></p> <p><i>Mitigation Measure 4.4-1(b) describes the proposed wetland preservation that would be implemented for all wetland impacts. Mitigation Measure 4.4-1(c) describes the proposed enhancement and restoration measures that would be implemented for impacts to vernal pools, swales, and clay playa wetland habitats. Mitigation Measure 4.4-1(d) describes the proposed wetland creation measures that would be implemented for impacts to seasonal freshwater marsh wetland habitats.</i></p> <p><i>These measures describe minimum preservation and restoration, enhancement and creation ratios intended to achieve the no net loss goal articulated in this measure. (Applicability - program level)</i></p> <p><i>4.4-1(b) The Resource Mitigation Program shall require the preservation of existing wetlands of comparable functions and values at a minimum ratio of 2 acres of wetlands preserved for every 1 acre of wetlands filled due to the proposed campus (2:1). Preserved vernal pool habitat shall include sufficient acreage of associated upland habitat (i.e. annual grasslands) to</i></p>	

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		<p><i>assure comparable vernal pool densities within grassland areas, maintenance of existing hydrology and otherwise protect the integrity of the preserved wetlands area. It is expected that at least 18 acres of vernal pool-dominated grasslands will be preserved for every acre of vernal pool filled. This expectation is based upon the 9:1 ratio of annual grasslands to wetlands in the Main Campus area. Vernal pool densities within particular preservation areas may vary from those on the Main Campus provided the overall mitigation program (including creation and enhancement components) results in satisfaction of the no net loss standard articulated above.</i></p> <p><i>(Applicability—program level)</i></p> <p><i>4.4-1(c) The Resource Mitigation Program shall require the restoration or enhancement of vernal pool habitat or clay playas at a minimum ratio of 1 acre of enhanced or restored existing clay playa or vernal pool habitat for every 1 acre of clay playa or vernal pool habitat lost as a result of development under the LRDP (a 1:1 acreage ratio). Existing, degraded wetlands and associated annual grasslands shall be acquired and managed to enhance the habitat value for special status species and increase the diversity and cover of native plant species in the wetlands and uplands. If acceptable to the USACE, the Resource Mitigation Program may permit out-of-kind enhancement measures (e.g., riparian enhancement) provided the overall program satisfies the no-net-loss standard articulated above.</i></p> <p><i>4.4-1(d) The Resource Mitigation Program shall require the</i></p>	

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		<p><i>creation of new wetlands at a minimum ratio of 1 acre of new wetlands created for every 1 acre of seasonal freshwater marsh wetlands filled under the LRDP (a 1:1 acreage ratio). Created wetlands are generally anticipated to be seasonal freshwater marsh or other seasonal wetland habitats to compensate for impacts to these types of wetland habitats. It is not anticipated that significant vernal pools and swales or clay playa wetlands will be created because of the limited availability of suitable sites and the uncertainties associated with creation of these wetland types. The Resource Mitigation Program will include creation of vernal pools and swales or clay playas as mitigation for impacts to such habitats only if this approach is determined to be feasible and acceptable to the USACE.</i></p> <p><i>Any proposal for wetland creation or enhancement (pursuant to Mitigation Measure 4.4-1(c) above), including the final configuration of proposed wetlands (size, shape, depth, etc.), will be based upon the completion of soils, hydrologic and other studies confirming the feasibility of the creation or enhancement proposal and shall include USACE-approved measures intended to ensure occupancy by special status and other wetland-dependent species (e.g., plantings, collection of topsoil and inoculation of target areas). Created or enhanced wetlands will be preserved in perpetuity by conservation easements or held by a third party by transfer to the University of California Natural Reserve System and monitored and</i></p>	

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
			<i>managed as described in Mitigation Measure 4.4-1(b) above. Moreover, created or enhanced wetlands will be evaluated for a period of at least 5 years to ensure conformance with success criteria (e.g., target habitat characteristics, success of plantings, etc.) to be developed in conjunction with USACE and other agencies. (Applicability—program level)</i>	
4.4-2	Development under the LRDP would result in substantial adverse effects on special status species dependent on vernal pool and clay playa habitat due to the loss of 64 acres of this habitat type. This is considered to be a <i>potentially significant</i> impact.	PS	<p>4.4-2 <i>The University shall collect seed from special-status plant populations prior to the loss of the populations in the Main Campus area. Seed collection shall be conducted by a qualified botanist or restoration biologist. Collected seeds will be dispersed within suitable habitat. Seeds shall be dispersed only within suitable habitats not currently occupied by the affected plant species, to avoid impacts on the genetic composition of existing populations.</i></p> <p><i>The collected seed shall be dispersed in suitable habitat within the annual grassland, vernal pool, and clay playa habitats preserved in conjunction with loss of wetland habitat (Impact 4.4-1) and/or annual grassland habitat (Impact 4.4-1), if feasible. However, if mitigation lands to serve both purposes cannot be found, the University shall be responsible for negotiating a conservation easement with a land owner in the vicinity such that a minimum of one special status plant population is preserved in perpetuity for every one population of the same species affected.</i></p>	LS
4.4-3	Development under the LRDP would result in the loss of approximately 14 acres of seasonal freshwater	LS	4.4-3 <i>The University shall conduct preconstruction surveys within 1,500 feet of a breeding site to capture and</i>	LS

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Impact	Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
marsh habitat used by special status species, including California tiger salamander. With implementation of mitigation measures identified elsewhere, this is considered to be a <i>less-than-significant</i> impact.		<p><i>relocate adult California tiger salamanders. Salamanders will be captured using both passive and active strategies. Barriers will be placed along the perimeter of construction areas during the fall prior to the start of ground disturbance. Barriers will be constructed to divert salamanders away from the construction area. In addition, nocturnal surveys will be conducted during the wet season prior to the start of ground disturbance. All salamanders encountered during nocturnal surveys will be captured and relocated by a qualified biologist to suitable sites within the acquired mitigation lands. (Applicability - program level)</i></p>	
<p>4.4-4 Development under the LRDP would result in the loss of approximately 684 acres of grazed annual grassland habitat used by special status species. With the implementation of mitigation measures identified elsewhere, this is considered to be a <i>less-than-significant</i> impact.</p>	LS	<p><i>4.4-4(a) Grassland Management Strategies. The University shall develop site specific management plans for the Campus Natural Reserve and other properties preserved, enhanced, or restored as mitigation for the LRDP. These management plans shall include strategies to promote the following goals:</i></p> <ul style="list-style-type: none"> <i>• manage grazing to enhance special status species populations;</i> <i>• manage the use of rodenticides and herbicides to enhance upland habitats for special status species; and</i> <i>• develop supplemental watering areas outside of natural wetlands (e.g. watering troughs for cattle). (Applicability – program level)</i> <p><i>4.4-4(b) Pesticide Management. The University shall implement</i></p>	LS

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	Impact	Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
			<p><i>a pesticide management plan regulating the use of pesticides (including rodenticides) for the Campus Land Reserve, Campus Natural Reserve and other properties preserved, enhanced, or restored as mitigation for the LRDP. This plan shall integrate agricultural practices, including grazing and pesticide use, with management and protection of vernal pool, clay playa, and grassland habitats and special status species dependent upon these habitats. (Applicability - program level)</i></p>	
<p>4.4-5</p>	<p>Development under the LRDP would result in the direct loss of nesting habitat for resident and migratory avian species of special concern and raptors known to breed in the project vicinity. This is considered to be a <i>potentially significant</i> impact.</p>	<p>PS</p>	<p>4.4-5(a) <i>Prior to the implementation of the LRDP, a site reconnaissance survey will be conducted of the Main Campus to provide baseline data for nesting raptor and avian species of concern. (Applicability—program level)</i></p> <p>4.4-5(b) <i>Prior to the onset of construction activities, surveys for special status avian species and raptors would be conducted on the affected portion of the Campus site following USFWS and/or CDFG guidelines. If no active avian nests are identified on or within 250 feet of the construction site, no further mitigation would be necessary. (Applicability—project level)</i></p> <p>4.4-5(c) <i>If active nests for avian species of concern or raptor nests are found on the Campus site within the construction footprint or a 250-foot buffer zone, construction would be delayed within the buffer zone until the young have fledged, or appropriate mitigation measures responding to the specific situation will be developed in consultation with CDFG. (Applicability—</i></p>	<p>LS</p>

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	Impact	Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
			<p><i>project level)</i></p> <p>4.4-5(d) <i>In the case of burrowing owls, burrows would be avoided or passive exclusion and relocation techniques following CDFG guidance would be implemented. (Applicability—project level)</i></p> <p><i>Due to the presence of suitable nesting habitat in the vicinity of the Campus site, the University of California shall also implement Mitigation Measure 4.4-5(e) (below) to avoid disturbance to nesting Swainson’s hawks in accordance with CDFG mitigation guidelines.</i></p> <p>4.4-5(e) <i>The Campus shall conduct a preconstruction breeding season survey of the proposed project site, and within a 1,000-foot radius of the site, to determine the presence or absence of any nesting Swainson’s hawks.</i></p> <p><i>If any Swainson’s hawks are found nesting within a 1,000-foot radius of the project site, the Campus shall, in consultation with the CDFG, determine the appropriate actions necessary to protect the nest site and prevent disturbance until the young birds have fledged and are foraging independently. Measures may include monitoring the nest site during construction or avoiding construction within ¼ mile during the nesting season. (Applicability—project level)</i></p>	
4.4-6	Development under the LRDP would result in the loss of approximately 762 acres of habitat that may be used for movement of special status mammal species. This is considered to be a <i>less-than-significant</i> impact.	LS	4.4-6(a) <i>Pre-construction surveys should be conducted in accordance with the kit fox protocol contained in the USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. These surveys should be conducted prior</i>	LS

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		<p><i>to any development within the Main Campus Area to eliminate or minimize any possibility of a direct take of this species. Pre-construction surveys for kit fox dens shall be conducted no more than 30 days prior to any construction-related activities:</i></p> <ul style="list-style-type: none"> • <i>These surveys shall be conducted by a qualified biologist whose primary objective would be to identify kit fox habitat features on the Campus site and evaluate site use by kit fox.</i> • <i>If an active kit fox den is detected within (or immediately adjacent to) the area of work, standard den clearance shall be conducted in accordance with the USFWS kit fox ground disturbance protocol.</i> • <i>If no kit fox activity is detected, then a written report shall be submitted to the USFWS within five working days after completion of the surveys. (Applicability—project level)</i> <p><i>4.4-6(b) All construction-related activities shall be preceded by a tail-gate session, the primary purpose of which will be to describe the importance of implementing construction-related activities that will minimize potential construction-related impacts to kit foxes, including:</i></p> <ul style="list-style-type: none"> • <i>All food-related items shall be properly disposed of, and signs indicating that the feeding of wildlife is prohibited shall be placed at the construction site.</i> • <i>Vehicle traffic shall occur primarily between dawn and dusk, and shall be limited to 20 mph to reduce</i> 	

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			<p><i>the potential of road mortality of kit fox.</i></p> <ul style="list-style-type: none"> • <i>Any trench or pit shall be constructed in such a way as to provide ramps of either fill or planks to prevent kit foxes (or other species) from becoming entrapped in such a trench or pit.</i> • <i>Pipes, culverts, etc. greater than four inches in diameter shall be stored in such a way as to prohibit foxes or other species from using these areas as temporary refuge. In addition, these structures shall be thoroughly inspected each morning for kit fox or other species.</i> • <i>No firearms shall be allowed on the Campus site. No pets shall be permitted on construction sites. The use of rodenticides and herbicides on the Campus site shall be restricted. (Applicability—project level)</i> 	
4.4-7	Development under the LRDP could result in indirect impacts to wetlands and uplands adjacent to the 910-acre Main Campus site. This is considered to be a <i>potentially significant</i> impact.	PS	<p>4.4-7(a) <i>Potential adverse indirect impacts to areas outside of the Campus site would be mitigated by incorporation of a 250-foot-wide monitoring area at the interface between the Main Campus and the adjacent Campus Land Reserve. This area would be periodically monitored and maintained by Campus maintenance crews to verify that the monitoring area is meeting the following performance criteria:</i></p> <ul style="list-style-type: none"> • <i>Prevents the flow of surface runoff from the Campus site to wetlands in the monitoring area;</i> • <i>No increase in nonnative species abundance or distribution within the monitoring area;</i> 	LS

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		<ul style="list-style-type: none"> • <i>No substantial degradation of wetland biota or water quality in the monitoring area relative to reference wetlands in the Campus Land Reserve or Campus Natural Reserve is observed;</i> • <i>The University shall develop a monitoring and management plan for this monitoring area that will be coordinated with the Resource Mitigation Program outlined in Mitigation Measures 4.4-1(a-d). (Applicability—program level)</i> <p>4.4-7(b) <i>Signs will be posted along the northern and eastern perimeter of all Main Campus development informing the public of the sensitivity of habitats in the Campus Land Reserve and Campus Natural Reserve areas and prohibiting unauthorized entry into the monitoring areas. (Applicability—program level)</i></p> <p>4.4-7(c) <i>A public education/orientation program will be implemented at the campus to inform new students, staff and faculty of the sensitive resources outside of the perimeter of the Main Campus and the need to protect those resources (Applicability—program level).</i></p> <p>Altered Hydrology and Water Quality Degradation</p> <p>4.4-7(d) <i>To reduce the potential for indirect impacts related to altered hydrologic regime in areas outside of the Main Campus, as well as the potential for sediment and nutrient loading of adjacent areas, storm water drainage on the Main Campus will be designed to drain toward the core of the Campus site and directed to appropriate storm water management facilities. No</i></p>	

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		<p><i>storm water runoff will be discharged into adjacent Campus Land Reserve or Campus Natural Reserve lands, except as may be approved as a component of an aquatic habitat enhancement program under Mitigation Measure 4.4-1. (Applicability—program level)</i></p> <p>Control of Nonnative and Invasive Species</p> <p>4.4-7(e) <i>The University of California shall implement a program to monitor and control nonnative species on the Campus site. This program will include measures to control the establishment and dispersal of nonnative species during grading, construction, and operation of the proposed Main Campus. All species included on the State of California’s and the U.S. Department of Agriculture’s list of regulated noxious weeds shall be monitored and adequately controlled to limit dispersal and establishment of these species on undeveloped lands on the Campus site. The University shall monitor populations of native wildlife species to assess potential impacts of urban wildlife species and other indirect effects. The University shall implement control strategies if native wildlife populations are adversely and significantly affected compared to reference populations outside the Campus site. (Applicability—program level)</i></p> <p>4.4-7(f) <i>To ensure that seeds from invasive species are not transported into the Campus site by construction equipment, all equipment will be washed down prior to being transported to the Campus site. All construction equipment will be clean and generally free of seeds or</i></p>	

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		<p><i>other plant material before being brought on site.</i></p> <p><i>The contractor will notify the Campus project manager of the source location of all off-site fill material a minimum of ten days prior to importing material to the project site and appropriate steps will be taken to minimize the potential for invasive species to colonize areas disturbed during construction due to use of such fill.</i></p> <p><i>To the extent feasible, any organic material used during project construction for erosion control, or any material used for hydroseeding or revegetating disturbed areas should be free of invasive species. (Applicability—project level)</i></p> <p>Air-Related Transport</p> <p>4.4-7(g) <i>To reduce the potential for air-related transport of pollutants such as herbicides or pesticides, herbicide and pesticide use for campus maintenance activities will be restricted to organic and/or biodegradable products wherever possible. (Applicability—program level)</i></p> <p>Wildfires</p> <p>4.4-7(h) <i>To reduce the potential for increased wildfires in areas adjacent to the Campus, the Campus Land Reserve would be grazed in a manner that would reduce excessive vegetation adjacent to the Campus while providing protection for sensitive biological resources (e.g., wetlands and special status species). In addition, the vegetation within the 250-foot monitoring area at</i></p>	

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			<i>the interface of the Main Campus and Campus Land Reserve would be maintained to reduce fuel loading. Landscaping between the perimeter road and the Main Campus fence line should consist of fire-resistant plant species and shall be maintained to provide a firebreak between the Main Campus and the adjacent Campus Land Reserve. (Applicability—program/project level)</i>	
4.4-8	Development under the LRDP will not conflict with local applicable policies protecting biological resources or provisions of an adopted habitat conservation plan. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.4-9	Off-site improvements related to the construction of utilities infrastructure (e.g., gas/electric transmission lines) could potentially affect sensitive biological resources. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No additional mitigation required.</i>	LS
4.4-10	Construction resulting from implementation of the LRDP could result in temporary construction impacts to sensitive biological resources, including wetlands or special status plants and wildlife, adjacent to the project site. This is considered to be a <i>potentially significant</i> impact.	PS	<p>4.4-10(a) <i>Prior to the onset of construction, temporary construction fencing would be installed along the boundaries of the project area to prevent construction vehicles from straying beyond the project site. Construction best management practices such as dust-control measures, sedimentation devices, and restricted refueling/maintenance practices would be implemented. A spill-response plan would be prepared for the site to ensure prompt capture of any accidental releases. (Applicability—project level)</i></p> <p>4.4-10(b) <i>Prior to the onset of construction activities, a training session for all construction personnel would be</i></p>	LS

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			<p><i>conducted to educate construction personnel of the sensitive nature of the areas adjacent to the Phase 1 Campus. At a minimum, the training shall include a description of the species at risk and their habitat, the importance of the species and their habitat, the general measures that are being implemented to conserve sensitive areas/species as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. (Applicability—project level)</i></p>	
4.4-11	<p>Development under the LRDP, in conjunction with other cumulative development would result in the loss or adverse modification of important native plant and wildlife habitat, including wetlands, vernal pool habitat, clay playa habitat, and annual grassland habitat, and adverse effects to special-status species associated with these habitats.</p>	S	<p><i>See mitigation measures 4.4-1 (a-d), 4.4-3, 4.4-4 (a and b), 4.4-5 (a-e), 4.4-6 (a and b), 4.4-7 (a-h), and 4.4-10 (a and b).</i></p>	SU
4.5 Cultural Resources				
4.5-1	<p>Development of the Main Campus under the LRDP has the potential to disturb or destroy archaeological resources. This is considered a <i>potentially significant</i> impact.</p>	PS	<p><i>4.5-1(a) Prior to any construction on the Campus, the Campus will work with a qualified archaeologist to develop and conduct an appropriate construction monitoring plan and inadvertent discovery plan to ensure that any resource uncovered during construction is identified and appropriately treated. (Applicability—program level)</i></p> <p><i>4.5-1(b) If a potentially significant archaeological resource is identified during preliminary phases of campus</i></p>	LS

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			<p><i>construction, the campus will incorporate into the proposed project design measures that will minimize or eliminate direct impacts to the deposit. These could include avoidance of the site by inclusion in landscaping or open space, placement of fill over the site, and/or project redesign. If this is not feasible, or if such measures will not ensure the avoidance of impacts, the University will ensure that an archaeological testing program is developed and carried out to assess the significance of the resource. (Applicability—project level)</i></p> <p><i>4.5-1(c) If a resource is determined to be significant, and if it cannot be preserved intact through project design measures, then the University will retain an archaeologist to design and carry out a treatment plan to document the data and/or preserve such scientific samples of the data for which the site is significant as may be appropriate, given the significance of the find. (Applicability—project level)</i></p> <p><i>4.5-1(d) All projects on campus shall be conditioned with an inadvertent-discovery clause. Under this clause, construction crews and maintenance teams working on campus shall be informed by the University of pertinent cultural resources regulations and of the potential for buried resources. If an archaeological resource is uncovered during construction, work in the vicinity will halt until the potential resources has been evaluated by a qualified archaeologist and, if significant, has been treated appropriately. (Applicability—project level)</i></p> <p><i>4.5-1(e) With respect to the refuse dump (described above),</i></p>	

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			<i>which may contain material of historic interest, if construction activity is planned in this area, or if the University elects to clear away the dump material as part of site preparation, the University will ensure that a qualified archaeologist is present during clearing of surface materials. If materials 50 years or older are revealed, the archaeologist will record the material and make a recommendation regarding the data potential of the find. If the material appears likely to contribute information regarding the lives of early 20th century ranch residents in the area, the archaeologist will, in consultation with the Campus, design and carry out a data recovery program to the extent one may be appropriate. (Applicability—project level)</i>	
4.5-2	Development of the Main Campus under the LRDP has the potential to result in disturbance or destruction of Native American human remains. This is considered a <i>potentially significant</i> impact.	PS	<p>4.5-2(a) <i>Implement Mitigation Measures 4.5-1(a) through (d) to minimize the potential for disturbance or destruction of human remains in an archaeological context. (Applicability—program level)</i></p> <p>4.5-2(b) <i>A representative of the local Native American community will be offered the opportunity to monitor any excavation, including archaeological excavation, within the boundaries of any identified Native American archaeological site. (Applicability—project level)</i></p> <p>4.5-2(c) <i>In the event of the discovery on campus of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find will halt immediately and the area of the find will be protected. If a qualified archaeologist is present, he/she will determine whether the bone is human. If the</i></p>	LS

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			<i>archaeologist determines that the bone is human, or in the absence of an archaeologist, the University immediately will notify the Merced County Coroner of the find and comply with the provisions of P.R.C. § 5097 with respect to Native American involvement, burial treatment, and reinterment. (Applicability—project level)</i>	
4.5-3	Development under the LRDP has the potential to result in disturbance or destruction of potential cultural resources through incidental activity and increased accessibility, which could result in vandalism or illicit collection. This is considered a <i>less-than-significant</i> impact.	LS	4.5-3 <i>The University shall ensure that all campus planning and maintenance personnel are informed of the potential for cultural resources impacts, and University requirements for their protection. This shall include provision of written materials to familiarize personnel with the range of resources that might be expected, the kinds of activities that may result in impacts, and the legal framework of cultural resources protection. (Applicability—program level)</i>	LS
4.5-4	Development of the Main Campus under the LRDP has the potential to disturb or destroy paleontological resources. This is considered a <i>potentially significant</i> impact.	PS	4.5-4(a) <i>Prior to project construction, construction personnel will be informed of the potential for encountering significant paleontological resources. All construction personnel will be informed of the need to stop work in the vicinity of a potential discovery until a qualified paleontologist has been provided the opportunity to assess the significance of the find and implement appropriate measures to protect or scientifically remove the find. Construction personnel will also be informed of the requirement that unauthorized collection of fossil resources is prohibited. (Applicability—project level)</i> 4.5-4(b) <i>A qualified paleontologist will be intermittently present</i>	LS

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			<i>to inspect exposures of the Merhten Formation, North Merced Gravels, and Riverbank Formation during construction operations to ensure that paleontological resources are not destroyed by project construction. (Applicability—project level)</i>	
4.5-5	Cumulative development could damage or destroy unidentified prehistoric, historic, or paleontological resources. This is a <i>less-than-significant</i> cumulative impact.	LS	<i>No mitigation required.</i>	LS
4.6 Geology, Soils and Seismicity				
4.6-1	Implementation of the LRDP could expose people or structures to potential adverse effects involving seismic ground shaking. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.6-2	Implementation of the LRDP could result in soil erosion or the loss of topsoil. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.6-3	Implementation of the LRDP could result in construction of facilities on expansive soil, creating potential risks to life or property. This is considered to be a <i>potentially significant</i> impact.	PS	4.6-3 <i>During project-specific building design, a site-specific geotechnical study shall be performed by a Certified Engineering Geologist or Licensed Geotechnical Engineer to assess detailed seismic, geologic and soil conditions at each construction site. The study shall include an evaluation of liquefaction potential, slope stability, landslide potential, expansive and compressible soils, and other structural characteristics and shall identify specific geotechnical recommendations designed to mitigate for seismic</i>	LS

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			<i>hazards. In addition, recommendations for adequate building design including excavation and fill requirements for any identified soil constraints shall be included in the analysis. (Applicability-project level)</i>	
4.6-4	Cumulative development could expose people or structures to potential adverse effects involving seismic ground shaking. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.6-5	Cumulative development could result in soil erosion or the loss of topsoil. This is a <i>less-than-significant</i> cumulative impact.	LS	<i>No mitigation required.</i>	LS
4.6-6	Cumulative development could result in result in construction of facilities on expansive soil, creating risks to life or property. This is considered to be a <i>less-than-significant</i> cumulative impact.	LS	<i>No mitigation required.</i>	LS
4.7 Hazards and Hazardous Materials				
4.7-1	Use of hazardous chemicals and the generation of hazardous chemical waste at UC Merced would not significantly expose campus occupants and nearby public to potential health or safety risks. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-2	Use of radioactive material and the generation of radioactive waste at UC Merced would not significantly expose campus occupants to potential health or safety risks. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-3	Use of biohazardous materials and the generation of biohazardous wastes at UC Merced would not	LS	<i>No mitigation required.</i>	LS

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	significantly expose campus occupants to potential health or safety risks. This is considered to be a <i>less-than-significant</i> impact.			
4.7-4	Use of laboratory animals at UC Merced would not significantly increase the risk of animal bites, escapes, and disease transmission. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-5	Hazardous materials transported to and from the campus would not significantly expose people to potential health risks in the event of an accidental release. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-6	The campus would be located within 2 miles of a private airstrip but would not create a significant safety hazard for people residing or working on campus. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-7	Campus operations using hazardous materials would not be anticipated to exceed emergency response capabilities of the local providers. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-8	Construction activities would not create a significant exposure of Campus occupants and construction workers to contaminated soil or groundwater. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.7-9	Construction of the Campus adjacent to the canals would not expose the Campus population to physical safety hazards. This impact is considered <i>less than</i>	LS	<i>No mitigation required.</i>	LS

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	<i>significant.</i>			
4.7-10	The construction of the proposed campus could expose people or structures to a significant risk of loss, injury, or death involving wildland fires. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
4.7-11	The Campus, the University Community, and other regional development would involve the use, storage, transport, and disposal of hazardous materials and wastes. The cumulative impact from these activities would be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.8 Hydrology and Water Quality				
4.8-1	Implementation of the LRDP could affect the quality of surface runoff water but would not result in a violation of water quality standards. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-2	Implementation of the LRDP would not substantially affect groundwater supplies. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-3	Implementation of the LRDP would increase impervious surfaces at the site, but would not substantially affect groundwater recharge. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-4	Implementation of the LRDP would require installation of groundwater wells on the campus site, which would not result in impacts on adjacent well yields or subsidence. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS

LS: Less than significant; NI: No impact; PS: Potentially significant; S: Significant; SU: Significant and Unavoidable

Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
4.8-5	Implementation of the LRDP would alter site drainage patterns resulting in minimal erosion or siltation on or off-site. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-6	Implementation of the LRDP would alter site drainage patterns but would not result in significant flooding on and off-site. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-7	Implementation of the LRDP would create runoff from the site that would not exceed the capacity of storm drainage systems. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-8	Implementation of the LRDP would not adversely affect water quality from the discharge of wastewater or use of reclaimed water. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-9	Implementation of the LRDP will increase silt and sedimentation during construction but will not adversely affect water quality. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.8-10	Increased impervious surfaces associated with development within the drainage basin could cumulatively increase surface runoff, but would not substantially increase local and regional flooding. This cumulative impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.8-11	Increased impervious surfaces associated with development of the campus and other development	LS	<i>No mitigation required.</i>	LS

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	Impact	Level of Significance Prior to Mitigation¹	Mitigation Measures	Level of Significance Following Mitigation¹
	overlying the groundwater basin would not substantially reduce groundwater recharge potential. This cumulative impact is considered to be <i>less than significant</i> .			
4.8-12	Increased demand for groundwater from the development of the campus, University Community, and other development would not substantially affect the groundwater basin. This cumulative impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.8-13	Increase impervious surfaces associated with the campus and other development could cumulatively increase urban contaminants in surface runoff, but would not adversely affect the quality of receiving water. This cumulative impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.8-14	Development of the campus and other development cumulatively would not substantially affect water quality because of the discharge of wastewater or use of reclaimed water. This cumulative impact is considered to be <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.9 Land Use and Planning				
4.9-1	Implementation of the LRDP would not conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.9-2	Implementation of the LRDP would not result in development of land uses that are substantially incompatible with existing adjacent land uses, or with	LS	<i>No mitigation required.</i>	LS

LS: Less than significant; NI: No impact; PS: Potentially significant; S: Significant; SU: Significant and Unavoidable

Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
	planned uses. This is considered to be a <i>less-than-significant</i> impact.			
4.9-3	The Campus, in conjunction with the University Community, would result in incompatibilities with adjacent land uses. This impact is considered <i>significant</i> .	S	<i>No mitigation available.</i>	SU
4.10 Noise				
4.10-1	Implementation of the LRDP would result in increased vehicular traffic on the regional road network, which would increase ambient noise levels. This is considered to be a <i>significant</i> impact.	S	<i>4.10-1 For new developments, the County and the City of Merced can and should take noise considerations into account during initial site planning, in order to maximize shielding by the planned structures or other on-site features. (Applicability—program level)</i>	SU
4.10-2	Daily activities and special events at the campus could expose nearby receptors, especially the users of the County Park to elevated noise levels. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.10-3	Construction of the campus facilities could expose nearby receptors, especially users of the County Park to elevated noise levels. This is considered to be a <i>potentially significant</i> impact.	PS	<i>4.10-3 Prior to initiation of campus construction, the University shall approve a construction noise mitigation program including but not limited to the following:</i> <ul style="list-style-type: none"> • <i>Construction equipment shall be properly outfitted and maintained with feasible noise reduction devices to minimize construction-generated noise.</i> • <i>Stationary noise sources such as generators or pumps shall be located away from noise sensitive land uses as feasible.</i> • <i>Whenever possible, academic, administrative, and residential areas that will be subject to construction</i> 	SU

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
			<i>noise shall be informed a week before the start of each construction project. (Applicability - project level)</i>	
4.10-4	Construction of off-site utility connections and infrastructure improvements would not expose sensitive land uses to high noise levels. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
4.10-5	Construction activities could expose persons to excessive groundborne vibration or groundborne noise. This is considered to be a <i>potentially significant</i> impact	PS	<i>4.10-5 Limit groundborne vibration due to construction activities to 0.2 in/sec velocity (limit of potential for damage to structures) in the vertical direction at sensitive receptors. For construction adjacent to highly sensitive uses such as laboratories, apply additional measures as feasible, including advance notice to occupants of sensitive facilities to ensure that precautions are taken in those facilities to protect ongoing activities from vibration effects. (Applicability—project level)</i>	LS
4.10-6	Implementation of the LRDP would not expose campus residents to high noise levels from adjacent land uses. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>4.10-6 Student housing or other noise-sensitive land uses should consider incorporating building design (including building layouts that shield outdoor land uses from the potentially annoying noise) and window upgrades for interior noise-sensitive uses within 1,000 feet of the boat use areas. (Applicability-project level)</i>	LS
4.10-7	Construction of the campus and the University Community would not cumulatively result in excessive noise levels at Lake Yosemite Regional Park. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.10-8	Implementation of the LRDP in conjunction with the University Community and the Campus Parkway	S	<i>See mitigation measure 4.10-1.</i>	SU

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	Impact	Level of Significance Prior to Mitigation¹	Mitigation Measures	Level of Significance Following Mitigation¹
	projects and the regional growth would increase the traffic on the regional road network, which would increase ambient noise levels. This is considered to be a <i>significant</i> impact.			
4.11 Population, Employment, and Housing				
4.11-1	Implementation of the LRDP would create a demand for housing but that demand would be accommodated by local jurisdictions. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
4.11-2	The proposed project, in conjunction with the University Community and other projects, could result in a demand for housing but that demand would be accommodated by local jurisdictions. This cumulative impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.12 Public Services				
4.12-1	On-campus law enforcement services would be provided by the University and the anticipated on-campus demand for law enforcement services would be adequately met. This is considered to be a <i>less-than-significant</i> impact.	LS	4.12-1 <i>The proposed campus shall maintain a minimum ratio of 0.72 officers per 1,000 population. (Applicability-Program level)</i>	LS
4.12-2	The campus would obtain fire protection services through agreement with a local agency. This is considered to be a <i>less-than-significant</i> impact.	LS	4.12-2 <i>The Campus shall implement one or more of the following measures in order to provide an adequate level of fire protection services:</i> 4.12-2(a) <i>Contract for firefighters and support staff as necessary to maintain a ratio of 3.5 firefighters per 1,000,000 square feet of building area, 24 hours per day;</i> 4.12-2(b) <i>Provide additional equipment or improve techniques as</i>	LS

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
			<i>needed to meet fire protection demand; and/or 4.12-2(c) Establish mutual aid agreements with adjacent jurisdictions. (Applicability—program level)</i>	
4.12-3	Development of the campus would result in increased demand for hospital services. The existing and currently planned medical facility system in Merced County would be adequate to accommodate projected future need. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
4.12-4	The development of the campus would generate demand for elementary and secondary educational services, which could result in physical effects on the environment. This is considered a <i>potentially significant</i> impact.	PS	<i>4.12-4 The Merced City School District and the Merced Union High School District can and should provide adequate school facilities to all portions of the service area to accommodate growth in the number of school-aged children.</i>	SU
4.12-5	Development of the campus would result in increased demand for library services. The proposed campus would itself provide extensive academic library facilities, which would serve the general public, as well as students, staff and faculty of the University. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.12-6	Implementation of the LRDP together with cumulative development in the vicinity will result in increased need for law enforcement services. This cumulative impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.12-7	Implementation of the LRDP and cumulative development would generate an increased demand for fire protection services. This is considered a <i>less than</i>	LS	<i>No mitigation required.</i>	LS

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	Impact	Level of Significance Prior to Mitigation¹	Mitigation Measures	Level of Significance Following Mitigation¹
	<i>significant</i> impact.			
4.12-8	Implementation of the LRDP and cumulative development would generate an increased demand for elementary and secondary educational services, which would be met in the University Community. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.12-9	Implementation of the LRDP and other cumulative development would result in increased demand for library services. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.12-10	Implementation of the LRDP and other cumulative development would result in increased demand for hospital services. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.13 Recreation				
4.13-1	Implementation of the LRDP would increase the area population and result in an increased demand for recreational facilities, which could cause a deterioration of the facilities. This impact is considered <i>potentially significant</i> .	PS	<p>4.13-1(a) <i>Work with the County to develop a program for joint use of on-campus recreational, parking and sports facilities.</i></p> <p>4.13-1(b) <i>Prior to transfer of title of any land that is currently or planned to be part of the Lake Yosemite Regional Park, work with the County to develop appropriate mechanisms for acquiring additional property to replace that potential parkland lost to conversion to non-open space campus uses.</i></p> <p>4.13-1(c) <i>Work with the County to expand Lake Yosemite Regional Park in response to impacts associated with the development of the University Community, UC</i></p>	LS

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
			<i>Merced and other growth in the north Merced region.</i> <i>4.13-1(d) Work with the County to monitor use of Lake Yosemite Regional Park. If park use increases due to development of the campus and University Community such that substantial physical deterioration of park facilities occurs, then the University will negotiate with the County to offset increased costs to the County for maintenance of park facilities.</i>	
4.13-2	Implementation of the LRDP would not require the construction of replacement golf course facilities. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.13-3	Cumulative growth in area population will result in an increased demand for recreational facilities, which could cause a deterioration of the facilities. This impact is considered <i>significant</i> .	S	<i>See mitigation measure 4.13 (a-d).</i>	SU
4.13-4	Cumulative development would not require the construction of replacement golf course facilities. This impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS
4.14 Traffic, Circulation, and Parking				
4.14-1	Implementation of Phase 1 of the LRDP would result in exceedance of the intersection at the Lake/Bellevue intersection. This is considered a <i>significant</i> impact.	S	<i>4.14-1 Install a traffic signal at the intersection of Lake Road and Bellevue Road and widen the intersection to provide a left-turn lane on the northbound and eastbound approaches. (Applicability-project level)</i>	LS
4.14-2	Implementation of Phase 1 of the LRDP may result in operational deficiencies at the Lake/Yosemite intersection. This is considered a <i>potentially</i>	PS	<i>4.14-2 The County can and should analyze the expected future operations of the Lake/Yosemite intersection at the following milestone points: 1) on determination of the conceptual alignment for Campus Parkway, 2) on</i>	LS

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
	<i>significant</i> impact.		<i>preparation of the Geometric Approval Drawings for Campus Parkway, and 3) each October, beginning in the opening year of the UC Merced campus. If any of these analyses determine that the Lake/Yosemite intersection will operate at unacceptable LOS, the University will contribute its fair share (as described in Section 4.14.3.2) toward the cost of any improvements deemed necessary at the intersection. Monitoring of the Lake/Yosemite intersection will end upon completion of the Campus Parkway extension from Yosemite Avenue to Bellevue Road; monitoring of other approach routes to campus will continue as described in Mitigation Measure 4.14-5. (Applicability—program level)</i>	
4.14-3	Construction of Phase 1 of the LRDP may result in excessive deterioration of County roads leading to campus and the need for physical expansion at the Lake/Yosemite intersection. This is considered a <i>potentially significant</i> impact.	PS	<p>4.14-3 (a) <i>The University will create a visual record of pavement surface condition along Bellevue Road (from Lake to Highway 59), and Lake Road (from the University entrance to Yosemite Avenue), and any other routes on which final haul plans indicate large truck traffic generated by campus construction would exceed 5% of existing traffic levels. The University will re-inventory pavement condition along these routes within two months following completion of Phase 1 construction, and either restore pavement to pre-construction condition or reimburse County to perform restoration (less a reasonable allowance for deterioration caused by other traffic). (Applicability—Project level)</i></p> <p>4.14-3 (b) <i>The University will either: 1) restrict truck routing to/from the site to prohibit large trucks (with turn radius greater than 40-feet) from travel via Lake Road, or 2) pay the County to design and construct improvements to the intersection to accommodate the turn-radius of the</i></p>	LS

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	Impact	Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
			<i>largest expected construction vehicle. (Applicability—Project level).</i>	
4.14-4	Implementation of the LRDP, in conjunction with regional growth in Merced County, would result in increased traffic levels in the vicinity of the campus site, and exceedances of the roadway LOS thresholds. This is considered a <i>significant</i> impact.	S	<p>4.14-4(a) <i>The University will contribute its fair share (as described in Section 4.14.3.2) toward the following RTP Tier 2 roadway improvements:</i></p> <ul style="list-style-type: none"> • <i>Campus Parkway, extend from Yosemite Avenue to Bellevue Road</i> • <i>Highway 59, widen to 4 lanes, Yosemite Avenue to Bellevue Road</i> • <i>Highway 59, new segment between Highways 99 and 140</i> • <i>Yosemite Avenue, extend from R Street to Highway 59</i> • <i>Yosemite Avenue, widen to 4 lanes, Campus Parkway to G Street</i> • <i>Bellevue Road, widen to 6 lanes, Highway 59 to Campus Parkway</i> • <i>R Street, extend from Yosemite Avenue to Bellevue Road</i> • <i>Parsons Avenue/Gardner Avenue, extend and widen to 4 lanes, Childs Avenue to Bellevue Road</i> • <i>Santa Fe Drive, widen to 6 lanes, Buhach Road to Highway 59</i> • <i>Intersection improvements along G Street between Highway 99 and Childs Avenue (Applicability—program level)</i> <p>4.14-4(b) <i>Merced County, City of Merced, Caltrans, and MCAG can and should move expeditiously through project development processes to establish right-of-way and</i></p>	LS

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	Impact	Level of Significance Prior to Mitigation¹	Mitigation Measures	Level of Significance Following Mitigation¹
			<i>access management requirements along key routes affected by campus traffic. (Applicability- program level)</i>	
4.14-5	In the case where full LRDP development occurs without the University Community, access routes to the campus through the University Community may not be constructed, resulting in significant level of service and emergency access impacts. This is considered a <i>potentially significant</i> impact.	PS	<i>4.14-5 Merced County can and should and the University will establish rights-of-way and build campus access routes comparable to the extension of Campus Parkway from Yosemite Avenue to Bellevue Road, University Drive, and Commerce Drive, even if the University Community is not developed. (Applicability-program level)</i>	LS
4.14-6	Improper phasing or programming of roadway mitigation projects during the development of the University could result in hazardous traffic conditions along approach routes. This is considered a <i>potentially significant</i> impact.	PS	<i>4.14-6 The University will contribute its fair share (as described in Section 4.14.3.2) toward the annual monitoring and study of traffic conditions along major approach routes to the campus and will contribute its fair share toward implementation of interim improvements, if warranted. (Applicability-program level)</i>	LS
4.14-7	Implementation of the LRDP would place additional demand on regional and local transit services and would depend on high levels of transit service being deployed to connect the campus with major destinations within Merced County. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required</i>	LS
4.14-8	Implementation of the LRDP would generate pedestrian and bicycle travel in higher concentrations and amounts than found in many other parts of the county. This is considered a <i>less-than-significant</i> impact.	LS	<i>4.14-8 Merced County and the City of Merced can and should ensure adequate maintenance of the existing path along Lake Road and other regional bicycle and pedestrian facilities that provide access to the proposed campus. (Applicability-program level)</i>	LS
4.14-9	It is possible that the campus may generate spillover parking that affects nearby parking areas of Lake Yosemite Regional Park and/or existing county roads in the area (such as Lake Road and Bellevue Road).	PS	<i>4.14-9 The County can and should implement parking restrictions in sensitive areas around campus, such as recreational and residential parking permits and parking time restrictions, and should provide aggressive</i>	LS

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	Impact	Level of Significance Prior to Mitigation¹	Mitigation Measures	Level of Significance Following Mitigation¹
	This is considered a <i>potentially significant</i> impact.		<i>enforcement of these restrictions. (Applicability-program level)</i>	
4.14-10	Implementation of the LRDP, in combination with the proposed University Community and regional growth in Merced County, would result in increased traffic levels in the vicinity of the campus site, and exceedances of the roadway LOS thresholds. This is considered to be a <i>significant</i> impact.	S	<p>4.14-10(a) <i>The University will contribute its fair share (as described in Section 4.14.3.2) toward the following RTP Tier 2 roadway improvements:</i></p> <ul style="list-style-type: none"> • <i>Highway 59, widen to 4 lanes, Yosemite Avenue to Bellevue Road</i> • <i>Highway 59, new segment between Highways 99 and 140</i> • <i>Yosemite Avenue, extend from R Street to Highway 59</i> • <i>Yosemite Avenue, widen to 4 lanes, Campus Parkway to G Street</i> • <i>Bellevue Road, widen to 6 lanes, Highway 59 to Campus Parkway</i> • <i>R Street, extend from Yosemite Avenue to Bellevue Road</i> • <i>Parsons Avenue/Gardner Avenue, extend and widen to 4 lanes, Childs Avenue to Bellevue Road</i> • <i>Highway 59, new alignment along Mission Avenue</i> • <i>Mission Avenue, widen to 4 lanes, Highway 99 to Highway 59</i> • <i>Childs Avenue, widen to 4 lanes, Campus Parkway to Highway 59</i> <p><i>(Applicability – program level)</i></p>	SU

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
			<p>4.14-10(b) Merced County, City of Merced, Caltrans, and MCAG can and should move expeditiously through project development processes to establish rights-of-way and access management requirements along key routes affected by campus traffic.</p> <p>(Applicability – program level)</p>	
4.15 Utilities				
4.15-1	Implementation of the LRDP would generate demand for potable water and require the construction of new water extraction and conveyance facilities. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.15-2	Implementation of the LRDP would generate wastewater flows that would require the construction of new conveyance and treatment facilities. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.15-3	Implementation of the LRDP would generate solid waste that would not require the expansion of the regional landfill. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.15-4	Implementation of the LRDP would require the extension of communication facilities. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.15-5	Implementation of the LRDP would generate a demand for electricity for the proposed campus, which would require an extension of electric transmission lines. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
4.15-6	Implementation of the LRDP would generate a demand for natural gas which would require an extension of the natural gas pipelines. This is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.15-7	Implementation of the LRDP together with other cumulative development will generate demand for wastewater treatment. This is considered a <i>less-than-significant</i> cumulative impact.	LS	<i>No mitigation required.</i>	LS
4.15-8	Implementation of the LRDP together with other cumulative development would increase in solid waste generation. This is a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
4.15-9	Implementation of the LRDP together with other cumulative developments would generate demand for electricity and natural gas. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
6.1	Implementation of the LRDP would induce substantial economic and population growth in the region, and would result in the construction of additional housing. This growth is expected to result in <i>significant</i> environmental effects.	S	<i>No mitigation feasible beyond the measures identified in Section 4.</i>	SU

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Table ES-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PHASE 1 CAMPUS DEVELOPMENT

Impact	Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹	
3.2 Aesthetics				
3.2-1	Implementation of the Phase 1 Campus would not substantially degrade the visual qualities and character of the site and its surroundings. This impact is considered a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
3.2-2	Lighting for Phase 1 Campus buildings and other facilities would create a new source of light or glare that could spill onto Lake Yosemite Regional Park and other sensitive areas. This is considered a <i>significant</i> impact.	S	<i>See mitigation measure 4.1-4 in Volume 1.</i>	SU
3.3 Air Quality				
3.3-1	Construction activities as part of development allowed under the Phase 1 Campus could result in short-term generation of fugitive dust (PM ₁₀). This is considered to be a <i>significant</i> impact.	S	<i>See mitigation measures 4.3-1(a)-(b) in Volume 1.</i>	LS
3.3-2	Development of the Phase 1 Campus would generate increased levels of CO, O ₃ precursors (ROG and NO _x), and PM ₁₀ emissions. This is considered to be a <i>significant</i> impact.	S	<i>See mitigation measures 4.3-2(a), 4.3-2(c)-(e) in Volume 1.</i>	SU
3.3-3	Development of the Phase 1 Campus would result in localized increases in CO concentrations from vehicular traffic at intersections, but CO concentrations would not exceed the significance criteria. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
3.3-4	Development of the Phase 1 Campus would not generate significant emissions of toxic air contaminants from combustion sources and research laboratories. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>No mitigation required.</i>	LS
3.4 Biological Resources				
3.4-1	Development of the Phase 1 Campus would not result in the direct loss or adverse modification of wetlands or other waters of the U.S. that fall under the jurisdiction of the U.S. Army Corps of Engineers and the Regional Water Quality Control Board. Therefore, there would be <i>no impact</i> to these resources.	NI	<i>See mitigation measures 4.4-10(a)-(b) in Volume 1.</i>	NI
3.4-2	Development of the Phase 1 Campus would not directly impact special status plant and wildlife species. Therefore, there would be <i>no impact</i> to special status plant and wildlife species.	NI	<i>No mitigation required.</i>	NI
3.4-3	Development of the Phase 1 Campus would not result in the direct loss of nesting habitat for resident and migratory avian species of special concern and raptors. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>See mitigation measures 4.4-5(a)-(e) in Volume 1.</i>	LS
3.4-4	Development of the Phase 1 Campus would not adversely affect habitat potentially used for movement of special status mammal species. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>See mitigation measures 4.4-6(a)-(b) in Volume 1.</i>	LS
3.4-5	Development of the Phase 1 Campus would not result in indirect impacts to wetlands and other undisturbed habitat adjacent to the 96-acre site. This is considered	LS	<i>See mitigation measures 4.4-7(a)-(h) in Volume 1,</i> <i>3.4-5 The Phase 1 Campus shall avoid adverse changes to existing hydrological conditions that could result in</i>	LS

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	Impact	Level of Significance Prior to Mitigation¹	Mitigation Measures	Level of Significance Following Mitigation¹
	to be a <i>less-than-significant</i> impact.		<i>increases, decreases or elimination of flows sustaining vernal pools and swales to the south and east of the Phase 1 Campus boundary. The Phase 1 Campus includes an approximately 250-foot buffer separating campus development from vernal pools and swales to the south and east. The University shall adjust the buffer width, or take such other appropriate steps, as may be necessary to assure no significant adverse changes occur in the biological functioning of the vernal pools and swales outside the Phase 1 Campus boundary due to increases, reductions or elimination of flows into those vernal pools.</i>	
3.4-6	Development of the Phase 1 Campus would not conflict with local applicable policies protecting biological resources or provisions of an adopted habitat conservation plan. Therefore, there would be <i>no impact</i> to local or regional policies for biological resources from the Phase 1 Campus.	NI	<i>No mitigation required.</i>	NI
3.4-7	Off-site improvements related to constructing utility lines for the Phase 1 Campus would have <i>no impact</i> to sensitive biological resources.	NI	<i>See mitigation measures 4.4-10(a)-(b) in Volume 1.</i>	NI
3.4-8	Construction activities for the Phase 1 Campus would not result in temporary construction impacts to sensitive biological resources, including wetlands or special status plants and wildlife, adjacent to the project site. This is considered to be a <i>less-than-significant</i> impact.	LS	<i>See mitigation measures 4.4-10(a)-(b) in Volume 1.</i>	LS

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
3.5 Cultural Resources				
3.5-1	Development of the Phase 1 Campus has the potential to disturb or destroy archaeological resources. This impact would be <i>potentially significant</i> .	PS	<i>See mitigation measures 4.5-1(a)-(d) in Volume 1.</i>	LS
3.5-2	Development of the Phase 1 Campus has the potential to result in disturbance or destruction of Native American human remains. This is considered a <i>potentially significant</i> impact.	PS	<i>See mitigation measures 4.5-1(a)-(d) and 4.5-2(a)-(c) in Volume 1.</i>	LS
3.5-3	Development of the Phase 1 Campus has the potential to disturb or destroy paleontological resources. This is considered a <i>potentially significant</i> impact.	PS	<i>See mitigation measures 4.5-4(a)-(b) in Volume 1.</i>	LS
3.6 Geology, Soils and Seismicity				
3.6-1	3.6-1 Implementation of the Phase 1 Campus would result in construction of facilities on expansive soils, creating risks to life or property. This is considered to be a <i>potentially significant</i> impact.	PS	<p>3.6-1(a) <i>If construction activities are performed during or subsequent to wet weather, implement measures to reduce excessive soil moisture and facilitate earthwork operations, such as disking to aerate, stabilization with a geotextile fabric or grid, or other similar, equally effective method.</i></p> <p>3.6-1(b) <i>Implement the site-specific measures regarding soil scarification and compaction, as identified in the Phase 1 Campus Geotechnical Investigation Report (Kleinfelder, Inc. 2001), for individual building sites.</i></p> <p>3.6-1(c) <i>Soils used for engineered fill shall meet the minimum requirements for moisture content as recommended in the Phase 1 Campus Geotechnical Investigation Report (Kleinfelder, Inc. 2001).</i></p>	LS

LS: Less than significant; NI: No impact; PS: Potentially significant; S: Significant; SU: Significant and Unavoidable

Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
3.8 Hydrology and Water Quality				
3.8-1	Development of the Phase 1 Campus would not affect the quality of surface runoff water quality and would not result in a violation of water quality standards. Therefore, there would be <i>no impact</i> to these resources.	NI	<i>No mitigation required.</i>	NI
3.9 Noise				
3.9-1	Implementation of the Phase 1 Campus would result in traffic increases on the regional road network, which could significantly increase ambient noise levels. This is considered to be a <i>significant</i> impact.	S	<i>See mitigation measure 4.10-1 in Volume 1.</i>	SU
3.9-2	Construction of Phase 1 Campus facilities could expose nearby receptors, especially users of the Lake Yosemite Regional Park, to elevated noise levels. This is considered to be a <i>potentially significant</i> impact.	PS	<i>See mitigation measures 4.10-3 and 4.10-5 in Volume 1.</i>	LS
3.10 Recreation				
3.10-1	Development of the Phase 1 Campus would increase the area population and result in an increased demand for recreational facilities, which could cause a deterioration of facilities. This impact is considered a <i>less-than-significant</i> impact.	LS	<i>See mitigation measures 4.13-1(a)-(d) in Volume 1.</i>	LS
3.10-2	Development of the Phase 1 Campus would include construction of recreational facilities. The construction of these facilities would not have adverse physical effects on the environment beyond those discussed within the impact analysis for the LRDP. Therefore, this impact is considered <i>less than significant</i> .	LS	<i>No mitigation required.</i>	LS

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Impact		Level of Significance Prior to Mitigation ¹	Mitigation Measures	Level of Significance Following Mitigation ¹
3.11 Traffic, Circulation, and Parking				
3.11-1	Implementation of the Phase 1 Campus would result in exceedance of the level of service threshold at the Lake Road/Bellevue Road intersection. This is considered a <i>significant</i> impact.	S	<i>3.11-1 Install a traffic signal at the intersection of Lake Road and Bellevue Road, and widen the intersection to provide a left-turn lane on the northbound and eastbound approaches.</i>	LS
3.11-2	Implementation of the Phase 1 Campus may result in operational deficiencies at the Lake/Yosemite intersection. This is considered a <i>potentially significant</i> impact.	PS	<i>3.11-2 The County can and should analyze the expected future operations of the Lake/Yosemite intersection at the following milestone points: 1) on determination of the conceptual alignment for Campus Parkway, 2) on preparation of the Geometric Approval Drawings for Campus Parkway, and 3) each October, beginning in the opening year of the UC Merced campus. If any of these analyses determine that the Lake/Yosemite intersection will operate at unacceptable LOS, the University will contribute its fair share (as described in Section 4.14.3.2 of Volume 1) toward the cost of any improvements deemed necessary at the intersection.</i>	LS
3.11-3	Construction of the Phase 1 Campus may result in excessive deterioration of County roads leading to campus and the need for physical expansion at the Lake/Yosemite intersection. This is considered a <i>potentially significant</i> impact.	PS	<i>See mitigation measure 4.14-3(a)-(b) in Volume 1.</i>	LS
3.11-4	Increased traffic volumes during the development of the Phase 1 Campus could result in hazardous traffic conditions along approach routes. This is considered to be a <i>potentially significant</i> impact.	PS	<i>See mitigation measures 4.14-3(a) and 4.14-6 in Volume 1.</i>	LS

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**Table ES-3
Comparison of On-Site Alternatives to the Proposed Project**

Impact	Proposed Project	Smaller Campus/ Decr. Pop.	Smaller Campus/ Incr. Density	Smaller Campus/ Fewer On-Site Programs	Larger Campus/ Incr. Pop.	Larger Campus/ More On-Site Programs	Larger Campus/ On-Site Avoidance	Refined Concept Plan	Two Village	East Shore Lakefront	Relocated Campus	Campus Designer Preferred Southwest	No Project
Environmental Impacts													
Aesthetics													
Visual Character	SU	E	M	E	M	M	M	E	E	E	E	E	L
Light and Glare	SU	L	M	L	M	M	M	E	E	E	E	E	L
Agricultural Resources													
Farmland of Statewide Significance	SU (cumulative)	L	E	E	E	E	E	L	L	L	L	L	L
<i>Acres of Significant Farmland: Main Campus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Acres of Significant Farmland: Campus and Community</i>	1,420	299	1,420	1,420	1,420 ¹	1,420 ¹	1,420 ¹	0	0	0	0	0	0
Air Quality													
Emissions of Criteria Pollutants	SU	L	E	M	M	E	E	M	M	M	M	E	L
Biological Resources													
Wetlands and Associated Species	S	L	L	L	M	M	M	M	M	M	L (Project) M (Cumul.)	M	L
<i>Acres of Wetlands Impacted: Main Campus</i>	78	49	49	49	150	150	150 ²	61.5	94.9	118.3	67.6	95.1	0
<i>Acres of Wetlands Impacted: Campus and Community</i>	114.3	76.3	76.3	76.3	186.3	186.3	186.3 ²	250	229.3	377.7	348.7	131.4	0
Grasslands and Associated Species	S	L	L	L	M	M	M	M	M	M	M	E	L
Hydrology and Water Quality													
Water Quality	LS	L	L	L	M	M	M	M	M	M	M	E	L
Growth Inducement													
Population Effects	SU	L	E	M	M	E	E	M	M	M	M	E	L
Noise													
Traffic Noise	SU	L	E	M	M	L	E	E	E	E	E	E	L
Traffic, Circulation and Parking													
Roadway Congestion	SU	L	E	M	M	L	E	E	E	E	E	E	L
Utilities													
Utility Demand	LS	L	E	E	M	E	E	E	E	E	E	E	L
Feasibility and Ability to Satisfy Project Objectives													
Does Alternative Satisfy Most Basic Project Objectives?	Y	N	N	N	N	N	N	Y	Y	Y	Y	Y	N

¹ The County's Increased Community Size and Population Alternative would impact 238 more acres of farmland of local importance than the proposed University Community.

² Direct and indirect impacts.

Abbreviations for Proposed Project:

Impacts are: LS=Less-than-significant; S= significant (or potentially significant) but can be mitigated to less-than-significant levels; SU= significant and unavoidable.

Abbreviations for Alternatives:

As compared to the Proposed Project, impacts are: L= less significant than the Proposed Project; E= roughly equal to the Proposed Project; M= more significant than the Proposed Project.

**Table ES-4
Comparison of Off-Site Alternatives to the Proposed Project**

Impact	Proposed Project	North Merced/ Bellevue Ranch Site "A"	Castle A.F.B. (458 acres)	Castle A.F.B. (910 acres)	South Merced City Infill	North Merced Rangeland	Southern Highway 99	Highway 140	East Livingston	Delhi Area
Environmental Impacts										
Aesthetics										
Visual Character	SU	E	M	E	E	E	E	E	E	E
Light and Glare	SU	E	M	E	E	E	E	E	E	E
Agricultural Resources										
Farmland of Statewide Significance	SU (cumulative)	M (project) L (cumulative)	M	M	M	L	M	M	M	M
<i>Acres of Significant Farmland: Main Campus</i>	0	330	0	436	437	0	886	889	893	897
<i>Acres of Significant Farmland: Campus and Community</i>	1,420	895	1,755	2,191	1,703	0	2,889	n/a	n/a	2,776
Air Quality										
Emissions of Criteria Pollutants	SU	E	E	E	L	M	E	M	M	M
Biological Resources										
Wetlands and Associated Species	S	L	L	L	L	M	L	L	L	L
<i>Acres of Wetlands Impacted: Main Campus</i>	67.4	31	0	1.4	8.9	55	9.5	0	0	0
<i>Acres of Wetlands Impacted: Campus and Community</i>	102	46.8	12.5	13.9	13.6	150	28.5	0	0	0
Grasslands and Associated Species	S	E	L	L	L	M	L	L	L	L
Cultural Resources										
Historical Structures	S	E	M	M	E	E	E	E	E	E
Hydrology and Water Quality										
Water Quality	LS	M	L	L	E	M	E	E	E	E
Growth Inducement										
Population Impacts	SU	E	E	E	L	M	M	E	E	E
Traffic, Circulation and Parking										
Roadway Congestion	SU	E	M	M	M	M	E	M	M	M
Utilities										
Utility Infrastructure	LS	E	L	L	L	M	M	E	E	E
Feasibility and Ability to Satisfy Project Objectives										
Does Alternative Satisfy Most Basic Project Objectives?	Y	N	N	N	N	N	N	N	N	N
<i>Number of Separately Owned Parcels Necessary to Assemble Main Campus and Campus Land Reserve</i>	2	23	1 ¹	40	171	3	12	6	56	133
<i>Number of Additional Separately Owned Parcels Necessary to Assemble Campus Natural Reserve</i>	0	3	n/a	n/a	n/a	1	n/a	n/a	n/a	n/a
¹ The 458-acre site is owned by Merced County. Numerous existing tenants, however, would have to be displaced. <u>Abbreviations for Proposed Project:</u> Impacts are: LS=Less-than-significant; S= significant (or potentially significant) but can be mitigated to less-than-significant levels; SU= significant and unavoidable. <u>Abbreviations for Alternatives:</u> As compared to the Proposed Project, impacts are: L= less significant than the Proposed Project; E= roughly equal to the Proposed Project; M= more significant than the Proposed Project.										