3 Mitigation Monitoring and Reporting Program

In accordance with the CEQA Public Resources Code Section 21000 et seq.), UCR prepared an EIR (State Clearinghouse No. 2020070120) that identified significant impacts related to: Aesthetics; Agricultural Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gases, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Tribal Cultural Resources, and Wildfire. Significant cumulative impacts would occur with respect to Aesthetics, Agricultural Resources, Air Quality, Historic Resources, Noise, and Transportation. The EIR also identifies mitigation measures that would reduce the identified impacts to a less-than-significant level, where feasible.

CEQA and the State CEQA Guidelines (PRC Section 21081.6 and State CEQA Guidelines Sections 15091[d] and 15097) require public agencies "to adopt a reporting and monitoring program for changes to the project which it has adopted or made a condition of project approval to mitigate or avoid significant effects on the environment." A Mitigation Monitoring and Reporting Program (MMRP) is required for the proposed 2021 LRDP because the EIR identifies potential significant adverse impacts related to the 2021 LRDP implementation, and mitigation measure have been identified to reduce those impacts. Adoption of the MMRP would occur concurrently with certification of the EIR and approval of the 2021 LRDP.

3.1 Purpose of Mitigation Monitoring and Reporting Program

This MMRP has been prepared to ensure that applicable mitigation measures are implemented and completed in a satisfactory manner with development projects under the 2021 LRDP. Table 3-1 has been prepared to assist the responsible parties in implementing the mitigation measures. The table identifies the impact, mitigation measures (as amended through the Final EIR [see Chapter 4, *Revisions to the Draft EIR]*), monitoring responsibility, mitigation timing, and monitoring and reporting procedures. The numbering of mitigation measures follows the numbering sequence found in the EIR. Mitigation measures that are referenced more than once in the Draft EIR are not duplicated in the MMRP table.

3.2 Roles and Responsibilities

Unless otherwise specified herein, UCR is responsible for taking all actions necessary to implement the mitigation measures under its jurisdiction according to the specifications provided for each measure and for demonstrating that the action has been successfully completed. UCR, at its discretion, may delegate implementation responsibility or portions thereof to a licensed contractor or other designated agent. Section 21081.6 of the Public Resources Code requires the lead agency to identify the "custodian of documents and other material" which constitutes the "record of proceedings" upon which the action on the project was based. The UCR Planning, Design & Construction office, or designee, is the custodian of such documents for the 2021 LRDP.

Inquiries should be directed to:

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UCR is responsible for overall administration of the MMRP and for verifying that UCR staff and/or the construction contractor has completed the necessary actions for each measure. The responsible party for implementation of each item will identify the staff members responsible for coordinating with UCR on the MMRP.

3.3 Reporting

UCR shall, or may require the contractor(s) to, maintain records documenting compliance of the activity with the required mitigation measures. Information regarding inspections and other requirements shall be compiled and explained as outlined below. Documentation of compliance shall be designed to simply and clearly identify whether mitigation measures have been adequately implemented. At a minimum, documentation shall identify the mitigation measures or conditions to be monitored for implementation, whether compliance with the mitigation measures or conditions has occurred, the procedures used to assess compliance, and whether further action is required. Section 3.4 below specifies the monitoring and reporting requirements for individual measures.

3.4 Mitigation Monitoring and Reporting Program Table

The categories identified in the attached MMRP table are described below.

- Impact(s) – This column provides the verbatim text of the identified impact.
- Mitigation Measure(s) – This column provides the verbatim text of the adopted mitigation measure.
- Mitigation Procedure – This column summarizes the steps to implement the mitigation measure.
- Mitigation Timing – This column identifies the timeframe in which the mitigation will be implemented.
- Mitigation Responsibility – This column identifies the party responsible for implementing the mitigation.
- Monitoring and Reporting Procedure – This column identifies discrete actions to be implemented as part of the broader mitigation measure.

The following list of abbreviations are found in the MMRP table:

PD&C: Planning, Design & Construction

EH&S: Environmental Health & Safety

FS: Facilities Services

OS: Office of Sustainability

TAPS: Transportation and Parking Services

Table 3-1 Mitigation Monitoring and Reporting Program

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
Aesthetics					
Impact AES-3. Implementation of the proposed 2021 LRDP would lead to more intensive development on the campus and new sources of nighttime illumination at adjacent sensitive receptors. Future development would be required to comply with UCR Campus Construction and Design Standards and California policies and standards specifically designed to reduce lighting impacts. Adherence to these policies and standards as well as incorporation of mitigation measures would reduce light and glare impacts to a less-than-significant level.	**MM AES-1.** UCR shall incorporate site-specific consideration of the orientation of the building, use of landscaping materials, lighting design, and choice of primary façade materials to minimize potential off-site spillover of lighting and glare from new development. As part of this measure and prior to project approval, UCR shall require the incorporation of site- and project-specific design considerations (to be included in the lighting plans) to minimize light and glare, including, but not limited to, the following: ▪ New outdoor lighting adjacent to on-campus residences and adjacent off-campus sensitive uses shall utilize directional lighting methods with full cutoff type light fixtures (and shielding as applicable) to minimize glare and light spillover. ▪ All elevated light fixtures such as in parking lots, parking structures, and athletic fields shall be shielded to reduce glare. ▪ Provide landscaped buffers where on-campus student housing, uses identified as Open Space Reserve and UCR Botanic Gardens, and off-campus residential neighborhoods might experience noise or light from UCR activities. ▪ All lighting shall be consistent with the Illuminating Engineering Society of North America (IESNA) Lighting Handbook. ▪ The UCR Planning, Design, & Construction staff shall review all exterior lighting design for conformance with the Campus Design and Construction Standards. Verification of inclusion in project design shall be provided at the time of design review and lighting plans shall be reviewed and approved prior to project-specific design and construction document approval.	Incorporate site-specific considerations to minimize light and glare associated with new development as specified.	During the design phase; prior to design approval; and construction documents.	PD&C	Document site-specific considerations in the project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM AES-2. Ingress and egress from new parking areas and parking structures shall be designed and situated to direct vehicular headlights away from adjacent residential uses, as necessary. Walls, landscaping, or other light barriers and shielding will be provided where appropriate. Site plans shall be reviewed and approved as part of project-specific design and construction document approval.	Incorporate site-specific considerations to minimize light and glare associated with new development as specified.	During the design phase; prior to design approval; and construction documents.	PD&C	Document site-specific considerations in the project file.
Air Quality					
Impact AQ-2. Construction of the proposed 2021 LRDP would generate ROG and NO_X in quantities that exceed SCAQMD significance thresholds. Operation would exceed SCAQMD thresholds for ROG, NO_X, and PM_{10}. Following mitigation, this impact would be significant and unavoidable.	See **MM GHG-1**	As specified below.	As specified below.	As specified below.	As specified below.
Biological Resources					
Impact BIO-1. Implementation of the 2021 LRDP would result in direct or indirect impacts to special-status species. Mitigation measures MM BIO-1a through MM BIO-8, including preconstruction surveys, avoidance measures, and project design standards, would reduce impacts to less than significant.	**MM BIO-1A Burrowing Owl Preconstruction Survey.** Prior to construction activities, preconstruction presence/absence surveys for burrowing owls shall be conducted in the project survey area where suitable habitat is present prior to ground disturbance in new areas. Preconstruction surveys shall be conducted by a qualified biologist no more than 30 days prior to grading or other significant site disturbance. Surveys shall include the development footprint and consider up to a 500-foot buffer of adjacent areas to the extent feasible (e.g., a visual survey of adjacent areas will suffice for off-site areas not accessible). The surveys shall be conducted in accordance with the MSHCP burrowing owl survey guidelines. A burrow shall be considered occupied when there is confirmed use by burrowing owls based on observations made by a qualified biologist. If owls are not found to be occupying habitat in the survey area during the preconstruction survey, the proposed disturbance activities may proceed. Take of active nests shall be avoided.	If habitat suitable for these species is present on a project site, retain a qualified biologist to assist with implementing the specified mitigation measure – Conduct preconstruction survey for burrowing owl. Prepare and submit a memo/report that supports a conclusion as to whether burrowing owls are present or are likely to occur within the project site.	No more than 30 days before project grading or site disturbance activities commence.	PD&C	Confirm that surveys were conducted. Document memo/report in the project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM BIO-1B Burrowing Owl Avoidance Measures. If owls are discovered on and/or within 500 feet of the proposed project site, avoidance measures shall be developed by the qualified biologist in compliance with the MSHCP and in coordination with the CDFW and/or RCA. Such measures will include, but not limited to, the following: ▪ Burrowing owls shall not be disturbed on-site and/or within a 500-foot buffer or as determined by a biologist between February 1 and August 31 to avoid impacting nesting. ▪ Prior to any ground disturbance, all limits of project construction shall be delineated and marked to be clearly visible to personnel on foot and in heavy equipment. All construction-related activities shall occur inside the limits of construction and designated staging areas. Construction staging and equipment storage shall be situated outside of any occupied burrowing owl burrow locations. All construction-related movement shall be restricted to the limits of construction and staging areas. ▪ Avoidance measures shall include passive relocation by a qualified biologist to remove the owls between September 1 and January 31, which is outside of the typical nesting season.	If burrowing owls are discovered on and/or within 500 feet of the project site, retain a qualified biologist to assist with implementing the specified mitigation measure.	No more than 30 days prior to project grading or site disturbance activities.	PD&C	Confirm that avoidance measures are implemented as specified in the mitigation measure. Document memo/report in the project file.
	MM BIO-2 Nesting Bird Avoidance. Prior to issuance of grading permits, the following measures shall be implemented: ▪ To avoid disturbance of nesting and special-status bird species protected by the MBTA and California Fish and Game Code, activities related to the project, including but not limited to, vegetation removal, ground disturbance, and construction and demolition shall occur outside of the bird breeding season (February 15 through August 31). If construction must be initiated during the peak nesting season, vegetation removal and/or tree removal should be planned to occur outside the nesting season (September 1 to February 14), and a preconstruction nesting bird survey shall be conducted no more than 3 days prior to initiation of construction activities. The nesting bird	If construction activities occurs within the bird breeding season, retain a qualified biologist to conduct a pre-construction survey in accordance with the specified mitigation measure.	Prior to issuance of grading permit; no more than 3 days prior to vegetation/tree removal on the project site.	PD&C	Document memo/report in the project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	preconstruction survey shall be conducted on foot inside the project site disturbance areas. If an active avian nest is discovered during the preconstruction clearance survey, construction activities shall stay outside of a 50- to 200-foot buffer for common nesting birds around the active nest, as determined by a biologist. For listed and raptor species, this buffer shall be expanded to 500 feet or as determined by a biologist. ▪ Inaccessible areas shall be surveyed from afar using binoculars to the extent practical. The survey shall be conducted by a qualified biologist familiar with the identification of avian species known to occur in western Riverside County. If nests are found, an appropriate avoidance buffer shall be determined by a qualified biologist and demarcated by a qualified biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. Effective buffer distances are highly variable and based on specific project stage, bird species, stage of nesting cycle, work type, and the tolerance of a particular bird pair. The buffer may be up to 500 feet in diameter, depending on the species of nesting bird found and the biologist's observations. ▪ If nesting birds are located adjacent to the project site with the potential to be affected by construction activity noise above 60 dBA Leq (see Section 4.11, *Noise*, for definitions and discussion of noise levels), a temporary noise barrier shall be erected consisting of large panels designed specifically to be deployed on construction sites for reducing noise levels at sensitive receptors. If 60 dBA Leq is exceeded, an acoustician would require the construction contractor to make operational and barrier changes to reduce noise levels to 60 dBA during the breeding season (February 15 through August 31). Noise monitoring shall occur during operational changes and installation of barriers to ensure their effectiveness. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the	If nesting birds are located adjacent to the project site with the potential to be affected by construction activity noise above 60 dBA Leq, retain a qualified biologist to assist in determining the location of temporary noise barrier.	Prior to the commencement of construction during nesting bird season.		

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	nesting season. No parking, storage of materials, or construction activities shall occur within this buffer until the avian biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist, if it is determined such encroachment will not adversely impact the nesting birds.				
	MM BIO-3 Bird Strike Avoidance. To reduce bird strike mortality and injury of special-status bird species from collisions with clear and reflective sheet glass and plastic, construction of glass-fronted buildings or other structures using exposed glass (e.g., glass-topped walls) shall incorporate measures to minimize the risk of bird strikes. This may include: (1) the use of opaque or uniformly textured/patterned/etched glass, (2) angling of glass downward so that the ground instead of the surrounding habitat or sky is reflected, (3) installation of one-way film that results in opaque or translucent covering when viewed from either side of the glass, (4) installation of a uniformly dense dot pattern created as ceramic frit on both sides of the glass, and/or (5) installation of a striped or grid pattern of clear ultraviolet-reflecting and ultraviolet-absorbing film applied to both sides of the glass. It should be noted that single decals (e.g., falcon silhouettes or large eye patterns) are ineffective and are not recommended unless the entire glass surface is uniformly covered with the objects or patterns.	Incorporate building-specific considerations to reduce bird strike mortality and injury of special-status bird species associated with new development as specified in the mitigation measure.	During the design phase; prior to design approval; and construction documents.	PD&C	Document site-specific considerations in the project file.
	MM BIO-4 Bat Preconstruction Survey. To avoid disturbance of special-status bat species during maternity season (approximately March-September), a preconstruction roosting bat survey shall be conducted by a qualified bat biologist on potential roost structures identified by the bat biologist and mature vegetation no more than 30 days prior to initiation of construction activities if construction activities must occur during the roosting season. If future projects would impact rocky outcrops, mature vegetation, existing buildings, or other structures that could be used for roosting, a	Retain a qualified bat biologist to conduct a preconstruction roosting bat survey as specified in the mitigation measure.	No more than 30 days prior to initiation of construction activities.	PD&C	Document findings/memo/report in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	passive acoustic survey shall identify the species using the area for day/night roosting. If special-status roosting bats are present and their roosts would be impacted, a qualified bat biologist should prepare a plan to identify the proper exclusionary methods. Removal of mature trees should be monitored by a qualified bat biologist and occur by pushing down the entire tree (without trimming or limb removal) using heavy equipment and leaving the felled tree on the ground untrimmed and undisturbed for a period of at least 24 hours. To exclude bats from buildings/structures or rocky outcrops, exclusion measures should be installed on crevices by placing one-way exclusionary devices that allow bats to exit but not enter the crevice.	Retain a qualified bat biologist if mature trees are planned to be removed during the bat maternity season as specified in the mitigation measure.	During construction activities.		
	MM BIO-5 Special-Status Species Preconstruction Survey. Focused surveys for special-status plants and wildlife species with potential to occur in or around the project site shall be conducted prior to impacts on areas of suitable habitat for each respective species, including special-status plant species, Riverside fairy shrimp, burrowing owl, coastal California gnatcatcher, and least Bell's vireo. Surveys shall be performed by a qualified biologist with the appropriate federal/State permits, if necessary, and follow approved survey protocol, which includes appropriate timing of surveys. If listed species are observed and habitat areas cannot be avoided, then consultation/permitting would be required to obtain take authorization. Appropriate avoidance, minimization, and compensatory mitigation shall be required for each listed species that could be impacted.	Retain a qualified biologist to conduct focused surveys for special-status plant and wildlife species as specified in the mitigation measure. If listed species are observed and habitat areas cannot be avoided, obtain "take" authorization as specified in the mitigation measure.	During planning and design phase.	PD&C	Document findings/memo/report in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM BIO-6A Sensitive Communities Indirect Impact Avoidance – Construction. The following measure shall be required for construction activities that are proposed adjacent to the Open Space Reserve or lands supporting sensitive vegetation communities and/or biological resources: ▪ Prior to commencement of clearing or grading activities, fencing (e.g., silt fencing, orange construction fencing, and/or chain-link fencing as determined by campus planning) shall be installed around the approved limits of disturbance to prevent errant disturbance of sensitive biological resources by construction vehicles or personnel. All movement of construction contractors, including ingress and egress of equipment and personnel, shall be limited to designated construction zones. This fencing shall be removed upon completion of all construction activities. ▪ No temporary storage or stockpiling of construction materials shall be allowed in Open Space Reserve lands, and all staging areas for equipment and materials shall be located at least 50 feet where space permits on the site, or less as determined appropriate by a qualified biologist from the edge of these areas. This prohibition shall not be applied to facilities that are planned to traverse Open Space Reserve lands (e.g., trails and utilities). Staging areas and construction sites in proximity to the Open Space Reserve lands shall be kept free of trash, refuse, and other waste; no waste dirt, rubble, or trash shall be deposited in these areas. ▪ Appropriate setbacks or barriers (e.g., fencing) shall be implemented to minimize human activity impacts. Buffer areas shall be vegetated with native species to help screen these indirect effects. ▪ Active construction areas shall be sprayed with water periodically to minimize dust. ▪ Equipment to extinguish small brush fires (e.g., from trucks or other vehicles) shall be present on-site during all phases of project construction activities, along with personnel trained in the use	Incorporate site-specific considerations to minimize indirect impacts to sensitive communities associated with new development as specified in this mitigation measure.	Construction documents; prior to commencement of construction; and ongoing during construction.	PD&C	Document in project file; inspect construction site to verify that measures are being implemented.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	of such equipment. Smoking shall be prohibited in construction areas adjacent to flammable vegetation. ▪ Temporary night lighting shall not be used during construction unless determined to be absolutely necessary (e.g., time sensitive construction activities). If night lighting is necessary, lights shall be directed away from sensitive vegetation communities and lands designated as Open Space Reserve and shielded to minimize temporary lighting of the surrounding habitat.				
	MM BIO-6B Sensitive Communities Indirect Impact Avoidance – Operation. The following measure shall be required for operation activities adjacent to the Open Space Reserve or lands supporting sensitive vegetation communities and/or biological resources: ▪ Landscaping adjacent to Open Space Reserve lands shall comply with the following requirements to prevent the introduction of invasive species: ▫ Appropriate landscaping shall be selected based on the vegetation communities in the portion of the Open Space Reserve adjacent to the project. In areas supporting native (or disturbed native) vegetation communities, revegetation of impacted slopes shall be with appropriate native plant materials. ▪ Permanent lighting in or adjacent to Open Space Reserve lands shall be selectively placed, shielded, and directed to minimize potential impacts to sensitive species. In addition, lighting from buildings or parking lots/structures abutting Open Space Reserve lands shall be shielded and/or screened by vegetation to the extent feasible. ▪ The following best management practices shall be implemented in Open Space Reserve lands and in areas that interface with Open Space Reserve lands to address runoff/water quality impacts from landscaping: ▫ Integrated Pest Management principles (UC Integrated Pest Management Program) shall be implemented to the extent practicable for	Incorporate site-specific considerations to minimize indirect impacts to sensitive communities associated with new development as specified in this mitigation measure.	During the design phase; prior to design approval; and construction documents.	PD&C	Document site-specific considerations in the project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	chemical pesticides, herbicides, and fertilizers. Examples of such measures may include, but are not limited to, alternative weed/pest control measures (e.g., removal by hand) and proper application techniques (e.g., conformance to manufacturer specifications and legal requirements). ▫ Irrigation for project landscaping shall be minimized and controlled through efforts such as designing irrigation systems to match landscaping water needs, using sensor devices to prevent irrigation during and after precipitation, and using automatic flow reducers/shut-off valves that are triggered by a decrease in water pressure from broken sprinkler heads or pipes. ▪ Barriers (e.g., fencing or walls) and/or signage directing people away from sensitive vegetation communities and habitat shall be installed on designated pathways and trails in and adjacent to Open Space Reserve lands to minimize unauthorized human activity. Barriers (e.g., fencing or walls) shall consist of an approximately 3-foot-high wooden barrier. Chain-link fencing shall not be used for barrier. ▪ Projects adjacent to Open Space Reserve lands shall install signage along the boundary of the Open Space Reserve lands, indicating the presence of lands supporting sensitive habitat. ▪ Projects adjacent to Open Space Reserve lands shall install fencing or other visual/physical barriers (such as appropriate landscaping) to discourage human encroachment into the Open Space Reserve lands in areas where trespass is likely to occur (gradual slopes; areas of low, open vegetation; areas of previous disturbance, etc.).				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM BIO-7 Sensitive Vegetation Communities Mitigation. Impacts on sensitive vegetation communities shall be avoided to the extent practicable. If an avoidance alternative is not feasible and a practicable alternative is selected instead, a Determination of Biologically Equivalent or Superior Preservation shall be prepared to ensure replacement of any lost functions and values of habitat as it relates to MSHCP Covered Species. If a future project would result in removal of sensitive vegetation, then compensatory mitigation would be required depending on the amount of vegetation impacted. Mitigation shall ensure no net loss of habitat following implementation of a future project. This mitigation may be in the form of habitat preservation, restoration, enhancement, and/or establishment (i.e., creation). Compensatory mitigation shall be in the form of permittee-responsible mitigation, in which the permittee maintains liability for the construction and long-term success of the mitigation site, or through mitigation banking or an in-lieu fee program, where liability for project success is transferred to a third party (i.e., a mitigation bank or an in-lieu fee sponsor). For permittee responsible mitigation, preparation of a Habitat Mitigation Monitoring Plan may be required.	Retain a qualified biologist to prepare a Determination of Biologically Equivalent or Superior Preservation document, as specified in the mitigation measure.	During planning and design phase.	PD&C	Document report in project file.
	MM BIO-8 MSHCP Conservation Area Construction Noise Reduction. The following measures shall be followed during construction of projects adjacent to MSHCP conservation areas (i.e., Criteria Cell 634): ▪ *Staging Area*. Provide staging areas on-site to minimize off-site transportation of heavy construction equipment. These areas shall be located to maximize the distance between activity and MSHCP conservation areas. This should reduce noise levels associated with most types of idling construction equipment. ▪ *Avoid Operating Equipment Simultaneously*. Whenever possible, ensure that construction activities are scheduled to avoid operating several	Incorporate measures in contract specifications.	Staging Area – During planning and design phase. Ongoing during construction.	PD&C	Inspect construction site to verify that measures are being implemented.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	pieces of equipment simultaneously, which causes high noise levels. ▪ *Inspections*. The contractor shall inspect construction equipment to ensure that such equipment is in proper operating condition and fitted with standard factory silencing features. Construction equipment shall utilize all standard factory silencing features, such as equipment mufflers, enclosures, and barriers. ▪ *Newest Power Construction Equipment*. The newest available power construction equipment with standard recommended noise shielding and muffling devices shall be used. ▪ *Mufflers*. During project grading and construction, all equipment, fixed or mobile, shall be operated with closed engine doors and shall be equipped with properly operating and maintained mufflers consistent with manufacturers' standards. Use of manufacturer-certified mufflers associated with construction equipment has been shown to reduce noise levels by 8 to 10 dBA. ▪ *Smart Back-up Alarms*. Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels. Alternatively, back-up alarms should be disabled and replaced with human spotters to ensure safety when mobile construction equipment is moving the reverse direction. ▪ *Idling*. All construction vehicles, such as bulldozers and haul trucks, shall be prohibited from idling in excess of 5 minutes, which is consistent with recommended strategies to reduce and/or eliminate diesel idling.				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
Impact BIO-2. Construction and operation of projects developed under the proposed 2021 LRDP would potentially have substantial adverse effects on riparian habitat or other sensitive natural community. Implementation of Mitigation Measures MM BIO-6A, MM BIO-6B, and MM BIO-7 would reduce impacts to less than significant.	See: **MM BIO-6A Sensitive Communities Indirect Impact Avoidance – Construction** **MM BIO-6B Sensitive Communities Indirect Impact Avoidance – Operation** **MM BIO-7 Sensitive Vegetation Communities Mitigation**	As specified above.	As specified above.	As specified above.	As specified above.
Impact BIO-3. The proposed 2021 LRDP may result in significant adverse effects on State- and federally-protected wetlands. Mitigation Measure MM BIO-9 would require a jurisdictional delineation, and consultation and permitting with appropriate State and federal agencies, which would reduce impacts to less than significant.	**MM BIO-9 Jurisdictional Delineation of Waters and Wetlands.** During the project planning process, if a project has vegetation mapped as potential wetlands or the project site contains or is located immediately adjacent to a natural drainage course, a qualified biologist shall conduct a jurisdictional delineation. The jurisdictional delineation shall use current regulatory guidance to identify the presence of potential regulated waters and wetlands in the project vicinity. If there is potential for the project to adversely affect wetlands or waters, UCR shall conduct a pre-application meeting with appropriate agencies (USACE, the RWQCB, and/or the CDFW) prior to submittal of permit applications to discuss existing conditions, to confirm the agency's jurisdiction over water resources in the survey area, to discuss impacts to these resources that would result from the project, and to discuss the regulatory permitting process. Following the pre-application meeting, UCR shall prepare and process appropriate permits, which may include a Section 404 Permit, a Section 401 Water Quality Certification, a Report of Waste Discharge, and/or a CDFW Section 1602 Notification of Lake or Streambed Alteration. If there is potential for the project to adversely affect wetlands or waters, impacts shall be avoided and minimized during the project design process, to the extent practicable, and unavoidable impacts shall be mitigated as discussed with each regulatory agency on a project-by-project basis and pursuant to applicable wetland permit conditions. Compensatory mitigation may include restoration (i.e., re-establishment or rehabilitation),	Retain a qualified biologist to conduct a Jurisdictional Delineation if project impacts potential wetlands or contains or is adjacent to a natural drainage, as specified in the mitigation measure.	During planning and design phase.	PD&C	Document findings/memo/report in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	establishment (i.e., creation), enhancement, and/or preservation of jurisdictional resources. Compensatory mitigation may occur through permittee-responsible mitigation, payment to an in-lieu fee program, or purchase of compensatory mitigation credits from an approved mitigation bank. Mitigation ratios (i.e., the amount of mitigation acreage compared to the amount of impacted habitat) shall be negotiated with each regulatory agency on a project-by-project basis.				
Cultural Resources					
Impact CUL-1. The proposed 2021 LRDP would adversely affect historical resources through the full and partial demolition of historical resources, renovation/rehabilitation of historical resources, and new construction adjacent to historical resources. This impact would be significant and unavoidable. Following mitigation, impacts would still be significant and unavoidable.	**MM CUL-1 Protection of Historical Resources.** For purposes of MM CUL-1, "major exterior alterations" indicates a significant alteration/change to the exterior character-defining features or setting of a building or structure. Such projects might include, but not be limited to, additions, partial or complete demolition, relocation, window frame replacement different from existing, modifications to wall sheathing materials, changes to the roof shape, pitch, eaves, and other features, installment of wheelchair access ramps, and/or changes to the overall design configuration and composition of the building and the spatial relationships that define it. Major exterior alterations would require consultation to determine if these alterations noted above constitutes a major exterior alteration requiring further review from an architectural historian or whether the proposed alterations would qualify as a minor exterior alteration. For purposes of MM CUL-1, "minor exterior alterations" indicates a minor alteration/change to the exterior of a building or structure and its setting that would not be likely to significantly alter its appearance. Such projects might include, but not be limited to, repainting, in-kind landscaping or hardscaping replacement, window pane replacement, reversible installation of HVAC units that does not obstruct or destroy character-defining features, installation of fencing, signage, or artwork that does not obstruct or destroy character-defining features. Minor exterior alterations are exempt from further review from an architectural historian.	Consult/Retain an Architectural Historian meeting the Secretary of Interior Standards and protect historical resources as specified in the mitigation measure.	During the planning and design phase; prior to design approval; and construction documents.	PD&C	Document findings/memo/report in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	During project-specific environmental review of development under the proposed 2021 LRDP, UCR shall define the project's area of effect for historic buildings and structures as early as possible. UCR shall implement the following procedures: ▪ Conduct project-specific surveys for buildings or structures (e.g., proposed for demolition, major exterior alterations, additions) that are 50 years of age or older that have (1) not been subject to an evaluation within the past 5 years, or (2) were not previously evaluated in the UCR Historic Resources Survey Report. ▫ UCR shall retain a qualified architectural historian to record the property at professional standards and assess its significance under CEQA Guidelines Section 15064.4. The evaluation process shall include the historic context framework included in the UCR Historic Resources Survey Report as well as the development of additional background research as needed in order to assess the significance of the building, structure, district, or cultural landscape in the history of the UC system, the campus, and the region. For historic buildings, structures or features that do not meet the CEQA criteria as a historical resource, no further mitigation is required, and the impact would be less than significant. ▫ The assessment of the potential historical resource and its character-defining features shall be documented on the appropriate California Department of Parks and Recreation (DPR) 523 forms by a qualified architectural historian meeting the Secretary of the Interior's Professional Qualifications Standards (as codified in 36 CFR Part 61). ▪ For projects affecting any eligible historic buildings identified in the UCR Historic Resources Survey Report or determined to be eligible during the project-specific surveys, for a building or structure that qualifies for listing on the NRHP and/or CRHR, UCR shall implement the following procedures:				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	▫ For major exterior repairs (different from that of existing), alterations, or building additions of buildings that are eligible historic resources, UCR shall retain a qualified architectural historian meeting the Secretary of the Interior's Professional Qualifications Standards (as codified in 36 CFR Part 61) to conduct Character-Defining Features and Impacts Screening in coordination with the design team to consider project design features and/or measures that would enable the project to avoid direct or indirect impacts to the building or structure. Conclusion of the screening consultation process shall be documented in a memorandum, including a statement of compliance with the Secretary's Standards. The purpose of the memorandum shall document avoidance/reduction of significant adverse impacts to historical resources, where feasible, through (1) identifying and documenting character-defining features, noncontributing elements/additions, and (2) providing historic preservation project review and preliminary impacts analysis screening to UCR as early as possible in the design process. The memorandum shall review preliminary and/or conceptual project objectives early in the design process and describe various project options capable of reducing and/or avoiding significant adverse direct or indirect impacts through compliance with the Secretary's Standards and/or application of the State Historic Building Code or any subsequent design guidelines prepared by UCR for the treatment of historic resources. If major modifications, renovations, or relocation of a determined historic resource is proposed and the project is unable to comply with the Secretary's Standards or when a historic resource is to be demolished, then UCR shall ensure that documentation shall be carried out by a qualified architectural historian, as follows: ▪ UCR shall commission the preparation of HABS-like documentation of the building, structure,				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	district, feature, and its associated landscaping and setting prior to construction activities. The HABS-like package will document in photographs and descriptive and historic narrative the historical resources slated for modification/demolition. Documentation prepared for the package will draw upon primary- and secondary-source research and available studies previously prepared for the project. ▪ The specifications for the HABS-like package follow: ▫ Photographs: Photographic documentation will focus on the historical resources/features slated for demolition, with overview and context photographs for the campus and adjacent setting. Photographs will be taken of the building using a professional-quality single lens reflex (SLR) digital camera with a minimum resolution of 10 megapixels. Photographs will include context views, elevations/exteriors, architectural details, overall interiors, and interior details (if warranted). Digital photographs will be provided in electronic format. ▫ Descriptive and Historic Narrative: The architectural historian will prepare descriptive and historic narrative of the historical resources/features slated for demolition. Physical descriptions will detail each resource, elevation by elevation, with accompanying photographs, and information on how the resource fits within the broader campus during its period of significance. The historic narrative will include available information on the campus design, history, architect/contractor/designer as appropriate, area history, and historic context. In addition, the narrative will include a methodology section specifying the name of researcher, date of research, and sources/archives visited, as well as a bibliography. Within the written history, statements shall be footnoted as to their sources, where appropriate.				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	▫ Historic Documentation Package Submittal: The electronic package will be assembled by the architectural historian and submitted to UCR for review and comment. ▪ A copy of the HABS-like package shall be offered to the Special Collections and University Archives at the Tomás Rivera Library and the California Historical Resources Information System. The record shall be accompanied by a report containing site-specific history and appropriate contextual information. This information shall be gathered through site-specific and comparative archival research, and oral history collection as appropriate. ▪ If preservation and reuse at the site are not feasible, the historical building shall be documented as described above. For new infill construction within the Mid-Century Modern Core Historic District that does not involve building demolition: ▪ Infill projects outside of the Mid-Century Modern Core Historic District would not need review by an architectural historian. ▪ Infill projects within the Mid-Century Modern Core Historic District will require review by an architectural historian for elements such as form, massing, and scale, to ensure visual compatibility with the historic district, and the review shall be conducted in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Weeks and Grimmer 1995).				
Impact CUL-2. Implementation of the proposed 2021 LRDP has the potential to cause a significant impact on archaeological resources, including those that qualify as historical resources. This impact would be less than significant with the implementation of mitigation.	**MM CUL-2 Tribal Cultural Resources/Archaeological Monitoring.** Prior to commencement of ground disturbing activities into an area with a medium or high potential to encounter undisturbed native soils including Holocene alluvium soils, as determined by UCR, UCR shall hire a qualified archaeological monitor meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) to identify	Retain a qualified archaeological monitor meeting the Secretary of Interior Standards for archaeology, if ground disturbing activities occur in an area with a medium or high potential to encounter undisturbed native soils including Holocene alluvium soils (i.e., Qyf, Qya on Figure 4.7-1 of the EIR). Retain a qualified archaeologist and Native American monitor if ground disturbing activities occur in the southeastern quadrant of campus,	Prior to and ongoing during ground disturbing activities.	PD&C	Include the construction monitoring memo in the project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	archaeological resources and cultural resources of potential Native American origin. Where development occurs in the southeastern quadrant of campus, and in areas containing Val Verde Pluton geologic features considered highly sensitive to prehistoric archaeological resources, UCR shall hire a qualified archaeologist and a Native American monitor to reduce impacts to potential archaeological and/or tribal cultural resources. The monitor(s) shall be on-site during any construction activities that involve ground disturbance. The on-site monitoring shall end when project-related ground disturbing activities are completed, or, in consultation with the lead agency and tribes as appropriate and based on observed conditions, monitoring may be reduced or eliminated prior to completion of ground-disturbing activities, when the monitor(s) has indicated that the project site has a low potential to encounter tribal cultural resources (TCR)/archaeological resources. Consolidated monitoring efforts (e.g., archaeological monitoring/tribal cultural/paleontological monitoring) may occur if the individual monitor meets the applicable qualifications, except for development in the southeastern quadrant as detailed above.	and in areas containing Val Verde Pluton geologic features considered highly sensitive to prehistoric archaeological resources (i.e., Qyf, Qya on Figure 4.7-1 of the EIR).			
	MM CUL-3 Construction Worker Training. For projects requiring TCR/archaeological monitoring, the monitor shall provide preconstruction training for all earthmoving construction personnel prior to the start of any ground disturbing activities, regarding how to recognize the types of TCRs and/or archaeological resources that may be encountered and to instruct personnel about actions to be taken in the event of a discovery. UCR Planning, Design & Construction Project Manager/contractor shall retain documentation showing when training of personnel was completed.	Provide construction worker training.	Prior to the start of ground disturbing activities.	PD&C	Document training materials in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM CUL-4 Unanticipated Discovery of Tribal Cultural Resources/Archaeological Resources. If previously undiscovered TCRs and/or archaeological resources are identified during construction, all ground disturbing activities within 100 feet of the resource shall halt, UCR Planning, Design & Construction staff shall be notified, and the find shall be evaluated by a qualified archaeologist meeting the Secretary of the Interior standards to determine whether it is a unique archaeological resource, as defined by CEQA. If the discovery appears to be Native American in origin, a tribal representative will be contacted within 24 hours of discovery to determine whether it is a TCR, as defined by CEQA. If the find is neither a unique archaeological resource nor a TCR, work may resume. If the find is determined to be a unique archaeological resource or TCR, the archaeologist and the tribal representative, as appropriate, shall make recommendations to UCR Planning, Design & Construction staff on the measures that will be implemented, including, but not limited to, preservation in place, excavation, relocation, and further evaluation of the discoveries pursuant to CEQA. Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts to TCRs/archaeological resources. If UCR determines that preservation in place is not feasible, the archaeologist shall design and implement a treatment plan, prepare a report, and salvage the material, as appropriate. Any important artifacts recovered during monitoring shall be cleaned, catalogued, and analyzed, with the results presented in a report of findings that meets professional standards. Work on-site may commence upon completion of any fieldwork components of the treatment plan.	Retain a qualified archaeologist meeting the Secretary of Interior Standards, if unanticipated tribal cultural resources or archaeological resources are discovered as specified in the mitigation measure.	During ground disturbing activities.	PD&C	Document results of evaluation and action in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
Energy					
Impact E-1. The proposed 2021 LRDP would consume electricity, natural gas, and fuel during construction and operation that would exceed the UCR 2018 per capita energy use and annualized regional 2018 per capita energy use threshold. Impacts would be less than significant with the implementation of mitigation.	See **MM GHG-1 Implement On-Campus GHG Emissions Reduction Measures (Measures EN-3 and EN-5)**	As specified below.	As specified below.	As specified below.	As specified below.
Geology and Soils					
Impact GEO-3. Reasonably foreseeable development under the 2021 LRDP could cause a substantial adverse change in or disturb known or unknown paleontological resources as defined in CEQA Guidelines Section 15064.5. However, Mitigation Measures MM GEO-1 and MM GEO-2 would minimize potential impacts during excavation activities. Impacts to paleontological resources would be less than significant with mitigation incorporated.	**MM GEO-1 Inadvertent Discovery of Paleontological Resources.** If any paleontological resources are encountered during ground-disturbing activities, the contractor shall ensure that activities in the immediate area of the find are halted and that UCR is informed. UCR shall retain a qualified paleontologist to evaluate the discovery and recommend appropriate treatment options pursuant to guidelines developed by the Society of Vertebrate Paleontology, including development and implementation of a paleontological resource impact mitigation program by a qualified paleontologist for treatment of the particular resource, if applicable. These measures may include, but not limited to, the following: ▪ Salvage of unearthed fossil remains and/or traces (e.g., tracks, trails, burrows) ▪ Washing of screen to recover small specimens ▪ Preparation of salvaged fossils to a point of being ready for curation (e.g., removal of enclosing matrix, stabilization and repair of specimens, and construction of reinforced support cradles) ▪ Identification, cataloging, curation, and provisions for repository storage of prepared fossil specimens	Retain a qualified paleontologist, if paleontological resources are inadvertently discovered as specified in the mitigation measure.	During ground disturbing activities.	PD&C	Document results of evaluation and action in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM GEO-2 Paleontological Resources Monitoring. UCR shall implement the following measures if projects are proposing earth-moving activities exceeding 5 feet below previously undisturbed alluvial-fan soils within "high paleontological sensitivity" (i.e., Qof and Qvof): ▪ Retain a qualified professional paleontologist to prepare and implement a Paleontological Resources Impact Mitigation Plan for the project. A qualified paleontologist is an individual who meets the education and professional experience standards as established by the SVP (2010), which recommends the paleontologist shall have at least a master's degree or equivalent work experience in paleontology, shall have knowledge of the local paleontology, and shall be familiar with paleontological procedures and techniques. The Paleontological Resources Impact Mitigation Plan shall describe mitigation recommendations in detail, including paleontological monitoring procedures; communication protocols to be followed in the event that an unanticipated fossil discovery is made during project development; and preparation, curation, and reporting requirements. Consolidated monitoring efforts (e.g., archaeological monitoring/tribal cultural/paleontological monitoring) may occur if the individual monitor has the applicable qualifications. ▪ Prior to the commencement of ground disturbing activities, the qualified paleontologist or their designee, shall conduct training for grading and excavation personnel regarding the appearance of fossils and the procedures for notifying paleontological staff if unanticipated fossils are discovered by construction staff. The Paleontological Worker Environmental Awareness Program shall be fulfilled at the time of a pre-construction meeting. In the event a fossil is discovered by construction personnel anywhere in the project area, all work in the immediate vicinity of the find shall cease and a qualified paleontologist shall be contacted to evaluate the	Retain a qualified professional paleontologist to prepare and implement a Paleontological Resources and Impact Mitigation Plan.	During earth-moving activities exceeding 5 feet below previously undisturbed alluvial-fan soils within high paleontological sensitivity.	PD&C	Include the construction monitoring memo in the project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	find before re-starting work in the area. If it is determined that the fossil(s) is (are) scientifically significant, the qualified paleontologist shall complete the mitigation outlined below to mitigate impacts to significant fossil resources ▪ If paleontological resources are encountered during ground-disturbing activities, MM GEO-1 shall apply.				
Greenhouse Gas Emissions					
Impact GHG-1. The proposed 2021 LRDP would generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. Impacts would be less than significant with the implementation of mitigation measures.	**MM GHG-1 Implement On-Campus GHG Emissions Reduction Measures.** UCR shall implement the following GHG emissions reduction measures by scope emissions category: ***Scope 1 (Stationary Fuel Combustion, Refrigerant Use, Fleet Fossil Fuel Combustion)*** *Energy (EN)* ▪ Measure EN1: In order to meet 100 percent electrification of all new campus buildings and structures, UCR shall prioritize construction of all-electric building design for new campus buildings and structures and discourage the construction and connection of new fossil fuel combustion infrastructure on campus. In addition, UCR shall focus on energy optimization through the Central Plant control systems by automating manual processes and initiating an engineering study focused on transitioning away from natural gas use at the Central Plant. ▪ Measure EN2: In order to address on-campus natural gas combustion, starting in 2025 and continuing through 2035, UCR shall purchase biogas for at least 40 percent of the total on-campus natural gas usage. *Global Warming Potential (GWP)* ▪ Measure GWP1: In order to reduce emissions from refrigerants used on campus, UCR shall phase out of high global warming potential chemical refrigerants on campus to achieve 100 percent relative carbon neutrality by 2045. This may include the replacement of chemical refrigerants with lower global warming potential in the interim of full phase out while an alternative technology is determined.	UCR shall implement the specified measures.	During implementation of the 2021 LRDP, and as specified in the text of the measure.	PD&C; FS; OS	Confirm implementation of measures to reduce annual GHG emissions.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	Furthermore, UCR shall prohibit the use of equipment in new buildings or construction projects that do not utilize low global warming potential or Significant New Alternatives Policy Program accepted refrigerants. *Fuel (FL)* ▪ Measure FL1: In order to decarbonize the campus vehicle fleet, UCR shall reduce emissions from the campus vehicle fleet by 25 percent by 2025, by 50 percent by 2030, and by 75 percent by 2035 through replacement of fleet vehicles with electric vehicles or low-emission alternative vehicles. ***Scope 2 (Electricity Consumption and Generation)*** *Energy (EN)* ▪ Measure EN3: UCR shall work to obtain 100 percent clean-sourced electricity through either Riverside Public Utilities (RPU) and/or through the installation of on-site clean-sourced electricity sources for all new buildings by 2025. In addition, UCR shall establish annual budgets that include funding to purchase 100 percent clean-sourced energy. Furthermore, all newly constructed building projects, other than wet lab research laboratories, shall be designed, constructed, and commissioned to outperform the California Building Code (Title 24 portion of the California Code of Regulations) energy efficiency standards by at least 20 percent. Finally, UCR shall incorporate solar PV as feasibly possible for newly constructed and majorly-renovated buildings with the maximum system size, highest solar panel efficiency, and greatest system performance.[1] ▪ Measure EN4: In order to obtain electricity from 100 percent renewable source(s) for all existing buildings by 2045, UCR shall renegotiate its contractual agreement with RPU to establish a schedule and specific goals for obtaining 100 percent renewable electricity for the campus. In addition, UCR shall conduct an evaluation of existing buildings for structural suitability in terms of accommodating a solar photovoltaic system				

[1] The EIR GHG modeling efforts assume that clean energy is in line with California-defined renewable sources.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	capacity with highest energy generation yield and for installing energy storage technology on campus and then installing such systems on identified buildings and facilities. ▪ Measure EN5 (Parts A, B, C): In order to prioritize energy efficiency and green building initiatives for building/facility upgrades and new construction as well as reduced energy use, UCR shall identify aging equipment throughout the campus such as equipment associated with the Central Plant, electrical distribution system, and building HVAC systems and develop a strategy and schedule to upgrade such equipment with high-energy efficiency systems and optimize HVAC systems through heat zoning, high-efficiency filters, and shut-down times expansion. The strategy shall include an evaluation and cost analysis related to upgrading/retrofitting equipment versus retirement of equipment if no longer needed with future initiatives (i.e., Central Plant boiler retirement). The schedule and upgrade strategy must meet a 2 percent energy efficiency improvement annually through 2035. In addition, UCR shall require new buildings to incorporate occupancy sensors and controls such that lighting of shared spaces is on occupancy sensors, building temperature set points are widened and aligned with occupancy schedules, and ventilation systems are converted from constant volume to variable so ventilation rates are occupancy-based. Furthermore, UCR shall develop a plan to identify existing buildings and projects that could undergo upgrades to the control systems and establish a schedule for upgrade incorporation. Finally, UCR shall develop a tracking program to monitor and share campus energy efficiency activities and progress towards increased energy efficiency. ***Scope 3 (Waste Generation, Business Air Travel, On-site Transportation, Water Consumption, Carbon Sequestration, and Construction)*** *Waste Generation (WG)* ▪ Measure WG1: UCR shall implement and enforce SB 1383 organics and recycling requirements to				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	specifically reduce landfilled organics waste to 75 percent by 2025. ▪ Measure WG2: UCR shall reduce campus waste sent to landfills 90 percent by 2025 and 100 percent by 2035. In addition, UCR shall reduce waste generation at campus events 25 percent by 2025 and 50 percent by 2035, with goals of being zero waste and plastic free events. Furthermore, UCR shall establish purchasing and procurement policies and guidelines prioritizing vendors that limit packaging waste and purchase reusable and compostable goods. *Transportation (TR)* ▪ Measure TR1: In order to reduce GHG Emissions related to business air travel, UCR shall provide incentives to faculty for emission-reducing behaviors and utilizing travel options that are less carbon intensive, promote the use of virtual meetings, and encourage alternative forms of travel other than air travel. ▪ Measure TR2: UCR shall update the Transportation Demand Management (TDM) program for the campus to decrease single occupancy vehicle VMT 5 percent by 2025 and 20 percent by 2035. In addition, UCR shall evaluate trends of current programs to expand on existing programs and establish new initiatives that utilize proven successful strategies. ▪ Measure TR3: UCR shall develop and implement a Campus Active Transportation Plan to shift 2 percent of baseline (2018) passenger vehicle VMT to active transportation by 2025 and 8 percent by 2035. In addition, UCR shall update the Campus Bicycle and Pedestrian Network Map every five years, including routes from off campus to on campus. ▪ Measure TR4: UCR shall reduce GHG emissions associated with campus commuting 10 percent by 2025 and 25 percent by 2035. *Water Consumption (WC)* ▪ Measure WC1: UCR shall reduce per-capita water consumption 20 percent by 2025 and 35 percent				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	by 2035 compared to academic year 2018/2019 per capita consumption. *Carbon Sequestration (CS)* ▪ Measure CS1: UCR shall increase carbon sequestration through increasing tree planting and green space 5 percent by 2025 and 15 percent by 2035. *Construction (CR)* ▪ Measure CR1: UCR shall reduce construction-related GHG emissions on campus 10 percent by 2025 and 25 percent by 2035 through emission reduction controls and/or electric equipment requirements in line with contract obligations. Specifically, UCR shall require off-road diesel-powered construction equipment greater than 50 horsepower to meet the Tier 4 emission standards as well as construction equipment to be outfitted with BACT devices certified by CARB and emissions control devices that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similar-sized engine. In addition, UCR shall develop zero waste procurement guidelines and processes for campus construction projects and integrate into purchasing RFP language as part of campus procurement. The UCR Office of Sustainability, Facilities Services, Environmental Health & Safety (EH&S), Transportation and Parking Services (TAPS), and/or Planning, Design & Construction (PD&C) shall annually monitor, track, and verify implementation of these GHG emissions reduction measures.				
	MM GHG-2 Purchase Carbon Offsets to Achieve GHG Emissions Reduction Balance. In order to achieve the necessary GHG emissions reduction balance after implementation of Mitigation Measure MM GHG-1 and in order to meet the UC Policy on Sustainable Practices and State targets, UCR shall annually track and purchase carbon offsets for the balance of GHG emissions after on-site reductions per Mitigation Measure MM GHG-1 that still meet or exceed the UCR emissions targets by year.	UCR shall implement the specified measure.	During implementation of the 2021 LRDP. As illustrated in Draft EIR Figure 4.8-5, carbon offsets will be purchased to reduce emissions to 2018 baseline levels through the year 2025. Thereafter, carbon offsets shall be purchased to ensure	PD&C; FS; OS	Confirm implementation of measures to reduce annual GHG emissions.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	UCR shall sequester funds for carbon offset purchases into a restricted account such that any/all uses shall directly reduce carbon emissions and address UCR goals. Prior to the purchase of carbon offsets, UCR shall research and purchase carbon offsets that are real, permanent, quantifiable, verifiable, enforceable, supported by substantial evidence, and additional to any GHG emission reduction otherwise required by law or regulation and any other GHG emission reduction that otherwise would occur under Mitigation Measure MM GHG-1. If any changes occur with regard to implementation of on-campus GHG reduction measures as part of Mitigation Measure MM GHG-1, UCR shall adjust the purchase of carbon offsets accordingly and keep respective accounting records. UCR Office of Sustainability, Facilities Services, EH&S, and PD&C shall annually monitor, track, and verify purchase of the required carbon offsets. As part of this mitigation measure, UCR shall make the following separate, though overlapping, GHG emission reduction commitment including maintaining compliance with carbon offset accreditation requirements under the CARB Cap-and-Trade Program. Any carbon credits obtained for the purpose of compliance with CARB's Cap-and-Trade Program shall be purchased from an accredited carbon credit market. Based on the current program as of 2021, such offset credits (or California Carbon Offsets) shall be registered with, and retired by an Offset Project Registry, as defined in 17 California Code of Regulations Section 95802(a), that is approved by CARB, such as, but not limited to, Climate Action Reserve (CAR), American Carbon Registry, and Verra (formerly Verified Carbon Standard), that is recognized by The Climate Registry, a non-profit organization governed by U.S. states and Canadian provinces and territories.		consistency with the UC Policy on Sustainable Practices.		

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
Impact GHG-2. The proposed 2021 LRDP GHG emissions during construction and operation are projected to exceed the State and UC-derived GHG emission thresholds. Therefore, the proposed 2021 LRDP would conflict with the goals of an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. However, this impact would be less than significant with the implementation of mitigation measures.	See: **MM GHG-1 Implement On-Campus GHG Emissions Reduction Measures** **GHG-2 Purchase Carbon Offsets to Achieve GHG Emissions Reduction Balance**	As specified above.	As specified above.	As specified above.	As specified above.
Hazards and Hazardous Materials					
Impact HAZ-2. Operation of facilities and materials would be subject to federal, State, County, and UCR policies designed to minimize upset and accident conditions and would result in less than significant impacts related to significant hazards to the public or the environment. Facility construction and renovation under the proposed 2021 LRDP could disturb or emit hazardous material from impacted soil, soil vapor, or groundwater, which could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during reasonably foreseeable upset and accident conditions. Impacts would be less than significant with the implementation of mitigation and mandatory compliance with existing regulations pertaining to the identification, handling, and disposing of hazardous materials.	**MM HAZ-1 Property Assessment – Phase I and II ESAs.** During the pre-planning stage of campus projects on previously developed sites or on agricultural lands (current or historic), and in coordination with EH&S, UCR shall obtain documentation from EH&S or prepare a Phase I Environmental Site Assessment (ESA) assessing the land use history of the proposed project site and identify potential hazardous materials concerns, including, but not limited to, fuel tanks, chemical storage, presence of elemental mercury, elevator pistons and associated hydraulic oil reservoirs and piping, heating-oil USTs, or agricultural uses. If the Phase I ESAs, or similar documentation, identify recognized environmental conditions or potential concern areas, a Phase II ESA would be conducted in coordination with EH&S to determine whether the soil, groundwater, and/or soil vapor has been impacted at concentrations exceeding regulatory screening levels for residential or commercial/industrial type land uses (as applicable). If the Phase II ESA concludes that the site is or may be impacted and could affect the planned development, assessment, remediation, or corrective action (e.g., removal of contaminated soil, in-situ treatment, capping, engineering controls) would be conducted prior to or during construction under the oversight of federal, State, and/or local agencies (e.g., US EPA, DTSC, RWQCB, RFD, RCDEH) and in full compliance with current and applicable federal and State laws and regulations, including but are not	Obtain documentation from EH&S or conduct Property Assessment – Phase I and II ESAs.	During project planning.	PD&C; EH&S	Document findings in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	limited to the California Environmental Quality Act (CEQA). Assessment, remediation, or corrective action must be evaluated under CEQA prior to commencing the assessment, remediation, or corrective action. Additionally, Voluntary Cleanup Agreements may be used for parcels where remediation or long-term monitoring is necessary.				
	MM HAZ-2 Regulatory Agency UST Involvement. Because the UCR campus includes abandoned in-place USTs and the potential for other unidentified hazardous material features to be present, UCR shall notify the Riverside County Department of Environmental Health (RCDEH) and City of Riverside Fire Department (RFD) if the following situations occur: ▪ Soil disturbance, grading, or excavation are planned for areas where current USTs are present or former USTs were present, including: ▫ One 6,000-gallon UST operated by Fleet Services located east of the Fleet Services office ▫ One 6,000-gallon diesel, one 1,500-gallon gasoline, and one 300-gallon former USTs at the Ag Ops facility at 1060 Martin Luther King Boulevard ▫ Four 6,000-gallon gasoline and one 550-gallon waste oil former USTs at the former Atlantic Richfield Oil Company service station at 1160 University Avenue ▫ Five 20,000-gallon former diesel USTs at UCR Parking Lot #6 ▫ Two 7,000-gallon gasoline, one 3,000-gallon gasoline, and one 550 waste oil former USTs at the former Chevron service station at 1011 University Avenue ▫ Four former 10,000-gallon #6 heating-oil USTs at 3401 Watkins Drive – Abandoned in place in October 1998 ▫ One 10,000-gallon gasoline, one 6,000-gallon gasoline, and one 500-waste oil former USTs at the UCR Fleet Service facility at 3401 Watkins Drive	Notify RCDEH and RFD if soils disturbance, grading, or excavation area planned for areas where current USTs are present or former USTS were present as specified in this mitigation measure.	Prior to project grading, soil disturbance, and/or excavation activities.	PD&C; EH&S	Document compliance with RCDEH and RFD requirements and actions in project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	▫ UCR Fleet Services – RCDEH Permitted UST - 3401 Watkins Drive ▫ UCR Steam Plant – RCDEH Closed Leaking UST - 3401 Watkins Drive ▫ Agricultural research support operations areas on the West Campus (e.g., fuel storage and dispensing, maintenance oils, and hazardous waste) ▫ Corporation Yard located north of West Linden Street on the East Campus ▫ UST, previously located at the Grounds Maintenance Facility along East Campus Drive ▫ 3.25-acre site on the UCR campus at 1060 Martin Luther King Boulevard, listed as a DTSC Certified Operations and Maintenance Land Use Restrictions site as of December 15, 2010 ▫ 1060 Martin Luther King Boulevard, a site listed as a closed Riverside County LOP case for three leaking USTs ▪ Identification of additional underground storage tanks and associated piping, or other underground features such as railroad spurs or ties, elevator pistons, stained or odorous soils, unknown piping, cisterns, wells, waste/burn pits, etc., if encountered Additionally, all UST removals and associated assessment work shall be completed under the direction of RCDEH and RFD. Upon identification of stained soil, odorous soil, USTs, or other underground features onsite, RCDEH or RFD could require actions such as: development of removal action workplans, obtaining permits for removal of USTs or other underground features, soil excavation and offsite disposal, assessment of soil and/or groundwater beneath the excavation, and/or completion of UST removal reports or case closure documents.				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM HAZ-3 Regulatory Agency Subsurface Involvement – DTSC. Because UCR includes one DTSC Certified Land Use Restrictions case on-site (EnviroStor, Site ID 33890001, 2020), DTSC shall be notified of redevelopment or soil disturbance work that is planned in the Land Use Covenant area involving excavation of 4 feet or more below ground surface. Additionally, UCR shall notify the DTSC if the following situations occur: ▪ LRDP is modified to include soil disturbance in the Land Use Covenant area. ▪ Stained or odorous soils, chemical substances, or debris from an unidentified source are identified during excavation of 4 feet or more below ground surface and/or within 100 feet of the Land Use Restriction area. Upon notification of the information above, DTSC could require actions such as: development of subsurface investigation workplans, completion of soil, soil vapor, and/or groundwater subsurface investigations, installation of soil vapor or groundwater monitoring wells, soil excavation and off-site disposal, completion of human health risk assessments, and/or completion of remediation reports or case closure documents.	Notify DTSC of redevelopment or soil disturbance work that is planned in the Land Use Covenant area involving excavation of 4 feet or more below ground surface or within 100 feet of the Land Use Restriction area; implement required actions from DTSC as specified in this mitigation measure.	Prior to project grading or site disturbance activities.	PD&C; EH&S	Document compliance with DTSC requirements and actions in project file.
	MM HAZ-4 Construction Site Management Plan. If impacted soils are identified pursuant to activities conducted through Mitigation Measures MM HAZ-1, MM HAZ-2, or MM HAZ-3; or encountered during construction (soil disturbance), UCR shall prepare a Construction Site Management Plan (SMP) for the proposed redevelopment project area to address potential issues that may be encountered during redevelopment activities involving subsurface work. The Construction SMP objectives shall include: ▪ Communicating information to proposed project construction workers about environmental conditions ▪ Presenting measures to mitigate potential risks to the environment, construction workers, and other nearby receptors from potential exposure to hazardous substances that may be associated with	If impacted soils are identified, prepare Construction Site Management Plan as specified in the mitigation measure.	During planning and design phase; prior to project grading or site disturbance activities; ongoing verification during project grading or site disturbance activities.	PD&C; EH&S	Confirm that Construction Site Management Plan is being implemented as specified in the mitigation measure.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	unknown conditions or unexpected underground structures ▪ Presenting protocols for management of known contaminated soil or groundwater encountered during construction activities The Construction SMP shall identify the proposed project contacts, responsibilities, and notification requirements and outline the procedures for health and safety, soil management, contingency measures for discovery of unexpected underground structures, erosion, dust, and odor management, groundwater management, waste management, stormwater management, and written records and reporting. The Construction SMP shall be reviewed and approved by UCR prior to issuance of grading permits.				
Impact HAZ-3. Operation of facilities and materials would be subject to federal, State, County, and UCR policies designed to minimize hazardous emissions and spills and would result in less than significant impacts related to significant hazards to the public or the environment. Facility construction and renovation under the proposed 2021 LRDP could disturb or emit hazardous material from impacted soil, soil vapor, or groundwater, which could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Impacts would be less than significant with the implementation of mitigation measures and mandatory compliance with existing regulations pertaining to hazardous wastes and materials.	See: **MM HAZ 1 Property Assessment – Phase I and II ESAs** **MM HAZ-2 Regulatory Agency UST Involvement** **MM HAZ-3 Regulatory Agency Subsurface Involvement – DTSC** **MM HAZ-4 Construction Site Management Plan**	As specified above.	As specified above.	As specified above.	As specified above.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
Impact HAZ-4. The UCR campus includes several closed UST release sites (listed) and is located adjacent to a site with a restricted land use covenant. As a result, soil, soil vapor, and/or groundwater disturbance during construction could create a significant hazard to the public or the environment. Given the opportunity for contaminated soils to occur on the project site, project construction would potentially create a significant hazard to the public or the environment. Impacts would be less than significant with the implementation of mitigation measures.	See: **MM HAZ 1 Property Assessment – Phase I and II ESAs** **MM HAZ-2 Regulatory Agency UST Involvement** **MM HAZ-3 Regulatory Agency Subsurface Involvement – DTSC** **MM HAZ-4 Construction Site Management Plan**	As specified above.	As specified above.	As specified above.	As specified above.
Noise					
Impact N-1. Construction equipment used during construction and mechanical equipment used during operation of the proposed 2021 LRDP would result in noise level increases that would exceed applicable noise thresholds, result in a significant impact. Mitigation measure MM N-1 would reduce construction noise levels to the extent feasible, but impacts would remain significant and unavoidable. Mitigation Measure MM N-2 would reduce operational noise levels to less than significant.	**MM N-1 Construction Noise Reduction Measures.** To reduce construction noise levels to on-campus and off-campus noise sensitive receivers, UCR shall implement the following measures: ▪ Hours of exterior construction activities shall be limited to 7:00 a.m. to 9:00 p.m. Monday through Friday and 8:00 a.m. to 6:00 p.m. on Saturday, as feasible, except under circumstances where such time limits are infeasible (e.g., for time sensitive construction work such as concrete pouring, excessive heat warnings/temperatures during the summer, operational emergencies). No exterior construction activities shall occur on federal holidays. ▪ Construction traffic shall follow routes so as to minimize the noise impact of this traffic on the surrounding community, to the greatest extent feasible. ▪ Contract specifications shall require that construction equipment be muffled or otherwise shielded, in accordance with manufacturers' recommendations. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers. ▪ Where available and feasible, construction equipment with back-up alarms shall be equipped with either audible self-adjusting backup alarms or alarms that only sound when an object is detected. Self-adjusting backup alarms shall	Incorporate measures in contract specifications.	During construction.	PD&C	Inspect construction site to verify that measures are being implemented.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	automatically adjust to 10 dBA over the surrounding background levels. All non-self-adjusting backup alarms shall be set to the lowest setting required to be audible above the surrounding noise levels. ▪ Stationary construction equipment material and vehicle staging shall be placed to direct noise away from sensitive receivers to the greatest extent feasible. ▪ Meetings shall be conducted, as needed, with on-campus constituents to provide advance notice of construction activities to coordinate these activities with the academic calendar, scheduled events, and other situations, as appropriate. ▪ Communication would be provided, as needed, with constituents that are affected by campus construction to provide advance notice of construction activities and ensure that the mutual needs of the particular construction project and of those impacted by construction noise are met, to the extent feasible. ▪ A sign shall be provided at the construction site entrance, or other conspicuous location, that includes a 24-hour telephone number for project information, and to report complaints. An inquiry and corrective action will be taken if necessary, in a timely manner. ▪ Where feasible, installation of temporary sound barriers/blankets of sufficient height to break the line-of-sight between the construction equipment and within proximity to exterior use areas of noise-sensitive receivers shall be required. Temporary sound barriers shall consist of either sound blankets or other sound barriers/techniques such as acoustic padding or acoustic walls placed near adjacent noise-sensitive receivers that have been manufactured to reduce noise by at least 10 dBA at ground level or meets ASTM E90 & E413 standards/ASTM C423 (or similar standards with equivalent 10 dBA noise reduction).				

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM N-2 HVAC Noise Reduction Measures. The campus shall reduce HVAC equipment noise levels located in close proximity to noise-sensitive buildings and uses through noise control measures such as, but not limited to: ▪ Mechanical equipment screening (e.g., parapet walls) ▪ Equipment setbacks ▪ Silencers ▪ Acoustical louvers ▪ And other sound attenuation devices as made available If a method other than mechanical equipment screening (e.g., parapet walls) is chosen, a project-specific design plan demonstrating that the noise level from operation of HVAC units does not generate noise levels that exceed 5 dBA above ambient at noise-sensitive receivers shall be completed.	Incorporate site-specific considerations to minimize HVAC equipment related noise associated with new development as specified.	During the design phase; prior to design approval; and construction documents.	PD&C	Document site-specific considerations in the project file.
	MM N-3 Loading Dock Noise Reduction Measures. The campus shall reduce loading dock noise levels through measures such as, but not limited to: ▪ Noise levels from loading docks at noise-sensitive receivers shall not exceed 5 dBA over ambient noise levels, the effectiveness of which shall be determined on a project-level basis by an acoustical professional. ▪ As feasible, design and build sound barriers near loading docks and delivery areas that block the line of sight between truck activity areas and noise-sensitive receivers. Sound barriers may consist of a wall, earthen berm, or combination thereof.	Incorporate site-specific considerations to minimize loading dock related noise associated with new development as specified.	During the design phase; prior to design approval; and construction documents.	PD&C	Document site-specific considerations in the project file.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	MM N-4 Relocated Corporation Yard Noise Reduction Measures. If and when the campus Corporation Yard is relocated, the campus shall reduce Corporation Yard noise levels through measures such as, but not limited to: ▪ Noise levels from the Corporation Yard at noise-sensitive receivers shall not exceed 5 dBA over ambient noise levels, the effectiveness of which shall be determined on a project-level basis by an acoustical professional. ▪ As feasible, design and build sound barriers near the Corporation Yard that block the line of sight between truck activity areas and noise-sensitive receivers. Sound barriers may consist of a wall, earthen berm, or combination thereof.	Incorporate site-specific considerations to minimize Corporation Yard related noise associated with the relocation of the Corporation Yard as specified.	During the design phase; prior to design approval; and construction documents.	PD&C	Document site-specific considerations in the project file.
Impact N-2. Vibration from proposed 2021 LRDP construction may exceed applicable standards. This is a potentially significant impact that would be reduced to less than significant with mitigation.	**MM N-5 Construction Vibration Reduction Measures.** If construction equipment were to be operated within the specified distances listed in Table 4.11 13 of the Draft EIR, the campus shall reduce construction vibration levels through the following noise control measures: ▪ All academic and residential facilities within the listed distances shall be notified if the listed equipment is to be used during construction activities so that the occupants and/or researchers can take necessary precautionary measures to avoid negative effects to their activities and/or research. ▪ In addition, one of the following measures shall be implemented: ▫ Use of the equipment shall not occur within the specified distances in Table 4.11-13, or ▫ A project-specific vibration impact analysis shall be conducted that shall consider the type of equipment used and potential vibration levels at structures within the specified distances. If, after consideration of the type of equipment used and other factors of the environment, vibration levels do not exceed the applicable criteria (listed	Incorporate measures in contract specifications.	Prior to and during construction.	PD&C	Inspect construction site to verify that measures are being implemented.

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
	in the second column of Table 4.11-13), construction may proceed without additional measures. If, after consideration of the type of equipment used and other factors of the environment, vibration levels exceed the applicable criteria, additional measures shall be implemented to reduce vibration levels below threshold, if feasible. These measures may include, but not limited to, use of different equipment that results in an acceptable vibration level as listed in the second column of Table 4.11-13.				
Transportation					
Impact T-3. Development under the proposed 2021 LRDP would be constructed in such a way that changes would remain consistent to surrounding geometric design features and any redesign or construction of on-campus circulation paths would be designed and constructed to meet the Campus Construction and Design Standards. However, the increase in campus population under Cumulative Plus Project conditions would result in an impact related to queuing at the I-215/SR 60 Freeway Southbound Ramps at Martin Luther King Boulevard. Impacts would be significant and unavoidable. Mitigation measure T-1 has been proposed for adoption to another agency (Caltrans), but its implementation is uncertain at this time.	**MM T-1 Intersection Queueing.** Improvements to the intersection of I-215/SR-60 freeway southbound ramps at Martin Luther King Boulevard shall consist of reconfiguring the southbound approach from one left-turn lane and one shared through/right-turn lane to one shared left/through/right-turn lane and one right-turn lane. Optimizing the signal-timings with the geometric improvements shall also be required.	UCR shall coordinate with Caltrans for the adoption and implementation of this measure.	Recommendation to adopt this measure shall be sent to Caltrans within one year of LRDP approval; Coordination with Caltrans shall then be on-going until approval or denial	PD&C; TAPS	Document agreement to the project file.
Impact T-4. Development under the proposed 2021 LRDP would not include major changes to existing access points or on-campus circulation paths that would result in inadequate emergency access. All projects under the proposed 2021 LRDP would adhere to Campus Construction and Design Standards. They would undergo review and approval by the State Fire Marshal prior to implementation and use. Impacts would be less than significant. No mitigation measures are required.	None required. However, UCR has proposed continuing best practices (CBP) as conditions of individual project approval that would ensure, to the extent feasible, that at least one unobstructed lane in both directions on campus roadways are maintained specifically in the event of a wildfire emergency (**CBP WF-1**) and that the Campus Fire Marshal discloses roadway closures to the City of Riverside Fire Department and identify alternative travel routes, if necessary (**CBP WF-2**). See Continuing Best Practices discussed below.	UCR shall maintain, to the extent feasible, at least one unobstructed lane in both directions on campus roadways at all times during project construction and campus operation. The Campus Fire Marshal shall disclose roadway closures to the City of Riverside Fire Department and identify alternative travel routes, if necessary.	On-going	PD&C; Campus Fire Marshal	

Impact(s)	Mitigation Measure(s)	Mitigation Procedure	Mitigation Timing	Mitigation Responsibility	Monitoring and Reporting Procedure
Tribal Cultural Resources					
Impact TCR-1. Development facilitated by the proposed 2021 LRDP has the potential to impact tribal cultural resources. Impacts would be less than significant with mitigation.	See: **MM CUL-2 Tribal Cultural Resources/Archaeological Monitoring.** **MM CUL-3 Construction Working Training.** **MM CUL-4 Unanticipated Discovery of Tribal Cultural Resources/Archaeological Resources.**	As specified above.	As specified above.	As specified above.	As specified above.
Wildfire					
Impact WF-1. Implementation of the proposed 2021 LRDP would not result in a significant impact associated with construction activities. Operation of new facilities would not substantially impair an adopted emergency response or evacuation plan. Impacts would be less than significant.	None required. However, UCR has proposed continuing best practices (CBP) as conditions of individual project approval that would ensure, to the extent feasible, that at least one unobstructed lane in both directions on campus roadways are maintained specifically in the event of a wildfire emergency (**CBP WF-1**) and that the Campus Fire Marshal discloses roadway closures to the City of Riverside Fire Department and identify alternative travel routes, if necessary (**CBP WF-2**). See Continuing Best Practices discussed below.	UCR shall maintain, to the extent feasible, at least one unobstructed lane in both directions on campus roadways at all times during project construction and campus operation. The Campus Fire Marshal shall disclose roadway closures to the City of Riverside Fire Department and identify alternative travel routes, if necessary.	On-going	PD&C; Campus Fire Marshal	
Impact WF-4. Development projects would be sited on parts of campus that are away from steep slopes (25 percent or greater) that may become post-fire hazard zones. Impacts would be less than significant with mitigation.	MM WF-1 Implement Post-Fire Erosion Control Plan and Application. UCR shall incorporate into its Emergency Operations and Response Plan erosion control measures to be deployed in the event of a catastrophic wildfire. Erosion control measures shall be implemented as soon as possible after the event and shall include one or more of the following, as applicable: 1. Install mulch to cover the soil and reduce rain drop impact, overland flow, and soil particle movement. This can be certified weed-free straw, slash, and geotextile fabrics and should be installed as quickly as possible after the fire event. 2. Apply hydro-mulch mixture of water, fiber mulch, and tackifier on burned slopes to prevent soil erosion and foster revegetation. Seed, fertilizer, or soil stabilizing polymers can also be applied with the hydro-mulch. 3. Implement aerial seeing of grasses or legumes with a layer of straw mulch over seeded grasses. Ensure the mix of seed includes native grasses and plants with value for local wildlife.	Prepare and implement a post-fire erosion control plan, as documented in the Emergency Operations and Response Plan.	Within 1 year of approval of the 2021 LRDP and certification of the EIR.	PD&C	Within 1 year of approval of the 2021 LRDP and certification of the EIR.

3.4.1 Continuing Best Practices

In support of its standard practice of required construction management plans for individual projects, UCR has proposed Continuing Best Practices (CBP) as conditions of individual project approval that would ensure, to the extent feasible, that at least one unobstructed lane in both directions on campus roadways are maintained specifically in the event of a wildfire emergency and that the Campus Fire Marshal discloses roadway closures to the City of Riverside Fire Department and identify alternative travel routes, if necessary. As such, evacuation routes, if present within the specific roadway segment that would require temporary closure as noted above, would be similarly rerouted. See Section 4.18, Wildfire, for additional detail.

CBP WF-1 Construction – Traffic Control

To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways. At any time only a single lane is available, the campus shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway segment, the campus shall provide alternate routes and appropriate signage.

CBP WF-2 Construction – Alternative Travel Routes

Prior to campus construction activities and/or roadway closures, the Campus Fire Marshal, as delegated by the State Fire Marshal, and in cooperation with the City of Riverside Fire Department shall ensure that adequate access for emergency vehicles is provided or identify alternative travel routes.