UC RIVERSIDE WEST CAMPUS SOLAR FARM PROJECT
UCR Project #957338

Addendum No. 1
to the 2005 UC Riverside Long Range Development Plan Environmental Impact Report

The following Addendum has been prepared in compliance with CEQA.

Prepared for:

UCR Capital Programs – Capital Resource Management
1223 University Avenue, Suite 200
Riverside, CA 92507-7209

Prepared by:

Impact Sciences, Inc.
555 12th Street, Suite 1650
Oakland, California 94607

1.0 PROJECT INFORMATION

1. Project title:

   UC Riverside West Campus Solar Farm project, UCR Project #957338

2. Lead agency name and address:

   The Regents of the University of California
   1111 Franklin Street
   Oakland, CA 94607

3. Contact person and phone number:

   Tricia D. Thrasher, ASLA, LEED AP
   Principal Environmental Project Manager
   UCR Capital Programs – Capital Resource Management
   1223 University Avenue, Suite 200
   Riverside, CA 92507-7209
   951-827-4201

4. Project location:

   University of California, Riverside
   Riverside County

5. Project sponsor's name and address:

   See #2 & #3

6. Custodian of the administrative record for this project:

   See #3 above

7. Identification of previous EIRs relied upon for tiering purposes (including all applicable LRDP and project EIRs and address where a copy is available for inspection.)

   The 2005 UC Riverside Long Range Development Plan Environmental Impact Report (SCH No. 2005041164) and the UC Riverside LRDP Amendment 2 Environmental Impact Report (SCH No. 2010111034). Copies of both documents can be found at:

   UC Riverside
   Capital Programs – Capital Resource Management
   1223 University Avenue, Suite 200
   Riverside, CA 92507-7209

2.0 INTRODUCTION

The University of California ("University"), as the lead agency pursuant to the California Environmental Quality Act ("CEQA"), prepared the Final Environmental Impact Report ("Final EIR") for the 2005 Long Range Development Plan ("LRDP") for the University of California, Riverside ("UC Riverside") (State Clearinghouse No. 2005041164). In November 2005, The Board of Regents of the University of California ("The Regents") certified that the Final EIR was completed in compliance with the California Environmental Quality Act ("CEQA") and adopted Findings and a Statement of Overriding Considerations in connection with its approval of the 2005 LRDP.

The Final EIR consists of the November 2005 Draft Environmental Impact Report ("Draft EIR") and the Final Environmental Impact Report ("Final EIR") (collectively referred to as the "2005 LRDP EIR"). The EIR assesses the potential environmental effects of campus development consistent with the 2005 LRDP, identifies means to eliminate or reduce potential adverse impacts, and evaluates a reasonable range of alternatives to the 2005 LRDP.

In 2011, UC Riverside put forth a proposal to amend the 2005 LRDP to allow for the location of a new School of Medicine (SOM) on the West Campus. That amendment, called the 2005 LRDP Amendment 2, revised the 2005 LRDP land use map to allow for the location of a new SOM, along with other land use map changes, and increased the maximum building space that could be built on the campus under the 2005 LRDP. A Final EIR, consisting of the August 2011 Draft EIR and Final EIR was prepared in October 2011 (collectively referred to as the "LRDP Amendment 2 EIR") that evaluated and disclosed the potential environmental impacts of the 2005 LRDP Amendment 2 (State Clearinghouse No. 2010111034). The LRDP Amendment 2 EIR supplemented the 2005 LRDP EIR, focusing on the incremental environmental effects of LRDP Amendment 2.

The 2005 LRDP, as amended by Amendment 2, is the land use planning document used by UC Riverside to guide the development of the campus to eventually support a projected student body of 25,000 full time equivalent (FTE) students by 2020. The 2005 LRDP EIR, as augmented and updated by the 2011 LRDP Amendment 2 EIR, is the environmental document that provides a full evaluation of the environmental effects of campus development through 2020 and is used by the Campus to conduct tiered environmental review of specific development projects proposed on the campus, pursuant to CEQA Guidelines Section 15152.

The Campus proposes to enter into a Power Purchase Agreement (PPA) and Site License Agreement (SLA) with an energy company that would allow the energy company to construct, operate and maintain a photovoltaic (PV) facility or solar farm on a 10.92-acre site on the West Campus. The proposed site for

the West Campus Solar Farm project is designated for academic uses, a parking structure, campus support, and open space in the amended UCR 2005 LRDP. To allow for the West Campus Solar Farm project to be implemented at this site, the UCR 2005 LRDP would be amended. The proposed amendment, UCR 2005 LRDP Amendment 3, would add a *Campus Infrastructure Overlay* to the 2005 LRDP land use map authorizing the following permitted uses: ground-mounted solar arrays, power inverters, utility connections to the existing electrical substation, circulation, and other support uses necessary for the maintenance and operation of the solar farm. The West Campus Solar Farm project is proposed for a 20-year term under the PPA and SLA, with the provision that the University could terminate the PPA and SLA if it determines the *Campus Infrastructure Overlay* area is necessary for any of the underlying designated land uses in the 2005 LRDP.

Section 15164(a) of the CEQA Guidelines states that "The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred." As documented in Section 4.0 of this Addendum No. 1 to the 2005 LRDP EIR, construction and operation of the West Campus Solar Farm project and the amendment of the 2005 LRDP to include the proposed *Campus Infrastructure Overlay* land use designation would not trigger any of the conditions necessitating preparation of a subsequent or supplemental EIR or negative declaration; further, only some minor changes or additions to the 2005 LRDP EIR, as updated and augmented by the LRDP Amendment 2 EIR, are necessary; therefore, the preparation of an Addendum is the appropriate level of analysis to evaluate the environmental effects of the development of the West Campus Solar Farm project and the related LRDP amendment.

3.0 PROJECT DESCRIPTION

The proposed project analyzed in this addendum is composed of:

- The construction and operation of the proposed West Campus Solar Farm project, including entering into a PPA and SLA;
- The amendment of the 2005 LRDP to include a land use overlay over the project site.

The following sections present information with respect to the project site, followed by a detailed description of the two elements of the proposed project.

3.1 Project Location and Surrounding Land Uses

The proposed West Campus Solar Farm project site is located on the UC Riverside Campus in Riverside County, California. The campus is approximately 1,112 acres of which approximately 511 acres are to the west of the Interstate 215/ State Route 60 (I-215/SR-60). The area to the west of I-215/SR-60 is called the West Campus. The proposed solar farm would be installed on a 10.92-acre site[1] located in the northeastern portion of West Campus adjacent to the I-215/SR 60 freeway. The project site is flat, undeveloped, graded land with some groves of trees located on the western half of the site and a small amount of ruderal vegetation present on the eastern half of the site. A transmission corridor with utility poles and overhead power lines bisects the site.

The project site is surrounded by campus uses (Parking Lot P30/V30, agricultural teaching and research fields, the UC Riverside Community Garden, the UCR waste transfer station, and the University substation) to the south, I-215/SR-60 to the east, Gage Canal and a University apartment complex to the west, and a California Department of Transportation (Caltrans) service yard to the north.

3.2 Description of the West Campus Solar Farm project

The Campus proposes to enter into a PPA and SLA for up to 20 years with an energy company pursuant to which the energy company would install an approximately 3.5-megawatt (MW) PV system on the West Campus site. The system would be constructed, operated, and maintained by the energy company. The project is proposed by the University of California to support the University Policy on Sustainable Practices (http://policy.ucop.edu/doc/3100155/SustainablePractices) which calls for developing 10 megawatts of local renewable power projects by 2014 and in support of the sustainability strategies in the UCR 2005 LRDP.

The West Campus Solar Farm project ground-mounted tracking system would comprise a 3,341 kW direct current (DC) system using a solar PV array layout. The PV system would consist of an array of 435 watt solar panels or modules anchored on steel support posts embedded in reinforced concrete using a positive means of attachment (bolts, etc.). Each panel and post assembly would be approximately 5-6 feet (1.5-1.8 meters) in total height. Pre-manufactured tracking structures would enable accelerated

[1] The Site License Agreement is proposed to cover 4.84 acres (west portion) and 6.08 acres (east portion) for a total of 10.92 acres.

installation. The 435-watt panel also ensures the shortest construction time and the smallest project footprint. The panels would be arranged in units referred to as "power blocks" with multiple rows linked mechanically, by a steel drive strut, thereby enabling the rows to be moved as a unit and the solar panels would be tilted to face the sun. The power block drive unit would be mounted at the first row of each block and would consist of a ½-horsepower, bi-directional AC motor that is sufficient to actuate the drive strut of a power block up to 250 kW, via an industrial screw jack. The mechanical system would be connected to the control computer which would control the movement of the rows synchronously with the sun's movement across the sky. Both the electrical and mechanical layout of the power blocks would minimize field wiring. The pre-manufactured inverter stations would convert DC power to alternating current (AC) power. These inverters are utility-grade and specifically designed for PV installations.

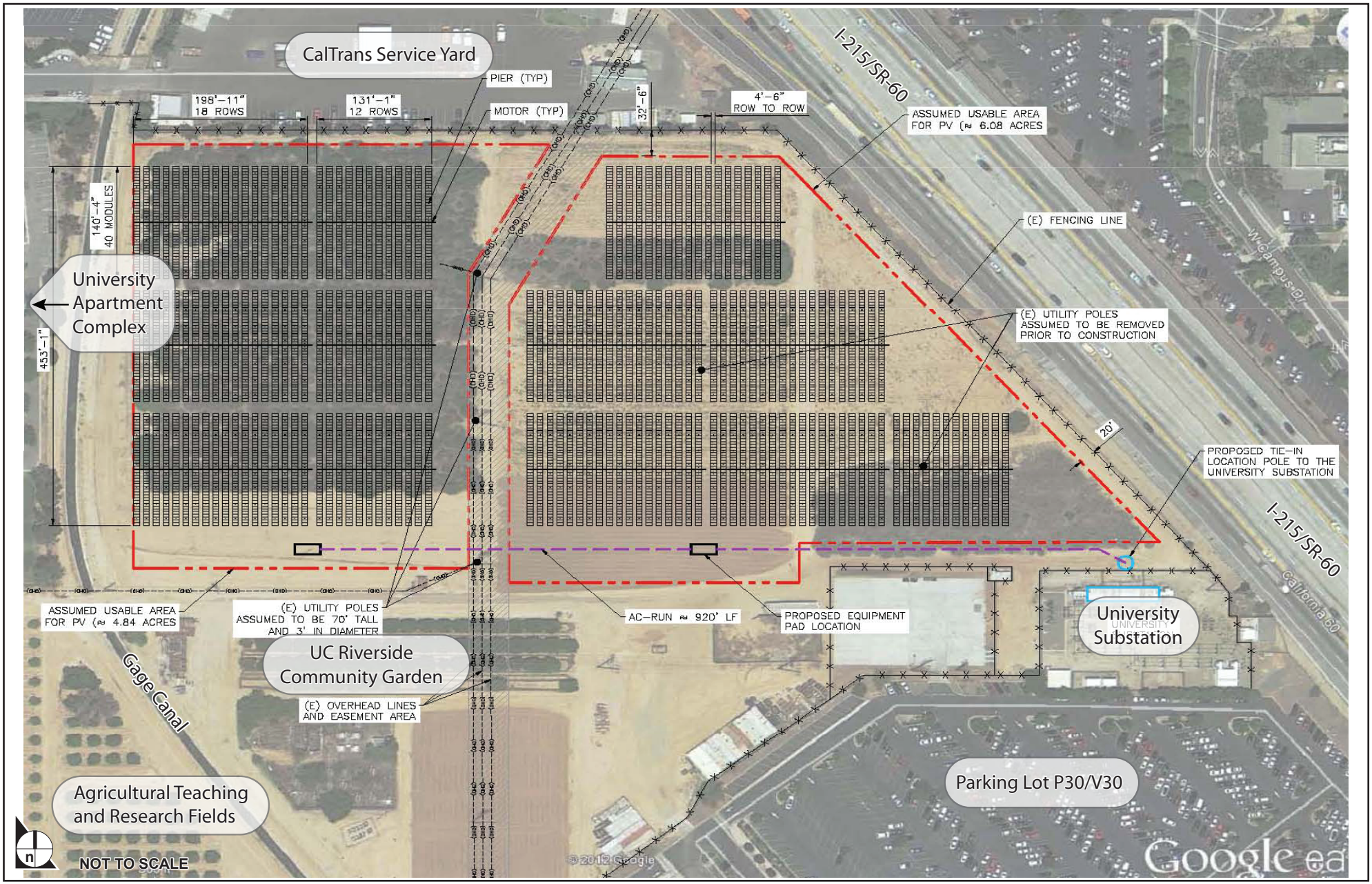
Figure 1, West Campus Solar Farm, shows a conceptual view of the proposed PV system with two groups of arrays separated by a central corridor. The central corridor would remain open to facilitate maintenance vehicle access and to provide access to the existing utility poles. The entire facility, including the inverters, would be secured with a chain link fence, with secured access limited for operations and maintenance of the West Campus Solar Farm and for emergency vehicles. The facility will have site lighting.

The proposed PV system will generate 6.6 million kilowatts (kWh) direct current (DC) of electricity which will be used on the campus. The energy company will provide UCR a 97 percent kWh performance guarantee for the project. UCR will retain ownership of 100 percent of the Renewable Energy Credits (RECs).

All systems will adhere to California Building Codes and Standards, as well as California Public Utilities Commission's California Solar Initiative program requirements, and all California Energy Commission's technical and installation specifications and guidelines.

The project would necessitate removal of the abandoned groves, groundcover, and shrubs located on the project site to provide adequate space for the solar arrays.

Staging for the proposed project would occur immediately south of the site and west of the substation. This area is a vacant, dirt lot with vehicular access from the north end of Parking Lot 30. Project construction would include the following: installation of storm water control measures per the storm water pollution prevention plan; clearing of the site of all plant materials (with the materials sent for composting or other appropriate disposal); removal of existing irrigation systems; rough grading of the cleared site; installation of perimeter fencing; excavation to install the posts on which the panels would be mounted; construction of concrete pads for inverters; trenching to place conduits for wiring;



SOURCE: Google, July 2013

FIGURE **1**

West Campus Solar Farm

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installation of panels and wiring; and tie-in of the PV system to the campus substation. All areas would be restored to existing grades once the arrays are installed. The project would be completed in approximately 2 to 3 months.

3.3 Description of Proposed LRDP Amendment 3

The proposed amendment adds a *Campus Infrastructure Overlay* (*CIO*) land use designation to the 2005 LRDP to lands within the West Campus that have other land use designations under the currently approved land use diagram for the campus. The amendment makes the following changes to the 2005 LRDP:

- Adds *Campus Infrastructure Overlay* as a land use designation to Figure 13: Land Use Plan. The portion of the campus that would be designated with the overlay is shown on **Figure 2, Land Use Plan**.

- Adds *Campus Infrastructure Overlay* to the list of 2005 LRDP land use categories. The overlay is described as permitting the following temporary uses permitted uses: ground-mounted solar arrays, power inverters, utility connections to the existing electrical substation, circulation, and other support uses necessary for the maintenance and operation of the solar farm. The *Campus Infrastructure Overlay* does not supersede or replace the underlying 2005 LRDP land use designations; further, uses of the overlay area consistent with the underlying 2005 LRDP land uses may be implemented.

3.4 Project Objectives

The objective of the West Campus Solar Farm project and related LRDP amendment is to assist the University in fulfilling the renewable power need within the UC system as required by the University Policy on Sustainable Practices. As noted in the UC Sustainability policy, "The University will provide up to 10 megawatts of on-site renewable power by 2014," and "Each campus will develop a long-term strategy for voluntarily meeting the State of California's goal for reducing greenhouse gas (GHG) emissions to 1990 levels by 2020 pursuant to the California Global Warming Solutions Act of 2006."

In addition, the project would allow the Campus to meet the UCR LRDP strategy that emphasizes the use of renewable energy resources and green power, such as photovoltaics, and would provide the Campus with locally-generated, clean energy. It would also assist the Campus in reducing its greenhouse gas emissions and complying with AB 32.

3.5 Discretionary Approval Authority

As a public agency principally responsible for approving or carrying out the West Campus Solar Farm project, the University of California is the Lead Agency under CEQA and must review and consider the environmental consequences of the proposed Project, the implementation of which includes the following University discretionary actions: approval of LRDP Amendment 3, Design Approval, and approval of the SLA and the PPA. If approved, the Campus anticipates construction of the West Campus Solar Farm project would commence in fall 2013 or winter 2014.

3.6 Consistency with the Amended 2005 LRDP

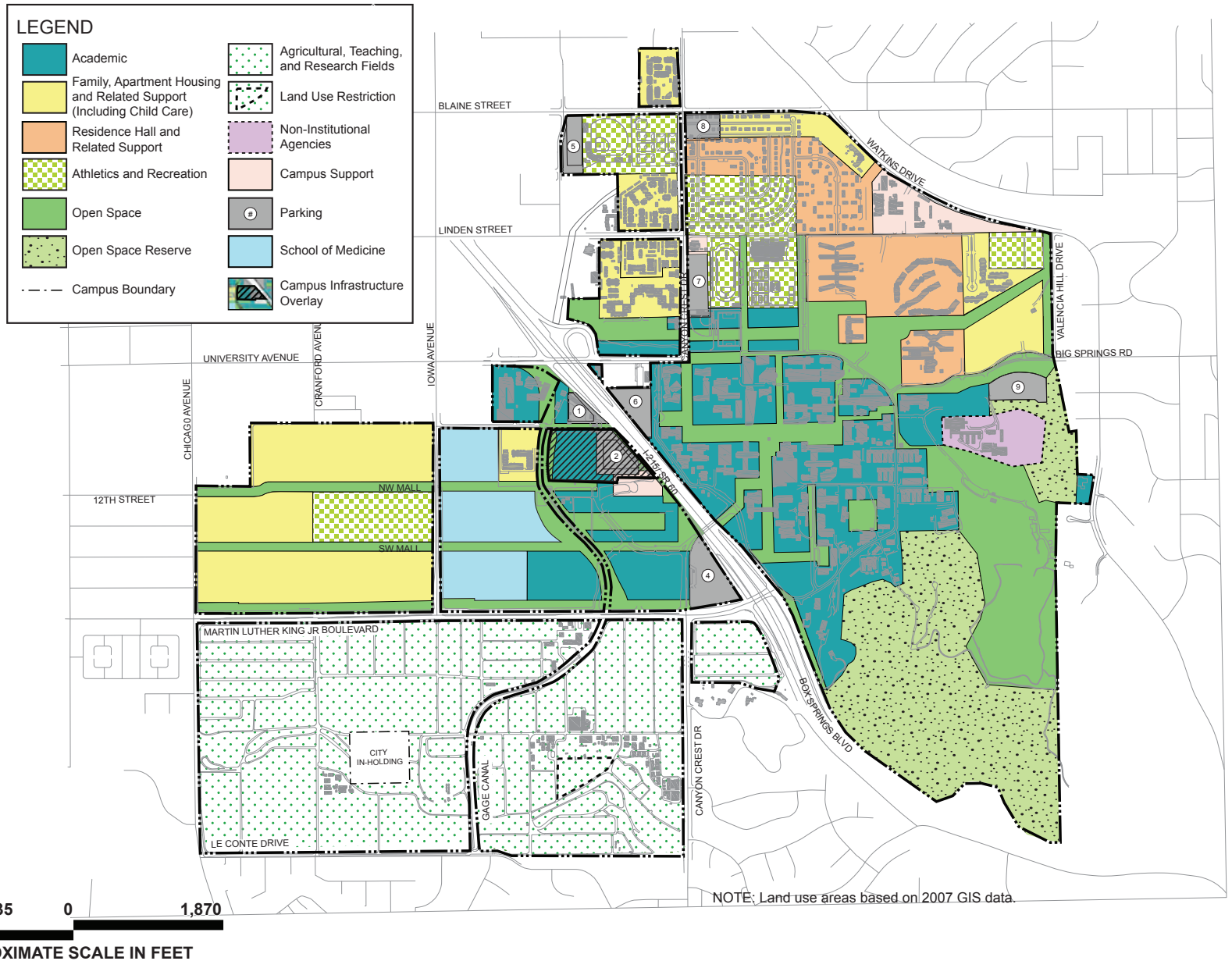
The following discussion describes the proposed project's relationship to and consistency with the development projections, population projections, land use designations, and objectives contained in the 2005 LRDP (as previously amended) and analyzes whether the impacts of the proposed Project are within the envelope of impacts disclosed in the 2005 LRDP EIR as updated and augmented by the LRDP Amendment 2 EIR.

3.6.1 LRDP Scope of Development

The 2005 LRDP, as amended by Amendment 2, provides for the development of 14.9 million gsf square feet of building space on the campus to accommodate an ultimate enrollment level of 25,000 FTE students. The proposed project would not add building space on the campus and would therefore not conflict with the 2005 LRDP.

3.6.2 LRDP Land Use Designation

The 2005 LRDP land use map designates the long-term land uses of the proposed project site as *Academic, Parking, Open Space,* and *Campus Support*. The proposed LRDP Amendment 3 would add the *Campus Infrastructure Overlay* (CIO) land use designation and apply it to the project site, which would allow the solar arrays and other incidental uses to be located in the overlay area. The use of an overlay is proposed with the express purpose of maintaining the underlying land use designations, so that if the entire project site or a portion of it is needed for *Academic, Parking, Open Space or Campus Support* to accommodate enrollment or implementation of the 2005 LRDP the Campus could develop those uses without requiring another LRDP amendment. The proposed PPA with the energy company will include a provision that provides for an early termination clause should the Campus require the land for another use consistent with the 2005 LRDP before the expiration of the SLA and PPA. Accordingly, the proposed CIO overlay land use designation and the West Campus Solar Farm project do not conflict with the land use designations of the 2005 LRDP. Furthermore, the installation of a solar farm at this site would not conflict



SOURCE: Impact Sciences, Inc., July 2013

FIGURE **2**

Land Use Plan

with the existing adjacent campus land uses, which include parking, substation, waste transfer station, housing, agricultural teaching and research fields, and the adjacent non-campus land uses of a Caltrans service yard.

3.6.3 LRDP Population Projections

The 2005 LRDP, as amended by Amendment 2, plans for an enrollment level of 25, 000 FTE students by 2020. The proposed West Campus Solar Farm project and associated LRDP amendment would not add any population to the campus and therefore would not conflict with the 2005 LRDP's campus population projections.

3.6.4 LRDP Objectives

The primary objective of the 2005 LRDP is to plan for the Riverside campus' share of the University of California's short- and long-term enrollment demands. Development of the West Campus Solar Farm project would support this LRDP objective by developing the necessary campus infrastructure facilities on the campus for an enrollment level of 25,000 FTE students. In addition, the 2005 LRDP includes specific strategies that are relevant to implementation of the West Campus Solar Farm project. These specific strategies include the following:

Resource Conservation Strategies

- Continue to adhere to the conservation requirements of Title 24 of the California Code of Regulations

Facility Planning, Design and Construction: *Energy and Emissions*

- Optimization of energy performance
- Use of renewable energy resources and green power, such as photovoltaics

3.6.5 Relationship to the 2005 LRDP EIR and LRDP Amendment 2 EIR

Both the 2005 LRDP EIR and the LRDP Amendment 2 EIR present an analysis of the potentially significant environmental effects that could result from the development of the project site with uses consistent with land use map included in the 2005 LRDP. The 2005 LRDP EIR analyzed the environmental impacts associated with development under the 2005 LRDP on the project site and in connection with the 2011 Amendment 2 to the LRDP, which revised the land use diagram for the West Campus. The environmental impacts associated with campus development implementing the revised land use diagram were evaluated in the LRDP Amendment 2 EIR. The project site is designated for academic, parking, campus support, and open space uses in the amended 2005 LRDP. The LRDP

Amendment 2 EIR evaluates the environmental effects from developing the site with these uses. The West Campus Solar Farm project would develop the project site with solar facilities to produce electricity for campus use. Although a solar farm was not envisioned as part of the amended 2005 LRDP, development of the project site for campus facilities was envisioned and evaluated in both EIRs.

4.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology and Soils
☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality	☐ Land Use and Planning
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation and Traffic	☐ Utilities and Service Systems
☐ Greenhouse Gas Emissions	☐ Minerals	

5.0 DETERMINATION

On the basis of the initial evaluation that follows:

☐ I find that the proposed revisions to the 2005 LRDP could have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, and that these effects have not been adequately analyzed by an earlier EIR. A TIERED ENVIRONMENTAL IMPACT REPORT will be prepared.

☒ I find that although the proposed revisions to the 2005 LRDP could have a significant effect on the environment, because all potentially significant effects (1) have been addressed adequately in an earlier environmental document pursuant to applicable standards, and (2) either no changes or no substantial changes to the project are proposed, and no new information of substantial importance has been identified. An ADDENDUM and FINDINGS will be prepared.

8.21.13

Signature Date

Tricia D. Thrasher, ASLA, LEED AP
Principal Environmental Project Manager

For University of California, Riverside

6.0 EVALUATION OF ENVIRONMENTAL IMPACTS

As described in greater detail below and in the Environmental Checklist, the West Campus Solar Farm project and associated LRDP amendment will contribute to the impacts of development evaluated in the 2005 LRDP EIR as augmented and updated by the LRDP Amendment 2 EIR, but will not result in any new significant impacts, increase the severity of significant impacts previously identified in the EIRs, or cause any environmental effects not previously analyzed and disclosed in the EIRs. All impacts associated with implementation of the 2005 LRDP, as amended, to which the West Campus Solar Farm project and associated LRDP amendment would contribute are identified in the Environmental Checklist, and were analyzed in the previous EIRs and listed in the EIR Findings. While the West Campus Solar Farm project and associated LRDP amendment will contribute to cumulative impacts previously identified in both EIRs associated with full implementation of the 2005 LRDP, it will not result in any new significant cumulative impacts, increase the severity of significant cumulative impacts previously identified in the both EIRs, or cause any environmental effects not previously evaluated in the two EIRs. All significant cumulative impacts to which the West Campus Solar Farm project and associated LRDP amendment would contribute are discussed in the Environmental Checklist.

Each of the impacts of the West Campus Solar Farm project and associated LRDP amendment is discussed separately below by environmental topic.

6.1 AESTHETICS

6.1.1 Relevant Elements of the West Campus Solar Farm project

The revised 2005 LRDP provides for the development of the project site with a parking structure, academic uses, campus support uses and open space. The West Campus Solar Farm project would develop the project site with a solar PV system comprising solar cell modules or panels installed on a ground-mounted tracking system. The entire facility, including the inverters, would be secured with a chain link fence. A central corridor, an existing utility easement, would remain open to facilitate maintenance vehicle access and for access to the existing utility poles. The PV panels would be made with high quality PV glass (low-iron/high transmission glass) and treated with an anti-reflective (AR) coating that would prevent the modules from reflecting light and eliminate glare to the nearby highway and residents of the nearby UCR International Village apartment complex. According to the energy company, the PV panels would reflect substantially less light than a smooth water surface and similar panels are in use near airports and have been determined not to cause glare problems for aircrafts. As a tracking system, the direction and tilt of the panels would change depending on the time of the day. Given the daily path of the sun across the sky, the panels would face south easterly at a tilted angle in the morning

hours to become flat (facing the sky) when the sun is at its zenith around noon and then would transition to a tilt facing southwest to west in the afternoon hours.

The project site is on the West Campus adjacent to I-215/SR-60. The site is flat and generally disturbed with some groves located on the western half of the site and a small amount of ruderal vegetation located on the eastern half of the site. A row of trees lines the northern and western borders of the project site. There are no existing structures on the project site. The Box Springs Mountains are visible from the project site and adjacent areas, such as Parking Lot P30/V30. However, there are no specific objects, scenes, settings, or features of interest visible within the portion of the Box Springs Mountains adjacent to the campus.

6.1.2 Analysis of Project

Implementation of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices, would not result in a new significant impact on scenic vistas.

Potential impacts on scenic vistas from campus development under the 2005 LRDP, including the project site, were evaluated in the 2005 LRDP EIR. LRDP Planning Strategy *Open Space 5* and LRDP Program & Practice (PP) 4.1-1, would continue to implemented as part of the 2005 LRDP, which dictate that Campus Design Guidelines shall be implemented to minimize impacts to scenic vistas. The most prominent scenic vistas on the West Campus are views of the Box Springs Mountains available from various vantage points including the apartments to the north west of the project site and Parking Lot P30/V30 to the south of the project site. The development of the project site under the 2005 LRDP would place buildings on the project site that could potentially obstruct the views of the Box Springs Mountain as viewed from viewpoints north of the project site. The impact from campus development under the 2005 LRDP to scenic vistas was determined to be less than significant (UC Riverside 2005).

The West Campus Solar Farm project would not increase the intensity of development on the project site relative to what was analyzed in the 2005 EIR. LRDP PP 4.1-1 would be implemented as part of the proposed project (The full text of all LRDP Planning Strategies, PPs, and Mitigation Measures applicable to the proposed project are presented in **Appendix A**). Similar to the effect of the West Campus construction analyzed in the 2005 EIR, the scenic views of the Box Springs Mountains would not be impacted by the construction of the proposed project. The PV panels would be mounted no higher than 5-6 feet above the ground minimizing the chance of obstructing the scenic vistas available from the north. Furthermore, the PV panels would be placed on an already disturbed site that is located next to a substation, a parking lot and a freeway and would not be in an area where they could detract from the scenic quality of the vista. Therefore, the West Campus Solar Farm project would not change the nature

or magnitude of the impacts to scenic vistas or the conclusions in the previous LRDP Amendment 2 EIR as analyzed for the West Campus and will result in a less than significant impact on scenic vistas.

Implementation of the West Campus Solar Farm project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

The UC Riverside campus is not located near any state-designated scenic highways and there are no resources present on the site that would quality as scenic resources. Therefore, the West Campus Solar Farm project would have no impact on scenic resources within a state scenic highway.

Implementation of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices, would not result in a new significant impact to the visual quality and character of the site and its surroundings.

The potential impacts to the visual quality and character of the project site and its surroundings from implementation of the 2005 LRDP were evaluated in the LRDP Amendment 2 EIR. The LRDP Planning Strategies *Land Use 1*, *Land Use 2*, *Open Space 4*, *Open Space 7*, *Development Strategies 1 through 3*, *Campus Community 1*, PP 4.1-1, and PP 4.1-2(a) would continue to be implemented as part of the amended 2005 LRDP and would minimize the impacts to the visual quality and character of the project site. The LRDP Amendment 2 EIR concluded that build-out of the West Campus would change the visual quality and character of the project site and its surroundings but would not degrade the existing visual character of the area, and campus development under the 2005 LRDP Amendment 2 would have a less than significant impact on the visual quality and character of the area (UC Riverside 2011).

The West Campus Solar Farm project site is a flat, previously disturbed site with some groves located on the western half of the site and a small amount of ruderal vegetation present on the eastern half of the site. A utility easement with transmission poles and overhead power lines bisects the site. LRDP PP 4.1-1 would be implemented as part of the proposed project. The West Campus Solar Farm project would leave the utility easement in place and would construct solar arrays on the eastern and western halves of the site. This would alter the visual quality and character of the project site by introducing ground-mounted tracking solar panels that are not present in the project area at the current time. However, the West Campus Solar Farm project would not increase development of the project site greater than what was analyzed in the LRDP Amendment 2 EIR, which assumed that the site would be developed with academic buildings and a parking structure. Due to the low profile design of the solar farm, the urban setting in which it would be located, the West Campus Solar Farm project would not change the nature or

magnitude of the visual quality or character impact conclusions in the previous LRDP Amendment 2 EIR and will result in a less than significant impact.

Implementation of the West Campus Solar Farm project, which includes relevant LRDP Planning Strategies and Programs and Practices, would not result in a new significant impact related to new sources of light and glare.

Potential impacts associated with creating new sources of light and glare from campus development under the 2005 LRDP, including the development of the project site, were evaluated in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategies *Land Use 3*, *Open Space 1 through 4*, *Conservation 1 through 3, Campus and Community 1, Development Strategy 1,* PP 4.1-1, PP 4.1-2(a), and PP 4.1-2(b) as part of the 2005 LRDP would minimize the impact from light and glare. The 2005 EIR concluded that build-out of the 2005 LRDP would result in a potentially significant impact associated with creating new sources of light and glare as a result of developing buildings with surfaces and windows that may reflect and cause glare. Implementation of LRDP Mitigation Measures 4.1-3(a) would prohibit mirrored and reflective glass on the campus, 4.1-4(b) would require fixtures on exterior lighting to be shielded to reduce light spillover, and 4.1-3(c) would require the design of proposed parking areas to minimize the impact of vehicle headlights. Therefore, the impact from campus development under the 2005 LRDP would be reduced to less than significant with mitigation (UC Riverside 2005).

The West Campus Solar Farm project would install a tracking panel system on the project site. As the panels would track with the sun, the direction and tilt of the modules would vary with the time of the day. However, based on the planned layout, for the majority of the day the modules would face towards the south and southwest and not directly towards the freeway. Furthermore, the project would implement LRDP Planning Strategy *Conservation 2*, PP 4.1-1, and PP 4.1-2(b) by using dark-colored solar panels designed to capture and absorb sunlight rather than reflect it. In addition, as described above, the panels would be treated with an anti-reflective coating to significantly reduce glare. Therefore, the impact from any glare produced by the panels would be less than significant. The project would include limited site lighting for security reasons. Although the night time lighting in the area would increase compared to existing conditions, the lighting would be limited and would be less than the night time lighting of planned land uses for this site in the amended 2005 LRDP. The West Campus Solar Farm project would not change the nature or significantly increase the magnitude of the impacts resulting from new sources of light and glare or the conclusions in the 2005 EIR and will result in a less than significant impact.

6.1.3 Analysis of Cumulative Impacts

Cumulative visual impacts of campus development under the 2005 LRDP, including the project site, are addressed in the 2005 LRDP EIR and the LRDP Amendment 2 EIR. Both EIRs concluded that there are no scenic resources near the campus so the implementation of the 2005 LRDP, in conjunction with cumulative development, would have no cumulative effect. Both EIRs found that implementation of the 2005 LRDP, in conjunction with cumulative development, would minimally alter the visual character and scenic vistas, and would result in minimal additional light and glare. Therefore, with appropriate mitigation and implementation of PPs, the contribution of the 2005 LRDP to cumulative impacts on visual character, scenic vistas, light and glare, and scenic resources was determined not to be cumulatively considerable (UC Riverside 2005; UC Riverside 2011). As with the 2005 LRDP, the cumulative impacts of the West Campus Solar Farm project related to visual character, scenic vistas, scenic resources, and light and glare would be less than significant.

6.1.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the proposed project would be undertaken. No new information has become available and no new regulations related to visual resources have come into effect since the certification of the 2005 LRDP EIR or the LRDP Amendment 2 EIR that would alter the previous analysis and change its conclusions.

6.1.5 Conclusion

The West Campus Solar Farm project would not adversely affect any scenic vistas, scenic resources, visual quality and character, and light and glare. The construction and operation of the West Campus Solar Farm project would not change the nature or increase the magnitude of potential impacts to aesthetic resources or the conclusions in the 2005 LRDP EIR or the LRDP Amendment 2 EIR.

6.2 AGRICULTURE AND FORESTRY RESOURCES

6.2.1 Relevant Elements of the West Campus Solar Farm Project

The West Campus Solar Farm project would occupy approximately 11 acres of land, excluding the existing utility easement, on the UC Riverside campus and is located in an area currently identified by the Department of Conservation's 2010 Farmland Mapping and Monitoring Program (FMMP) as Prime Farmland. The City of Riverside designates the campus, including the project site, as zoned O, Official Zone, which is used for official and public uses of property and related activities. This zoning permits

agricultural practices. There is no land designated under a Williamson Act contract on the campus. In addition, no portion of the campus is zoned for forest or timber land. There are groves and other agricultural fields directly to the south and southwest of the project site that are used for research by the campus. The project site would be converted to non-agricultural uses to permit the construction and operation of the solar farm.

6.2.2 Analysis of Project

Implementation of the West Campus Solar Farm project would not significantly increase the severity of previously identified impacts on Important Farmland, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance.

As discussed in the LRDP Amendment 2 EIR, campus development under the 2005 LRDP as amended by Amendment 2 would convert existing Prime Farmland to nonagricultural uses. The continued implementation of LRDP Planning Strategies *Land Use 1 through 3* as part of the amended 2005 LRDP would minimize the impact from conversion of Prime Farmland. A large portion of the West Campus, including the project site, is identified as Prime Farmland. The LRDP Amendment 2 EIR analyzed the conversion of Prime Farmland to non-agricultural uses and found the impact to be significant. There is no feasible mitigation and therefore the impact on Prime Farmland from development of the campus under the revised 2005 LRDP, as analyzed in the LRDP Amendment 2 EIR, would be significant and unavoidable (UC Riverside 2011).

The proposed project would temporarily convert about 11 acres of Prime Farmland to non-agricultural use. This conversion was previously analyzed in the LRDP Amendment 2 EIR. The West Campus Solar Farm project is temporary and would not change the nature or magnitude of the agricultural impact conclusions in the LRDP Amendment 2 EIR. No new or different mitigation measures are available to reduce this impact.

Implementation of the West Campus Solar Farm project would not conflict with existing zoning for agricultural use or land under Williamson Act contract.

As discussed in the 2005 LRDP EIR, no portion of the campus area proposed for development under the 2005 LRDP is under Williamson Act contract and there are no nearby agricultural lands under Williamson Act contracts. LRDP Planning Strategies *Land Use 2* and *Land Use 3* would continue to be implemented as part of the 2005 LRDP. Therefore, there would be no conflict with land under Williamson Act contract. In addition, the 2005 LRDP would consolidate the agricultural land on the West Campus which would reduce the impact from urban land uses on agricultural uses. The development under the

2005 LRDP on farmland zoned for agricultural use or under Williamson Act contract would have a less than significant impact (UC Riverside 2005).

The West Campus Solar Farm project would not conflict with any land under Williamson Act contract. The agricultural land located to the southwest of the proposed project site is proposed to be developed which would reduce any potential conflict. In addition, the proposed solar arrays would be a less intense use than previously analyzed for the project site that would further reduce any potential conflict with land zoned for agricultural use or under Williamson Act contract. The West Campus Solar Project would not change the conclusions of the previous analysis and would be less than significant.

Implementation of the West Campus Solar Farm project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, or result in the loss of forest land or conversion of forest land to non-forest use.

A field analysis of the West Campus Solar Farm project site indicates that there are no forest lands (as defined in Public Resources Code (PRC) Section 12220[g]) on the site. There is no timberland (as defined by PRC Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]) on any portion of the project site. The project site does not contain trees managed for public benefit. Therefore, implementation of the West Campus Solar Farm project would not result in conflicts with existing zoning for, or cause rezoning of, forest land or timberland.

Implementation of the West Campus Solar Farm project would not result in a new significant impact related to the conversion of farmland to non-agricultural use.

The lands surrounding the West Campus Solar Farm project site to the northwest, south, southwest, and southeast are campus lands and not zoned for agricultural use. The Caltrans service yard to the north and I-215/SR-60 to the northeast and east are not zoned for agriculture. The campus land to the southwest is currently used for agricultural teaching and research but is not planned to remain in this agricultural use in the future. That area is designated in the revised 2005 LRDP for the development of the UCR School of Medicine. In addition, the West Campus Solar Farm project would neither construct any uses sensitive to agricultural noise or activities nor construct any uses that would conflict with agricultural practices. Therefore, the West Campus Solar Farm project would not create land use conflicts with adjacent agricultural lands that could result in the abandonment of agricultural uses or cause the lands to convert to non-agricultural uses. There would be a less than significant impact. The development of the West Campus Solar Farm project would not change the conclusions of the previous analysis.

6.2.3 *Analysis of Cumulative Impacts*

Cumulative agricultural impacts of the 2005 LRDP, including the project site, are addressed in the 2005 EIR and the LRDP Amendment 2 EIR. Both EIRs concluded that implementation of the 2005 LRDP in conjunction with cumulative development, would result in the loss of Important Farmland. The UC Riverside campus site contains Prime Farmland and Farmland of Statewide Importance. Therefore, the contribution of campus development under the 2005 LRDP to the significant cumulative impact on Important Farmland would be cumulatively considerable (UC Riverside 2005; UC Riverside 2011). As noted above, the West Campus Solar Farm project would temporarily convert Prime Farmland and contribute to a significant cumulative impact. Similar to other campus development under the 2005 LRDP, the West Campus Solar Farm project would not result in a cumulative impact to forest land, timberland, lands under Williamson Act contract, and would not result in conversion of farmland to non-agricultural uses.

6.2.4 *Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis*

There are no changes in circumstances in which the proposed project would be undertaken and no new information has become available since the certification of the LRDP Amendment 2 EIR that would alter the previous analysis or change its conclusions relative to campus development under the 2005 LRDP, including the project site.

6.2.5 *Conclusion*

The West Campus Solar Farm project would result in the conversion of Important Farmland, but would not conflict with land under Williamson Act contract, conflict with land zoned forest or timberland, convert forest or timberland, or convert agricultural land. The West Campus Solar Farm project would not change the nature or increase the magnitude of potential impacts to agricultural or forestry resources or the conclusions in the LRDP Amendment 2 EIR.

6.3 AIR QUALITY

6.3.1 *Relevant Elements of the West Campus Solar Farm Project*

The West Campus Solar Farm project includes the construction of an approximately 3.5-MW solar farm and associated infrastructure on about 11 acres in the northeastern portion of the West Campus. Construction is expected to occur in fall 2013 or winter 2014 and last for approximately 2 to 3 months.

Sensitive receptors near the West Campus Solar Farm project include the residents of the UCR International Village apartment complex, west of the project site on Everton Place.

6.3.2 Analysis of Project

Construction of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices and Mitigation Measures, would not significantly increase the severity of significant LRDP construction emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation.

The potential impacts on air quality from construction emissions associated with the campus development, including the development of the project site under the amended 2005 LRDP, were evaluated in detail in the LRDP Amendment 2 EIR. The continued implementation of LRDP PP 4.3-2(a) and PP 4.3.-2(b), as part of the amended 2005 LRDP, was assumed and expected to minimize the impact from construction emissions. The URBEMIS model was used to estimate the construction emissions. It was assumed that two to four buildings would be under construction at one time. Based on the estimated emissions of criteria pollutants, the emissions from NOx would exceed significance thresholds. In addition, LRDP Mitigation Measures 4.3-1(a) through 4.3-1(c) would be implemented which require the Campus to implement the recommended SCAQMD air quality measures. However, the analysis concluded that the mitigation measures would not reduce the impact from construction of campus facilities under the 2005 LRDP Amendment 2 to less than significant (UC Riverside 2011).

The West Campus Solar Farm project is a small construction project involving very limited excavation, grading, and minor construction of concrete pads and conduits. It would involve significantly less pavement and asphalt installation or architectural coatings as would be involved in the construction of two to four buildings. Therefore, the estimated construction emissions of the proposed project would be substantially lower than the emissions estimated and reported in the LRDP Amendment 2 EIR. The proposed project would implement LRDP PP 4.3-2(a) and PP 4.3-2(b) and LRDP Mitigation Measures 4.3-1(a) and 4.3-1(b) would be applied which would further reduce the impact. As a result, the West Campus Solar Farm project would be within the LRDP impact envelope and would not change the nature or increase the magnitude of the impacts resulting from construction emissions or the conclusions in the LRDP Amendment 2 EIR and would result in a less than significant impact related to construction emissions.

Operation of the West Campus Solar Farm project would not significantly increase the severity of significant LRDP operational emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation.

The potential impacts on air quality from operational emissions associated with campus development, including the development of the project site under the amended 2005 LRDP, were evaluated in detail in the LRDP Amendment 2 EIR. The continued implementation of PP 4.3-1 as part of the amended 2005 LRDP would minimize the impact from operational emissions. The URBEMIS 2007 model was used to estimate the operational emissions from 8.4 million gsf of new facilities to accommodate 25,000 students, reported in the LRDP Amendment 2 EIR. Based on the estimated emissions of criteria pollutants, VOC, NOx, CO, PM10, and PM2.5 emissions would exceed significance thresholds. In addition, LRDP Mitigation Measures 4.3-2(a) and 4.3-2(b) would be implemented which require the Campus to implement certain emissions reduction measures and participate in a greenhouse gas emissions reduction program that would also reduce criteria pollutant emissions. However, the analysis concluded that mitigation measures would not reduce the impact from operation of full buildout of the 2005 LRDP Amendment 2 to less than significant (UC Riverside 2011).

The West Campus Solar Farm project is a small project that would produce minimal operational emissions which would stem primarily from occasional trips made to the project site by maintenance vehicles. The estimated emissions would be substantially lower than the emissions of LRDP related development estimated and reported in the LRDP Amendment 2 EIR. As a result, the West Campus Solar Farm project would be within the envelope of impacts analyzed in the LRDP Amendment 2 EIR, and its impact would be less than significant.

Implementation of the West Campus Solar Farm project would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

The analysis in the LRDP Amendment 2 EIR concluded that implementation of the amended 2005 LRDP would result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment under SCAQMD air quality standards. The implementation of LRDP Mitigation Measure 4.3-7 would ensure that the number of motor vehicle trips and area source emissions are reduced to the maximum extent feasible. Therefore, with mitigation, campus development under the amended 2005 LRDP was concluded to have a less than significant cumulative impact related to increase of criteria air pollutants in the region (UC Riverside 2011).

For reasons presented above, the West Campus Solar Farm project would result in minimal construction and operational emissions and would decrease the construction and operational emissions estimated for campus development under the amended 2005 LRDP. As a result, the West Campus Solar Farm project would reduce the impact as compared to what was analyzed in the LRDP Amendment 2 EIR and would result in a less than significant impact related to criteria pollutant emissions. The West Campus Solar Farm project would not change the nature or significantly increase the magnitude of the cumulative impacts resulting from criteria air pollutants for which the region is in nonattainment or the conclusions in the LRDP Amendment 2 EIR as analyzed for the amended 2005 LRDP.

Implementation of the West Campus Solar Farm project would not expose sensitive receptors to substantial carbon monoxide concentrations or toxic air contaminant emissions.

The potential impacts on sensitive receptors from carbon monoxide concentrations (CO) and toxic air contaminants (TAC) associated with campus development, including the development of the project site, under the amended 2005 LRDP, were evaluated in detail in the LRDP Amendment 2 EIR. Sensitive receptors, considered to be places where children, the elderly, and other sensitive people are located, are more susceptible to the effects of air pollution than the general population. Nearby TAC and CO pollution can impact sensitive receptors. As determined by the analysis in the LRDP Amendment 2 EIR, campus development would not result in TAC emissions that would result in a significant human health risk on- or off-site. The LRDP Amendment 2 EIR also evaluated campus development for its potential to cause high levels of CO due to congestion resulting from project-related traffic. The results indicate that under worst-case conditions, future CO concentrations would not exceed the state 1-hour and 8-hour standards. Based on this analysis, the LRDP Amendment 2 EIR concluded that the amended 2005 LRDP would not cause CO levels that exceed state standards (UC Riverside 2011).

As the West Campus Solar Farm project would construct two groups of solar arrays that would result in substantially fewer vehicle trips than the uses previously identified for the site, the West Campus Solar Farm project also would have a less than significant impact on sensitive receptors from exposure to high concentrations of CO. The West Campus Solar Farm project would not change the nature or increase the magnitude of the impacts resulting from exposure of sensitive receptors to substantial TAC emissions or pollutant concentrations or the conclusions in the LRDP Amendment 2 EIR.

Construction and operation of the West Campus Solar Farm project would not create objectionable odors affecting a substantial number of people.

The potential odor impacts associated with campus development, including the development of the project site, under the amended 2005 LRDP, were evaluated in the LRDP Amendment 2 EIR. According

to that analysis, construction of campus facilities under the amended 2005 LRDP would require the use of diesel-fueled equipment, architectural coatings, and asphalt, all of which produce associated odors. During operation of campus facilities developed under the amended 2005 LRDP, there could be airborne odors resulting from cooking activities associated with the new residential buildings, and odors from new trash receptacles. However these odors would not be pervasive enough to cause objectionable odors affecting a substantial number of people. The analysis also concluded that the facilities planned to be constructed under the 2005 LRDP Amendment 2 would not be significant sources of odors (UC Riverside 2011).

The construction and operation of the West Campus Solar Farm project would result in minimal to no odors and the impact of the project would be less than significant. The project would result in fewer odors than the parking structure and academic facilities previously analyzed for the project site. The West Campus Solar Farm project would therefore reduce the magnitude of the potential impacts related to odors as analyzed in the LRDP Amendment 2 EIR and would not change the less-than-significant impact conclusions of the previous analysis.

Implementation of the West Campus Solar Farm project would not increase the severity of the significant LRDP conflict with or obstruction of the implementation of the applicable air quality plan.

The potential impacts from air emissions associated with campus development, including the development of the project site under the amended 2005 LRDP, on the 2007 Air Quality Management Plan (AQMP) for the South Coast Air Basin were evaluated in detail in the LRDP Amendment 2 EIR. The development of campus land uses included in the LRDP Amendment 2 was not foreseen at the time that the AQMP was prepared. Therefore, the land uses and associated growth projections were not included in the 2007 AQMP projections for employment and population growth or in the SCAG growth projections. The EIR noted that the LRDP Planning Strategies *Land Use 4, Land Use 5, Transportation 1 through 6, Conservation 5*, and PP 4.3-1 would continue implemented as part of the amended 2005 LRDP. Implementation of LRDP Mitigation Measure 4.3-6 would minimize the impact from potential inconsistencies with the AQMP. However, campus development under the amended 2005 LRDP would still pose a conflict with the region's air quality plan, and the impact from development under the 2005 LRDP would be significant and unavoidable (UC Riverside 2011).

The West Campus Solar Farm project does not include facilities that support growth beyond what was analyzed in the LRDP Amendment 2 EIR. The project is intended to reduce the dependency of the campus on non-renewable energy and provide energy to the existing and planned student and employee population. Therefore, the West Campus Solar Farm project would not conflict with the AQMP and would have a less than significant impact. The development of the West Campus Solar Farm project

would not substantially change the nature or magnitude of the impacts to the AQMP or the conclusions in the LRDP Amendment 2 EIR.

6.3.3 Analysis of Cumulative Impacts

In addition to the analysis above, cumulative air quality impacts of campus development under the amended 2005 LRDP are addressed in the LRDP Amendment 2 EIR. The EIR concluded that implementation of the amended 2005 LRDP, in conjunction with cumulative development, would result in significant emissions from construction activities and from vehicle trips and stationary sources during operation which would be cumulatively considerable. However, individual construction projects on the campus that do not exceed the SCAQMD recommended daily thresholds for project-specific impacts would not be considered to cause a cumulatively considerable increase in emissions. The cumulative impact from campus development under the 2005 LRDP and LRDP Amendment 2 on odors, the AQMP, and CO hotspots and TAC emissions on sensitive receptors would be less than significant (UC Riverside 2011). The West Campus Solar Farm project would produce fewer construction and operational emissions than the uses previously analyzed for the project site, and as a result, would make a smaller contribution to previously analyzed cumulative impacts.

6.3.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no additional changes in circumstances in which the proposed project would be undertaken and no new information has become available since the certification of the 2005 LRDP EIR and LRDP Amendment 2 EIR that would alter the previous analysis or change its conclusions.

6.3.5 Conclusion

The West Campus Solar Farm project would produce minimal construction and operational emissions that would not contribute to exceedance of significance thresholds. The project would not expose sensitive receptors to CO hotspots or TAC emissions, or produce objectionable odors. The West Campus Solar Farm project would not change the nature or increase the magnitude of potential impacts to air quality or the conclusions in the 2005 LRDP EIR and LRDP Amendment 2 EIR.

6.4 BIOLOGICAL RESOURCES

6.4.1 Relevant Elements of the West Campus Solar Farm Project

The proposed project would construct a solar farm on approximately 11 acres of land, excluding the existing utility easement, which is currently used for agricultural teaching and research. The site contains

an abandoned orchard and ruderal vegetation. There are no sensitive habitats present on the project site (UC Riverside 2005).

6.4.2 Analysis of Project

Implementation of the West Campus Solar Farm project would not result in a new significant effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species.

Potential impacts to special-status plant and wildlife species from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The analysis in the 2005 LRDP EIR concluded that development of the campus would result in both direct and indirect impacts on special-status plants. LRDP Planning Strategies *Open Space 1 through 4*, *Conservation 1 through 3*, and continued implementation of LRDP PP 4.4-1(a) and PP 4.4-1(b) would minimize the impact to special-status species. In addition, LRDP Mitigation Measures 4.4-1(a) and 4.4-1(b) would be implemented which would require the University to conduct surveys for special-status species prior to disturbance of areas or habitat that are known to support the species and implement specific measures if special-status species are identified. With mitigation, the impact from the campus development under the 2005 LRDP to special-status species would be reduced to less than significant. (UC Riverside 2005).

The proposed project site is not identified as within an area containing sensitive biological resources. The proposed construction of the West Campus Solar Farm project would have no impact to special-status species. The development of the West Campus Solar Farm project would not change the conclusions of the previous analysis.

Implementation of the West Campus Solar Farm project would not result in a new significant impact to any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

As analyzed in the 2005 LRDP EIR, the riparian area, which provides critical habitat for the California gnatcatcher, located in the area south of South Campus Drive, would be affected by the campus development under the 2005 LRDP. Therefore, implementation of the 2005 LRDP would result in an adverse effect to riparian habitat or designated California gnatcatcher critical habitat. The LRDP Planning Strategies *Open Space 1 through 3*, *Conservation 1 through 2*, and continued implementation of LRDP PP 4.4-2(a) and PP 4.4-2(b) would minimize the impact to riparian areas. In addition, implementation of LRDP Mitigation Measures 4.4-1(a) and 4.4-1(b) would reduce any potential impact. With incorporation of the

mitigation measures the impact from campus development under the 2005 LRDP to riparian habitat would be less than significant (UC Riverside 2005).

The proposed project site is not located within a riparian zone or within gnatcatcher critical habitat. The West Campus Solar Farm project would have a less than significant impact to riparian habitat. The development of the West Campus Solar Farm project would not change the conclusions of the previous analysis.

Implementation of the West Campus Solar Farm project would not result in a new significant effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

As analyzed in the 2005 LRDP EIR, campus development under the 2005 LRDP could result in minor development, such as extension of utility lines or pedestrian or bicycle paths, which may disturb federally protected seasonal wetlands or jurisdictional waters of the United States. Therefore, implementation of the 2005 LRDP would result in an adverse effect to jurisdictional waters. The continued implementation of LRDP Planning Strategies *Open Space 3*, *Conservation 1*, *Conservation 2*, and LRDP PP 4.4-1(a), PP 4.4-1(b), PP 4.4-2(a), and PP 4.4-2(b) as part of the 2005 LRDP would minimize the impact to jurisdictional waters. In addition, implementation of LRDP Mitigation Measures 4.4-3(a), 4.4-3(b), and 4.4-3(c) would require the Campus to conduct a wetland delineation on any impact area, restore or enhance any affected wetland or riparian habitat, and include United States Army Corps of Engineers (USACE) approved measures. The analysis concluded that with incorporation of the mitigation measures the impact from campus development under the 2005 LRDP to jurisdictional waters would be less than significant (UC Riverside 2005).

The West Campus Solar Farm project would not affect any jurisdictional wetlands. The development of the West Campus Solar Farm project would not change the less than significant conclusions of the previous analysis.

Implementation of the West Campus Solar Farm project, which includes relevant LRDP Mitigation Measures, would not result in a new significant impact with regards to the movement of any native resident or migratory fish or wildlife species or migratory wildlife corridors or affect nesting birds.

As analyzed in the 2005 LRDP EIR, campus development under the 2005 LRDP could result in fragmentation of open space areas which and interfere with movement of native resident or migratory wildlife species. Therefore, implementation of the 2005 LRDP would result in a significant effect to

wildlife corridors such as on-campus arroyos and migratory birds and raptors. The LRDP Planning Strategies *Open Space 1 through 3*, *Conservation 1 through 2*, and continued implementation of LRDP PP 4.4-1(a), and PP 4.4-1(b) as part of the 2005 LRDP would minimize the impact to wildlife corridors and migratory birds. In addition, implementation of LRDP Mitigation Measures 4.4-4(a) and 4.4-4(b) would require surveys for nesting special status avian species if any trees are to be removed during the nesting months. If an active nest is discovered, a buffer zone would be established. With incorporation of the mitigation measures, the impact from campus development under the 2005 LRDP to wildlife corridors and migratory birds would be less than significant (UC Riverside 2005).

The proposed project site is previously disturbed land and is surrounded by urban land uses on all sides except to the southwest, where the land is in agricultural use. Therefore, the site is unlikely to be used as a wildlife corridor. There are mature trees on the project site and a row of trees directly to the north of the project site, which could provide nesting habitat for migratory birds. LRDP Mitigation Measures 4.4-4(a) and 4.4-4(b) described above would be implemented to reduce any potential impact to nesting bird species to a less than significant level. The development of the West Campus Solar Farm project would not change the conclusions of the previous analysis.

The West Campus Solar Farm project would not conflict with any applicable policies protecting biological resources.

As with campus development under the 2005 LRDP, the West Campus Solar Farm project would be consistent with local policies or ordinances protecting biological resources. LRDP Planning Strategies *Open Space 1 through 3* and *Conservation 1* would minimize any conflict with local policies or ordinances protecting biological resources. The West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts to biological resources or the less than significant conclusions in the 2005 EIR as analyzed for campus development under the 2005 LRDP.

The West Campus Solar Farm project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

A Multiple Species Habitat Conservation Plan (MSHCP) was approved and adopted by Riverside County in 2003 as a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) and Natural Communities Conservation Plan (NCCP) focusing on conservation of both species and habitats to address biological ecological diversity conservation needs in Western Riverside County. A portion of the campus is included in the MSHCP but is not identified for conservation. Therefore, campus development under the 2005 LRDP would not conflict with the MSHCP and would have no impact on the any HCP,

NCCP, or approved local, regional, or State habitat conservation plan (UC Riverside 2005). The development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts to HCPs or the conclusions in the 2005 LRDP EIR.

6.4.3 Analysis of Cumulative Impacts

Cumulative biological impacts of campus development under the 2005 LRDP, including the project site, are addressed in the 2005 LRDP EIR. The analysis concluded that with the implementation of the mitigation program put forth by the Campus, the cumulative impacts of campus development on wildlife corridors would not be cumulatively considerable. However, the cumulative impact from the 2005 LRDP to special-status species would be significant and unavoidable after mitigation (UC Riverside 2005). As noted above, sensitive special-status species and critical habitat are not present on the site of the West Campus Solar Farm project, and to the extent that there could be any direct or indirect impacts from the development on the project site, they would be mitigated by the mitigation measures in the 2005 LRDP EIR. The West Campus Solar Farm project's contribution to cumulative impacts would not be considerable.

6.4.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the proposed project would be undertaken. No new information has become available and no new biological resources regulations relevant to the project site have come into effect since the certification of the 2005 LRDP EIR that would alter the previous analysis and change its conclusions.

6.4.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect on biological resources. The proposed project would not change the nature or increase the magnitude of potential impacts to biological resources or the conclusions in the 2005 LRDP EIR.

6.5 CULTURAL RESOURCES

6.5.1 Relevant Elements of the West Campus Solar Farm Project

The UC Riverside Campus was inhabited by aboriginal inhabitants of the area but was not claimed by any residents during the time of Spanish colonization until California became a part of the U.S. in 1846. The project site has been used for agricultural teaching and research and no archaeological resources are known to exist within the project site. The Gage Canal, which is directly adjacent to the western edge of

the project site, is identified as an archaeological site in the 2005 LRDP EIR. There are no structures, including historic structures, identified on the project site. There are no known paleontological resources or fossil-bearing sediments known to occur within the project site or its vicinity (UC Riverside 2005).

6.5.2 Analysis of Project

Implementation of the West Campus Solar Farm project would not result in a new significant impact on structures designated as eligible to the NRHP or CRHR.

Potential impacts to cultural resources from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The EIR analysis found that campus development could result in modification of structures that have been determined as eligible to the NRHP or CRHR. The LRDP Planning Strategy *Conservation 4* would continue to be implemented as part of the 2005 LRDP and would minimize the impact. The analysis concluded that implementation of LRDP Mitigation Measures 4.5-1(a) and 4.5-1(b), which requires a qualified architectural historian to evaluate the potential significance of structures 50 years or older than may be affected, would reduce the impact to less than significant (UC Riverside 2005).

The West Campus Solar Farm project would not modify or remove any facilities eligible for the NRHP or CRHR as no structures are present on the site. Therefore, there would be no impact on structures eligible for NRHP or CRHR. The development of the West Campus Solar Farm project would not change the less-than-significant impact conclusions of the previous analysis.

Implementation of the West Campus Solar Farm project would not significantly increase the severity of the significant LRDP impact to historic structures.

Potential impacts to potential historic structures from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The EIR analysis found that campus development would result in the demolition of potentially historic structures that currently are not eligible for listing to the NRHP or CRHR. The LRDP Planning Strategy *Conservation 4*, *Land Use 3*, and *Open Space 5* and PP 4.5-2 would continue to be implemented as part of the 2005 LRDP and would minimize the impact to historic structures. In addition, LRDP Mitigation Measure 4.5-2 would be implemented, which requires documentation and treatment of historic facilities. However, the impact would not be reduced to less than significant. The analysis concluded that development of the 2005 LRDP would be significant and unavoidable (UC Riverside 2005).

The West Campus Solar Farm project would not disturb any historic structures or facilities on the project site as no structures are present on the site and would therefore have no impact. However, because the

West Campus Solar Farm project does not substitute or replace the 2005 LRDP land use designations but rather provides a temporary overlay, the conclusions of the previous analysis associated with future project site development remain unchanged.

Implementation of the West Campus Solar Farm project, which includes relevant LRDP Planning Strategies and Programs and Practices, would not result in a new significant impact on archaeological, human remains, and paleontological resources.

As analyzed in the 2005 LRDP EIR, ground-disturbing construction activities associated with campus development, including the development of the project site under the 2005 LRDP, have the potential to inadvertently unearth and damage previously unknown archaeological, human remains, or paleontological resources that were not identified by the 2002 survey of the campus. Implementation of LRDP Planning Strategies *Land Use 2, Land Use 3, Open Space 1 through 3, and 5,* and *Conservation 1 through 3* and PP 4.5-3, PP 4.5-4, and PP 4.5-5 as part of the 2005 LRDP would reduce these impacts to archaeological, human remains, and paleontological resources to less than significant (UC Riverside 2005).

The development of the West Campus Solar Farm project would be subject to LRDP Planning Strategies *Conservation 2,* PP 4.5-3, PP 4.5-4, and PP 4.5-5 and would result in less than significant impact on previously unknown archaeological, human remains, and paleontological resources. The proposed project would not change the nature or increase the magnitude of the potential impacts to cultural and paleontological resources or the conclusions in the 2005 LRDP EIR.

6.5.3 Analysis of Cumulative Impacts

Cumulative cultural resources impacts of campus development under the 2005 LRDP, including the development of the project site, are addressed in the 2005 EIR. The 2005 EIR concluded that implementation of the 2005 LRDP in conjunction with cumulative development, could potentially disturb previously unknown cultural and paleontological resources (UC Riverside 2005). As with the other campus development under the 2005 LRDP, the cumulative impacts of the West Campus Solar Farm project to previously unknown cultural and paleontological resources would be reduced to less than significant with the mitigation measures described above. The West Campus Solar Farm project's cumulative cultural resource impacts are adequately addressed in the 2005 LRDP EIR.

6.5.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the proposed project would be undertaken. No new information has become available and no new regulations related to cultural and paleontological resources have come into effect since the certification of the 2005 LRDP EIR that would alter the previous analysis and change its conclusions.

6.5.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect on structures eligible for NRHP or CRHR, or cultural and paleontological resources. It would not contribute to the significant impact to potential historic structures. The West Campus Solar Farm project would not change the nature or magnitude of potential impacts to cultural and paleontological resources or the conclusions in the 2005 LRDP EIR.

6.6 GEOLOGY AND SOILS

6.6.1 Relevant Elements of the West Campus Solar Farm Project

The topography of the project site is flat. The site is underlain by older alluvium from the Pleistocene era, consisting of sands and silty sands, along with moderate amounts of clay in the upper 2 to 5 feet of the soil. The soils within the project site are Arlington and Hanford series which consist of silty fine to coarse sands, with deeper layers of silt and relatively clean sand. These soils have a low shrink-swell characteristic, the upper layers are well drained and have either weakly cemented alluvium or deeper loams located 18 to 37 inches below them (UC Riverside 2005).

The closest known active fault to the campus is the San Jacinto fault, located approximately 6 miles to the northeast. The Banning Fault zone, which interacts with the San Andreas Fault zone, is located approximately 10 miles to the northeast of the campus. The San Andreas Fault zone is located approximately 14 miles northeast of the campus. In the event of a seismic event the area could experience severe earthshaking, although surface rupture is unlikely. In addition, the risk of liquefaction on the campus is very low (UC Riverside 2005).

6.6.2 Analysis of Project

Implementation of the West Campus Solar Farm project would not result in a new significant impact associated with exposure of people or structures to increased risk related to rupture of a known earthquake fault or seismic ground shaking.

Potential impacts related to risk from fault rupture or ground shaking from campus development, including the development of the project site under the 2005 LRDP, was analyzed in the 2005 LRDP EIR. The continued implementation of LRDP PP 4.6-1(a) through PP 4.6-1(c) would minimize any impact to people or structures from ground shaking or ground failure. The analysis concluded that campus development would not expose people or structures or risk of injury or structural damage from fault rupture as there are no active faults that cross the campus site and the site is not subject to significant seismic hazards. Therefore, implementation of the 2005 LRDP would result in less than significant impacts from fault rupture, strong seismic ground shaking, or seismic-related ground failure (UC Riverside 2005).

As described above, there are no fault lines that cross the project site. As a result there would be no risk of fault rupture. In addition, the proposed project would construct ground-mounted solar panels. Therefore, in the event of seismic ground shaking the risk to people or structures from the proposed facility would be minimal. The development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts from fault rupture, strong seismic ground shaking, or seismic-related ground failure or the conclusions in the 2005 LRDP EIR.

Implementation of the West Campus Solar Farm project, which includes relevant LRDP Planning Strategies, would not result in a new significant impact associated with substantial soil erosion or the loss of topsoil, expansive soil, or soil incapable of adequately supporting the use of septic tanks or alternative wastewater disposal units.

Potential impacts related to soil erosion from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategies *Land Use 2, Land Use 3, Open Space 1 through 5, Conservation 1 through 3*, PP 4.6-2(a), and PP 4.6-2(b) as part of the 2005 LRDP would minimize soil erosion and loss of topsoil impacts. Campus development under the 2005 LRDP would involve site clearance, grading, and other earthmoving activities, which could subject exposed soils to erosion by water or wind. Depending on the location on the campus, the erosion hazard ranges from slight to high. All construction activities would comply with Chapter 29 of the CBC, which regulates excavation activities and the construction of foundations and retaining walls, and Chapter 70 of the CBC, which regulates grading activities, including

drainage and erosion control. Therefore, implementation of the 2005 LRDP would not result in substantial soil erosion or the loss of topsoil, and the impact would be less than significant. The UC Riverside campus uses the City of Riverside sanitary sewer to handle wastewater. The Campus has no plans to develop septic tanks or alternative wastewater systems on the campus. Therefore, the development of the 2005 LRDP EIR concluded that there would be no impact associated with soils incapable of adequately supporting alternative wastewater systems (UC Riverside 2005).

The Solar Farm project would be constructed on the West Campus where erosion hazard from soils ranges from slight to moderate. Furthermore, construction-related ground disturbance to construct the solar farm would be minimal, primarily related to installation of posts for panel mounting, construction of inverter pads, and limited trenching for placement of conduits. No septic tanks or alternative wastewater systems would be installed as part of the West Campus Solar Farm project. The continued implementation of LRDP Planning Strategy *Conservation 2* as part of the proposed project would minimize any impacts associated with soil erosion and loss of topsoil, and the impact would be less than significant. The development of the West Campus Solar Farm project would not change the nature or increase the magnitude of any of the impacts described above, or the conclusions in the 2005 LRDP EIR.

Implementation of the West Campus Solar Farm project, which includes relevant LRDP Planning Strategies, would not result in a new significant impact associated with exposure of people or structure to increased risk associated with landsliding, lateral spreading, subsidence, liquefaction, collapse, or differential settlement.

Potential impacts related to risk from landsliding, lateral spreading, subsidence, liquefaction, collapse, or differential settlement from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategies *Conservation 2, Open Space 1 and 2*, and PP 4.6-1(a) as part of the 2005 LRDP would minimize impacts from landslides, lateral spreading, subsidence, liquefaction or collapse. The 2005 LRDP EIR noted that the risk of liquefaction at the campus is low. In addition, the risk of deep-seated landsliding is considered to be very low, even on natural slopes. In certain areas on the campus less dense strata and lenses of old alluvium are susceptible to collapse as well as the younger alluvium located near the University Arroyo. Fill material in many areas on campus was deposited prior to the development of modern building codes. Therefore, the fill materials may exhibit great variability in their density and compressibility and may not be appropriate for the support of structures. In these instances the fill material would need to be recompacted or removed. The campus development under the 2005 LRDP would not result in impacts to people or structures from landslides, lateral spreading, subsidence, liquefaction or collapse, and the impact would be less than significant (UC Riverside 2005).

The West Campus Solar Farm project would construct ground-mounted solar panels on a flat site. Therefore, with continued implementation of LRDP Planning Strategy *Conservation 2* as part of the proposed project, the risk to people or structures from landsliding, lateral spreading, subsidence, liquefaction, collapse, or differential settlement would be minimal, and the impact of the project would be less than significant. The development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts from landsliding, lateral spreading, subsidence, liquefaction, collapse, or differential settlement or the conclusions in the 2005 LRDP EIR.

6.6.3 Analysis of Cumulative Impacts

Cumulative impacts related to geology and soils from the implementation of the 2005 LRDP, including the project site, are addressed in the 2005 LRDP EIR. The 2005 LRDP EIR concluded that implementation of the 2005 LRDP in conjunction with cumulative development, would not result in differential settlement, liquefaction, unstable soils, or soil erosion. However, the cumulative impact from seismic ground shaking would be considered significant (UC Riverside 2005). As with other development under the 2005 LRDP, the cumulative impacts of the West Campus Solar Farm project related to differential settlement, liquefaction, unstable soils, or soil erosion would be less than significant. Unlike other campus development under the 2005 LRDP, the impacts from seismic ground shaking to the West Campus Solar Farm project would be less than significant. The West Campus Solar Farm project's cumulative impacts related to geology and soils are adequately addressed in the 2005 LRDP EIR.

6.6.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the West Campus Solar Farm project would be undertaken. No new information has become available and no new regulations related to seismic activity, local geology, or soils resources have come into effect since the certification of the 2005 LRDP EIR that would alter the previous analysis and change its conclusions.

6.6.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect from seismic activity, local geology, or soils. The proposed project would not change the nature or magnitude of potential impacts from seismic activity, local geology, or soils or the conclusions in the 2005 LRDP EIR.

6.7 GREENHOUSE GAS EMISSIONS

6.7.1 Relevant Elements of the West Campus Solar Farm Project

As described in Section 6.3 Air Quality, the West Campus Solar Farm project includes the construction of an approximately 3.5-MW solar farm and associated infrastructure on an approximately 11-acre site in the northern portion of the West Campus. Construction is expected to occur in late 2013 or early 2014 and last for approximately 2 to 3 months.

6.7.2 Analysis of Project

Construction and operation of the West Campus Solar Farm project would result in minimal greenhouse gas emissions and would support the Campus in meeting the emissions target of 70 percent from BAU projections by 2020.

Potential impacts related to greenhouse gas emissions from campus development, including the development of the project site under the amended 2005 LRDP, were analyzed in the LRDP Amendment 2 EIR. Development of the campus under the amended 2005 LRDP would produce significant amounts of greenhouse gas emissions from construction and operation of the existing and planned facilities. The Campus committed to meeting an emissions rate equal to its rate in 1990 for full buildout in 2020. This requirement would result in a reduction of over 70 percent from current "business as usual" (BAU) 2020 projections. Appropriate reduction measures from the University Policy on Sustainable Practices and UC Riverside Climate Action Plan (CAP) would be implemented to meet this goal. LRDP Mitigation Measure 4.16-1 would be implemented which would require the Campus to implement appropriate greenhouse gas reduction measures from the UC Riverside CAP and University Policy on Sustainable Practices. Therefore, with mitigation, implementation of the amended 2005 LRDP would result in a less than significant impact related to greenhouse gas emissions (UC Riverside 2011).

The solar farm project would construct two groups of solar arrays on the West Campus. Construction of the solar arrays would require limited heavy machinery, resulting in greenhouse gas emissions. However, due to the limited amount of ground disturbance and construction, the emissions would be low and the impact would be less than significant. Furthermore, the project's construction and operations emissions would be lower than the emissions that would result from previously planned uses of the site. The number of operational vehicles traveling to and from the site would also be substantially lower. In addition, the solar farm would reduce the need for purchased electricity on the project site and on the campus as a whole. Therefore, the 2020 operational emissions from the campus would be less than previously analyzed. By providing the campus with clean energy, the West Campus Solar Farm project

would assist the Campus in meeting its 2020 greenhouse gas reduction target. The West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts from greenhouse gas emissions or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project would not result in a new significant conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Potential impacts related to conflict with an applicable greenhouse gas emissions reduction plan and the 2005 LRDP as amended by Amendment 2 were analyzed in the LRDP Amendment 2 EIR. Development of the campus under the 2005 LRDP Amendment 2 was accounted for by the Campus in developing the UC Riverside CAP. The mitigation measures described above would ensure that each project on the campus would be evaluated for its consistency with the applicable emissions reduction measures in the CAP. Therefore, implementation of the 2005 LRDP Amendment 2 would not conflict with the UC Riverside CAP or the University Policy on Sustainable Practices. The amended 2005 LRDP would have a less than significant impact (UC Riverside 2011).

The West Campus Solar Farm project would construct a less intense use on the project site than previously planned. Therefore, the proposed project is accounted for the UC Riverside CAP. Furthermore, the proposed project would support the UC Riverside CAP and the University Policy on Sustainable Practices. The development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts from conflict with applicable greenhouse gas reduction plans or the conclusions in the LRDP Amendment 2 EIR.

6.7.3 Analysis of Cumulative Impacts

The potential for the West Campus Solar Farm project to result in cumulative impacts from greenhouse gas emissions are analyzed above. Further cumulative impact analysis and additional mitigation measures are not required.

6.7.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

The LRDP Amendment 2 EIR analyzed the impact of campus related greenhouse gas emissions. There are no changes in circumstances in which the West Campus Solar Farm project would be undertaken. No new information related to greenhouse gas emissions has become available since the certification of the LRDP Amendment 2 EIR that would alter the previous analysis and change its conclusions. Although new laws and regulations related to greenhouse gas emissions (such as SB 375) have been passed since

the LRDP Amendment 2 EIR was certified, they have no effect on the conclusions of the LRDP Amendment 2 EIR.

6.7.5 Conclusion

The West Campus Solar Farm project would have a less than significant effect related to greenhouse gas emissions. The project would not change the nature or magnitude of potential impacts from greenhouse gas emissions or the conclusions in the LRDP Amendment 2 EIR.

6.8 HAZARDS AND HAZARDOUS MATERIALS

6.8.1 Relevant Elements of the West Campus Solar Farm Project

The West Campus Solar Farm project site consists of about 11 acres of land, excluding the existing utility easement, currently used for agricultural teaching and research. The western half contains abandoned groves and the eastern half is currently vacant undeveloped land. Consistent with LRDP Mitigation Measure 4.7-4, a Phase I Environmental Site Assessment (ESA) was conducted in May 2013 for the project site. The report indicates that there is no evidence that the site currently has or had significant problems associated with hazardous waste or materials. The site may have the potential for residual pesticides and/or herbicides in shallow on-site soils due to the historical agricultural uses (CHJ Consultants 2013).

No obvious evidence of handling or use of hazardous materials or petroleum products, such as on-site storage of drums or other containers, was noted on or adjacent to the project site. There are no known areas with soil or groundwater contamination on the project site (CHJ Consultants 2013). The project site is not located in a FEMA flood zone and would not be subject to on-site flooding. The project site is not located within two miles of a public airport or in the vicinity of a private airstrip (UC Riverside 2011).

6.8.2 Analysis of Project

Implementation of the West Campus Solar Farm project would not create a new significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials, or from the accidental release of hazardous materials.

Potential impacts related to routine transport, use, and disposal of hazardous materials from campus development, including the development of the project site under the amended 2005 LRDP, were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP PP 4.7-1 and PP 4.7-3 as part of the amended 2005 LRDP would minimize impacts related to the transport, use, storage, or disposal of hazardous materials and potential health risks in the event of an accident or accidental

release. Certain future facilities that would be developed on the campus under the 2005 LRDP Amendment 2 have the potential involve the use of hazardous materials. Hazardous materials may include inorganic and organic chemicals, chemical reagents and reaction products, solvents, mercury, radioisotopes, biohazards, fuels, oils, paints, cleansers, and pesticides. However, compliance with federal, state, and local laws and regulations pertaining to health and safety would reduce the impact. The development of the campus under the amended 2005 LRDP would have a less than significant impact related to hazardous materials (UC Riverside 2011).

The West Campus Solar Farm project would construct two groups of solar arrays that would not produce, use, or transport hazardous waste that could affect nearby populations. Cleaning agents and solvents are not expected to be used during regular maintenance. Maintenance vehicles on-site may result in minor leakage of petroleum products. However, only a few vehicles would travel to and from the site periodically and the project's impact would be less than significant. Furthermore the number of trips made by the project-related vehicles would be far fewer than previously anticipated under previously planned uses. Therefore, the development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts from use, transport, disposal, or storage of hazardous materials or the conclusions in the LRDP Amendment 2 EIR.

Implementation of the West Campus Solar Farm project would not result in a new significant impact from hazardous emissions or require the handling of hazardous materials within one-quarter mile of an existing or proposed school.

Potential impacts related to hazardous materials or emissions from the campus development, including the development of the project site under the 2005 LRDP within one-quarter mile of an existing school, were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP PP 4.7-1 as part of the 2005 LRDP would minimize impacts to schools. Campus development could result in the development of academic buildings, laboratories, and other research facilities that could involve hazardous emissions or the handling of hazardous materials within one-quarter mile of an existing or proposed school. Compliance with federal, State, and local regulations pertaining to hazardous wastes would ensure that risks to nearby schools would be eliminated or reduced. The campus development under the amended 2005 LRDP would have a less than significant impact from use of hazardous materials within one-quarter mile of an existing or proposed school (UC Riverside 2011).

There are no existing or proposed schools within one-quarter mile of the project site. Furthermore, the project would not produce any emissions of hazardous materials. As a result, there would be no impact. The development of the West Campus Solar Farm project would not change the nature or increase the

magnitude of the potential impacts to schools from hazardous materials or the conclusions in the LRDP Amendment 2 EIR.

Implementation of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices and Mitigation Measures, would not result a new significant impact to the public or the environment from being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 or from renovation or demolition of buildings which may contain hazardous materials.

Potential impacts related to hazards and hazardous materials from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. According to the analysis in the 2005 LRDP EIR, the construction workers and campus occupants would not be at risk from hazardous materials released during construction. The continued implementation of LRDP PP 4.7-1 and PP 4.7-2 as part of the 2005 LRDP would minimize impacts from hazardous materials present in buildings to be demolished or renovated. The impact from campus development under the 2005 LRDP would be less than significant (UC Riverside 2005).

The continued implementation of LRDP PP 4.7-4 as part of the 2005 LRDP would reduce the impact from contaminated soil and/or groundwater if encountered during construction. The campus is listed on a list of hazardous materials sites, due to the former pesticide disposal pits located south of Martin Luther King Boulevard. In addition, there have been localized areas of soil contamination in connection with leaking underground storage tanks (UST). The identified sites have been remediated. There is a remaining UST site on the campus but it conforms to appropriate regulations. Therefore, the site is not identified as having soil and groundwater contamination. Pesticides, fertilizers, and other agricultural chemicals were used on the agricultural teaching and research fields which may result in exposure of construction workers or campus occupants to these residues. However, agricultural chemical residues may not be easily detectable and could result in exposure of construction workers and campus occupants to contaminants. LRDP Mitigation Measure 4.7-4 would be implemented which would require the Campus to perform appropriate soil testing prior to development of former agricultural lands. With mitigation, campus development under the 2005 LRDP would not result in soil and groundwater contaminant exposure and the impact would be less than significant (UC Riverside 2005). [cite]

The West Campus Solar Farm project would construct two groups of solar arrays and would not place occupied uses on the project site, and therefore would not expose occupants to hazardous materials including soil and groundwater contamination. The project site has been used for agricultural since as early as 1931. It is possible that there are residual levels of environmentally persistent and harmful organochlorine pesticides, such as DDT. However, the contamination is not expected to exceed U.S. EPA

Regional Screening Levels for industrial soil. The potential for residual pesticides and herbicides to be found in significant levels is considered to be very low (CHJ Consultants 2013). The Phase I ESA indicates that if a quantitative analysis deems it necessary, a limited subsurface investigation could be conducted. LRDP PP 4.7-4 would be implemented as part of the proposed project. LRDP Mitigation Measure 4.7-4 described above would also be implemented which would reduce the impact to less than significant. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts due to hazardous materials creating a hazard to the public or the environment or the conclusions in the 2005 LRDP EIR.

The West Campus Solar Farm project would not result in a new significant impact to an adopted emergency response or emergency evacuation plan.

The potential for campus development to result in impacts to an adopted emergency response or evacuation plan, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategies *Land Use 3*, *Open Space 1*, *Open Space 4 through 7*, *Transportation 4* and PP 4.7-7(a) and PP 4.7-7(b) as part of the 2005 LRDP would minimize impacts to the Emergency Operations Plan. Environmental Health and Safety (EH&S) is responsible for the campus' Emergency Operations Plan. The City of Riverside does not have an emergency response plan specifically prepared for the campus. However, the Campus coordinates with the City during development and update of its Emergency Operations Plan. The 2005 LRDP could result in the siting and development of new buildings and facilities that may currently be identified as emergency assembly areas or evacuation routes. Implementation of LRDP Mitigation Measure 4.7-7(a) and 4.7-7(b) would require construction staging areas to avoid evacuation assembly areas designated within the Emergency Operations Plan and have an annual review to determine whether the Emergency Operations Plan needs to be updated. The analysis concluded that with mitigation, the impact of campus development on the Emergency Operations Plan would be reduced to less than significant (UC Riverside 2005).

The West Campus Solar Farm project site is not located adjacent to any academic facilities that may require evacuation assembly areas. In addition, the 2011 Emergency Operations Plan does not indicate that the project site is identified as a location for evacuation assembly areas. Therefore, the proposed project would not interfere with the Campus Emergency Operations Plan, and the project would have no effect. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts due to interference with an emergency response or emergency evacuation plan or the conclusions in the 2005 LRDP EIR.

The West Campus Solar Farm project would not result in a new significant impact from exposure of people or structures to risk of loss, injury, or death from wildland fires.

Potential impacts related to exposure of people or structures to risks from wildland fires, resulting from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategy *Open Space 1* as part of the 2005 LRDP would minimize impacts from wildland fire. The southeast hills may be subject to wildland fire. Campus facilities would not be developed within the wildland fire hazard area but adjacent development could expose people or structures to loss, injury, or death. Implementation of LRDP Mitigation Measures 4.7-8(a) and 4.7-8(b) would require landscaping with appropriate plant materials and implementation of annual fuel management procedures. The analysis concluded that with mitigation, increased risk of loss, injury, or death as a result of wildland fires from development of the campus under the 2005 LRDP would be reduced to less than significant (UC Riverside 2005).

The West Campus Solar Farm project site is not located adjacent to the southeast hills that pose a high risk for wildland fires. Therefore, the proposed project would not place people or structures at risk from wildland fires and there would be no impact. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts due to loss, injury, or death involving wildland fires or the conclusions in the 2005 LRDP EIR.

6.8.3 Analysis of Cumulative Impacts

Cumulative impacts related to hazards and hazardous materials from the implementation of the 2005 LRDP are addressed in the 2005 LRDP EIR and LRDP Amendment 2 EIR. The 2005 LRDP EIR concluded that with the mitigation described above, campus development would not result in a cumulative impact from hazardous materials, contaminated soil or groundwater, wildland fire, or to the emergency operations plan (UC Riverside 2005). The LRDP Amendment 2 EIR concluded that campus development would not result in a substantial cumulative impact from transport, use, disposal, or storage of hazardous materials (UC Riverside 2011). The West Campus Solar Farm project would result in a reduced contribution to the cumulative impacts than facilities planned for the project site in the amended 2005 LRDP. Therefore, the West Campus Solar Farm project's cumulative impacts related to hazards and hazardous materials are adequately addressed in the 2005 LRDP EIR and the LRDP Amendment 2 EIR.

6.8.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

Since certification of the 2005 LRDP EIR and LRDP Amendment 2 EIR, the 2011 Emergency Operations Plan for the UC Riverside Campus was prepared. The Emergency Operations Plan does not identify the West Campus Solar Farm project site as an evacuation assembly area. There are no other changes in circumstances in which the proposed project would be undertaken and no new information has become available since the certification of the 2005 LRDP EIR or the LRDP Amendment 2 EIR that would alter the previous analysis or change its conclusions.

6.8.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect related to hazards and hazardous materials. The change in proposed uses for the project site would not change the nature or increase the magnitude of potential impacts from hazards and hazardous materials or the conclusions in the 2005 LRDP EIR and LRDP Amendment 2 EIR.

6.9 HYDROLOGY AND WATER QUALITY

6.9.1 Relevant Elements of the West Campus Solar Farm Project

The Gage Canal is located to the west of the West Campus Solar Farm project site. The project site is located within the University Arroyo Watershed. The project site is not within the 100-year floodplain of any drainage as defined by the Federal Emergency Management Agency (FEMA). The campus is located near the southeastern edge of the Riverside-Arlington subbasin within the Santa Ana River watershed. The groundwater quality within this subbasin has high total dissolved solids (TDS) and levels of trichloroethylene (TCE), a degreaser/cleaner used in industry, perchlorate, which is a primary ingredient of solid rocket propellants and other industrial applications, and dibromochloropropane (DBCP), which is a banned pesticide previously used on citrus groves. The City of Riverside supplies the campus with water which uses some groundwater sources (UC Riverside 2005).

6.9.2 Analysis of Project

The West Campus Solar Farm project, which includes relevant LRDP Planning Strategies and Programs and Practices, would not result in new significant impact from runoff that would violate water quality standards or waste discharge requirements.

Potential impacts on water quality from the campus development including the development of the project site under the 2005 LRDP were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategy *Conservation 2* and PP 4.8-1 as part of the 2005 LRDP would reduce impacts to water quality. Development of the campus under the 2005 LRDP could result in the increase of impermeable surfaces associated with new facilities and additional runoff. However, the campus facilities that would be developed under the 2005 LRDP would be substantially similar to existing campus uses which would not contribute different types of storm water pollutants than those generated currently. The Campus would comply with the NPDES Phase I and Phase II requirements which would ensure that campus stormwater quality is not substantially degraded. Therefore, campus development under the 2005 LRDP would have a less than significant impact on water quality (UC Riverside 2005).

The West Campus Solar Farm project site is currently undeveloped agricultural land. The proposed project would construct two groups of solar arrays on the site and would add only a small amount of impervious surfaces to the project site (the area under the solar panels would remain graded dirt and would not be paved). Furthermore, LRDP Planning Strategy *Conservation 2* and PP 4.8-1 would be implemented as part of the project. Therefore, runoff from the site would not increase compared to existing conditions. Periodic maintenance and cleaning of the solar panels would be necessary as the panels would collect soot and dirt from the nearby agricultural operations and the freeway. The panels would be cleaned periodically using only a limited amount of water, which would run off the panels and infiltrate into the ground beneath the panels. No excess runoff would be generated that would leave the project site to enter receiving waters. Therefore, the proposed project would have a less than significant impact on water quality. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts to water quality or the conclusions in the 2005 LRDP EIR.

The West Campus Solar Farm project would not substantially deplete groundwater supplies or interfere with groundwater recharge.

Potential impacts to groundwater supplies from the campus development, including the development of the project site under the amended 2005 LRDP, were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP Planning Strategy *Conservation 5* and PP 4.8-2(a) through PP 4.8-2(c),

as part of the amended 2005 LRDP, would reduce impacts to groundwater supplies or recharge. Development of the campus under the amended 2005 LRDP could result in the increase of impervious surfaces associated with new facilities. However, the Campus is not designated as a groundwater recharge area. Therefore, the increase in impervious surfaces would not result in a decrease in groundwater recharge. The development of the campus under the amended 2005 LRDP would have a less than significant impact on groundwater (UC Riverside 2011).

The West Campus Solar Farm project site is currently undeveloped. The proposed project would construct two groups of solar arrays on the site which would add only a very small amount of impervious surfaces to the site, and would therefore not interfere with groundwater recharge. In addition, the site would place no demand on water sources such as groundwater. Therefore, the proposed project would have a less than significant impact to groundwater supplies and groundwater recharge. In addition, as compared to the previously planned land uses, the West Campus Solar Farm project would result in an overall decrease in impervious surfaces, resulting in a reduced impact on groundwater recharge and a reduced water use. Therefore, the development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts to groundwater supplies, groundwater recharge, or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project, which includes relevant LRDP Planning Strategies and Programs and Practices, would not substantially alter drainage patterns on campus and would not result in substantial erosion or siltation on- or off-site.

Potential impacts on drainage patterns, erosion, or siltation from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategies *Land Use 2* and *3*, *Open Space 1* through *5*, *Conservation 1* through *3* and PP 4.8-3(a) through PP 4.8-3(e) as part of the 2005 LRDP would reduce impacts to drainage patterns, erosion, and siltation. Depending on the locations of the new facilities and impervious surfaces proposed under the 2005 LRDP, surface drainage patterns on the campus would change. Alterations to the existing drainage channels within the arroyos would alter drainage patterns. The majority of the stormwater and runoff from the West Campus drains via surface flows in a southwesterly direction towards Martin Luther King Boulevard, where it enters a 42-inch city-owned storm drain in Chicago Avenue. Some runoff along the northern edge of the West Campus enters a 66-inch drain. Runoff from new development on the West Campus is planned to be conveyed via gravity to new vegetated drainage swales located along the edges of the east/west streets. The drainage swales

would be interconnected with a series of north/south pipes that would convey the runoff to the storm drain described above (UC Riverside 2005).

Within the West Campus, soil erosion hazards range from slight to moderate. Construction activities could result in erosion but these would be temporary. All construction activities would comply with Chapter 29 and Chapter 70 of the California Building Code (CBC). Therefore, campus development under the 2005 LRDP would have a less than significant impact related to soil erosion (UC Riverside 2005).

The West Campus Solar Farm project site, located in the northeastern portion of the West Campus, drains to the 42-inch storm drain on Martin Luther King Avenue described above. LRDP Planning Strategy *Conservation 2*, PP 4.8-3(c), and PP 4.8-3(e) would continue to be implemented as part of the proposed project. The proposed project would construct two groups of solar arrays on the site. Project construction would not interfere with existing drainage patterns and the site would continue to drain in the manner it does at the present time. The project would add only a very small amount of impervious surfaces to the site, and storm water from the panels would infiltrate into the ground beneath the panels, and runoff from the site would not increase compared to existing conditions. The proposed project would have a less than significant impact on drainage patterns, erosion, and siltation. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts to on drainage patterns, erosion, and siltation or the conclusions in the 2005 LRDP EIR.

The West Campus Solar Farm project would not substantially alter existing site drainage patterns that could increase the rate or amount of surface runoff and would not result in flooding either on- or off-site, exceed the capacity of existing storm drainage systems, or provide substantial sources of polluted runoff.

Potential impacts to surface runoff and flooding from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The West Campus is generally underlain with Class C soils which have intermediate permeability. Development of the campus under the 2005 LRDP could result in the increase of impermeable surfaces associated with new facilities and additional runoff. However, a substantial increase in runoff is not anticipated, as existing soil conditions currently results in runoff from undeveloped sites. As described above, development of the West Campus would include ornamental drainage swales, which would retain a substantial portion of stormwater runoff on the West Campus. The continued implementation of LRDP PP 4.8-3(c) through PP 4.8-3(e) would reduce impacts to surface runoff and flooding. Therefore, the analysis concluded that campus development under the 2005 LRDP would have a less than significant impact related to surface runoff (UC Riverside 2005).

As described above, the project would add only a very small amount of impervious surfaces to the site, and storm water from the panels would infiltrate into the ground beneath the panels, and runoff from the site would not increase compared to existing conditions. In addition, on-site drainage would be minimally affected by the construction of the solar farm. Therefore, the proposed project would have a less than significant impact to surface runoff and flooding. Furthermore, the West Campus Solar Farm project would construct fewer facilities than planned and analyzed for the project site in the 2005 LRDP, reducing the increase in impervious surfaces. Therefore, the development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts to surface runoff and flooding or the conclusions in the 2005 LRDP EIR.

The West Campus Solar Farm project would not place housing or structures within a 100-year flood hazard area, or expose people or structures to flooding from levee or dam failure, or inundation by seiche, tsunami, or mudflow.

Potential impacts of flooding or inundation on campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP PP 4.8-3(e) and PP 4.8-10 as part of the 2005 LRDP would minimize impacts from flooding and inundation. The Prado Dam, the nearest dam to the campus, is located on the Santa Ana River downstream of the campus. The nearest upstream dam is Seven Oaks Dam. The 2005 LRDP EIR indicates that the potential for catastrophic failure of the Seven Oaks Dam is considered remote. There are portions of the campus that are within a 100-year flood hazard area. However, the University Flood Control and Enhancement Project resulted in a reduction in the extent of the 100-year floodplain on the campus. None of the planned development of new housing or redevelopment of existing housing sites is located within the 100-year flood hazard zone. LRDP Mitigation Measures 4.8-9(a) and 4.8-9(b) would reduce impacts to structures in the 100-year floodplain if the improvements are not carried out. With mitigation, campus development under the 2005 LRDP would have a less than significant impact from flooding or inundation (UC Riverside 2005).

The West Campus Solar Farm project site is not located within a 100-year floodplain and the site is unlikely to experience inundation from dam failure, mudflow, seiche, or tsunami. Therefore, the proposed project would have no impact related to flooding and inundation. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts from flooding, inundation, or the conclusions in the 2005 LRDP EIR.

6.9.3 Analysis of Cumulative Impacts

Cumulative hydrology and water quality impacts of campus development under the 2005 LRDP are addressed in the 2005 LRDP EIR and in the LRDP Amendment 2 EIR. The 2005 LRDP EIR concluded that campus development in conjunction with other cumulative development would not have a significant cumulative impact on hydrology and water quality (UC Riverside 2005). The LRDP Amendment 2 EIR concluded that campus development under the amended 2005 LRDP in association with cumulative development would not have a substantial cumulative impact on groundwater supplies or groundwater recharge (UC Riverside 2011). The West Campus Solar Farm project would construct fewer facilities and result in less impervious surfaces, and is considered to be within the scope of development envisioned under the amended 2005 LRDP. The West Campus Solar Farm project would therefore result in less of a cumulative impact than facilities planned for the project site in the amended 2005 LRDP. Therefore, West Campus Solar Farm project's cumulative impacts related to hazards and hazardous materials are adequately addressed in the 2005 LRDP EIR and LRDP Amendment 2 EIR.

6.9.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the West Campus Solar Farm project would be undertaken. No new information has become available and no new regulations related to hydrology and water quality have come into effect since the certification of the 2005 LRDP EIR and LRDP Amendment 2 EIR that would alter the previous analysis and change its conclusions relative to the West Campus Solar Farm project.

6.9.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect on hydrology and water quality. The proposed project would not change the nature or increase the magnitude of potential impacts related to hydrology and water quality or the conclusions in the 2005 LRDP EIR and LRDP Amendment 2 EIR.

6.10 LAND USE AND PLANNING

6.10.1 Relevant Elements of the West Campus Solar Farm Project

The UC Riverside Campus is located in the City of Riverside. I-215/SR-60 bisects the campus in a northwest-southeast alignment separating West Campus and East Campus areas. The proposed Solar Farm project is located on the West Campus.

6.10.2 Analysis of Project

The West Campus Solar Farm project would create temporary changes in on-campus land uses that require LRDP Amendment #3. The proposed land uses would not be incompatible with existing adjacent land uses.

Potential impacts from incompatibilities due to the land use changes identified in the amended 2005 LRDP were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP Planning Strategies *Land Use 1 through 7*, *Open Space 4*, *Open Space 6 and 7*, *Campus and Community 1 through 3*, *Transportation 1 through 6*, and PP 4.9-1(a) through PP 4.9-1(c) as part of the amended 2005 LRDP would reduce impacts to existing adjacent land uses. The Campus would convert agricultural teaching and research fields in the northerly half of the West Campus to other uses such as academic facilities, housing, the School of Medicine, parking, campus support, and open space. Therefore, the on-campus land uses planned in the amended 2005 LRDP were determined to have a less than significant impact on adjacent land uses (UC Riverside 2011).

As part of the West Campus Solar Farm project, an amendment to the 2005 LRDP is proposed to add a CIO land use designation to the project site. Although the overlay would be added to the approximately 12-acre site, the proposed LRDP amendment would not delete or substitute the existing land use designations on the project site, which include the following: Academic - 5.93 acres, Parking - 3.74 acres, Open Space - 1.78 acres, Campus Support - 0.74 acres. This amendment would allow the solar farm to be located on the project site until such time that the site is needed for academic or other uses envisioned under the amended 2005 LRDP. The Campus has conducted an analysis of the anticipated growth in campus population and projected building square footage, and determined that both are growing slower than anticipated, thus the interim use of 11 acres of West Campus land for a solar farm is not expected to displace academic programs and other uses planned for that site within the agreement timeframe, and will not require other areas to be developed more densely than previously evaluated in the Amendment 2 EIR. The proposed use of the site in this manner for a solar farm would not conflict with the existing land uses that surround the site nor would it preclude the establishment of other higher priority uses on the project site by the campus, if needed. Therefore, the project would result in a less than significant impact related to conflict with existing and planned land uses. Furthermore, the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts to conflict with adjacent land uses or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project would not result in a new significant impact from conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

Potential impacts of campus development under the amended 2005 LRDP related to conflicts with applicable regional plans were analyzed in the LRDP Amendment 2 EIR. The LRDP Planning Strategies *Land Use 1 through 7*, *Open Space 4*, *Open Space 6 and 7*, *Campus and Community 1 through 3*, *Transportation 1 through 6*, and PP 4.9-1(a) through PP 4.9-1 (c) would be implemented as part of the amended 2005 LRDP. The regional plans relevant to the amended 2005 LRDP include the Regional Comprehensive Plan and Guide (RCPG) (SCAG 2008), the Regional Transportation Plan (RTP) (SCAG 2008), the Compass Growth Vision Report (SCAG 2004), the Water Quality Control Plan (WQCP) for the Santa Ana River Basin (California Regional Water Quality Control Board, Santa Ana Region, 2008), and the Air Quality Management Plan (AQMP) (SCAQMD 2007). No inconsistencies were identified in the LRDP Amendment 2 EIR. Therefore, the analysis concluded that campus development under the amended 2005 LRDP would have a less than significant impact related to applicable regional plans (UC Riverside 2011).

The proposed project includes an amendment to the LRDP to create the CIO designation applicable to the West Campus Solar Farm site. An overlay is proposed in order to implement the solar farm as a temporary land use and to preserve the underlying land use designations that represent higher and better long term uses for the site. In addition, as noted earlier the campus is not growing at the previously projected rate and it is estimated that there is enough land designated for the underlying uses in other parts of the campus to accommodate the currently projected growth and that this site will likely not be needed for the designated land uses before the 20-year term of the SLA expires.

The overlay would permit less intense land uses than previously planned and analyzed for the project site. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts to conflict with applicable regional plans or the conclusions in the LRDP Amendment 2 EIR, but would temporarily allow for less intensive development that permissible under the 2005 LRDP's underlying land use designations for the project site. Accordingly, the impacts of the proposed project are within the envelope of impacts as presented in the LRDP EIR.

The West Campus Solar Farm project would not physically divide an established community or conflict with any applicable habitat conservation plan or natural community conservation plan.

Potential impacts of campus development, including the development of the project site under the 2005 LRDP, on established communities and habitat conservation plans were analyzed in the 2005 LRDP EIR.

The analysis concluded that campus development under the 2005 LRDP would not impact an established community, a habitat conservation plan, or a natural community conservation plan (UC Riverside 2005).

The West Campus Solar Farm project would be located in the northeastern portion of the West Campus and would not physically divide an established community. The West Campus Solar Farm project would not conflict with any habitat conservation plans or natural community conservation plans applicable to the campus site, as described in Section 6.4 Biological Resources, above. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the impact to established communities or applicable conservation plans or the conclusions in the 2005 LRDP EIR.

6.10.3 Analysis of Cumulative Impacts

Cumulative land use impacts of campus development under the amended 2005 LRDP are addressed in the LRDP Amendment 2 EIR. The EIR concluded that campus development in conjunction with other cumulative development would not have a significant land use impact (UC Riverside 2011). The West Campus Solar Farm project, which would temporarily construct a less intense land use on the project site, is considered to be within the scope of development envisioned under the amended 2005 LRDP. Therefore, West Campus Solar Farm project's cumulative impacts related to land use are adequately addressed in the LRDP Amendment 2 EIR.

6.10.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

Since certification of the LRDP Amendment 2 EIR, the 2012 RTP (previously the 2008 RTP) and 2012 AQMP (previously the 1997/1999 AQMP) were prepared. Although these new plans have been prepared since the LRDP Amendment 2 EIR was certified, their adoption and implementation have no effect on the conclusions of the LRDP Amendment 2 EIR. There are no additional changes in circumstances in which the proposed project would be undertaken and no new information has become available since the certification of the 2005 LRDP EIR and LRDP Amendment 2 EIR that would alter the previous analysis or change its conclusions relative to the West Campus Solar Farm project.

6.10.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect on land use and planning. The proposed project would not change the nature or increase the magnitude of potential impacts from land use and planning or the conclusions in the LRDP Amendment 2 EIR.

6.11 MINERAL RESOURCES

6.11.1 Relevant Elements of the West Campus Solar Farm Project

The UC Riverside Campus, which includes the West Campus Solar Farm project site, does not contain any mineral resource zones (MRZ) or MRZs that require managed production (MRZ-2 area). There are no mineral resources of regional or statewide importance known to exist on the campus. No mineral resource recovery activities have been associated with development of the campus (UC Riverside 2005).

6.11.2 Analysis of Project

Implementation of the West Campus Solar Farm project would not result in a substantial loss of availability of mineral resources.

As analyzed in the 2005 LRDP EIR and stated above, development of the campus under the 2005 LRDP including development of the project site, would not result in the loss of availability of known mineral resources that would be of value to the region or residents of the state. The development of existing agricultural fields would not result in the loss of potential availability of known mineral resources. Therefore, because the West Campus Solar Farm project would not increase the intensity of development authorized under the LRDP, no impact on mineral resources would occur.

6.11.3 Analysis of Cumulative Impacts

There would be no cumulative effects to mineral resources as analyzed in the 2005 LRDP EIR.

6.11.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the West Campus Solar Farm project would be undertaken. No new information has become available and no new regulations related to mineral resources have come into effect since the certification of the 2005 LRDP EIR that would alter the previous analysis and change its conclusions relative to the West Campus Solar Farm project.

6.11.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect on mineral resources. The changes to the 2005 LRDP would not change the nature or increase the magnitude of potential impacts to mineral resources or the conclusions in the 2005 LRDP EIR.

6.12 NOISE

6.12.1 Relevant Elements of the West Campus Solar Farm Project

The West Campus Solar Farm project would construct two groups of solar arrays in an area currently used for agricultural teaching and research. Noise sources in the area include traffic on local roadways, including I-215/SR-60 to the east, and noise from agricultural operations. Noise-sensitive receptors in the vicinity of the project site include the International Village campus apartment complex located to the west. The Campus is not located within an airport land use plan study area, nor is it within 2 miles of a public airport or the vicinity of a private airstrip (UC Riverside 2011).

6.12.2 Analysis of Project

The West Campus Solar Farm project would not result in a significant new impact from exposure of on-site campus student residential uses to noise levels in excess of the State's 45 dB(a) CNEL interior noise standard.

Potential noise impacts from campus development, including the development of the project site under the amended 2005 LRDP, to on-site student residential uses were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP Planning Strategy *Open Space 4* and PP 4.10-1(a) and PP 4.10-1 (b) as part of the amended 2005 LRDP would reduce potential noise impacts to on-site residential housing. Additional residential housing would be developed on the campus under the amended 2005 LRDP. The LRDP Amendment 2 EIR indicates that exterior noise levels around the student housing buildings would not approach the threshold of 75 dBA CNEL. Therefore interior noise levels would not exceed the state's interior noise standard, and campus development under the amended 2005 LRDP would have a less than significant noise impact (UC Riverside 2011).

The West Campus Solar Farm project would construct two groups of solar arrays adjacent to an existing campus apartment complex. Construction of the solar arrays would involve limited ground disturbance and generally low noise producing activities. Furthermore, construction would be completed in 2 to 3 months. Therefore, the West Campus Solar Farm project would result in a less than significant construction noise impact. Furthermore, project construction noise would be less intense and operation of the solar arrays would produce substantially less noise than the academic facilities and parking structure permitted by the underlying LRDP land use designations. Therefore, the development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential noise impacts to on-site residential housing or the conclusions in the LRDP Amendment 2 EIR.

Construction of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices and Mitigation Measures, would not significantly increase the severity of the significant LRDP impact to on-campus receptors from groundborne vibration.

Potential groundborne vibration impacts from construction of campus development, including the development of the project site under the amended 2005 LRDP, on on-campus receptors were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP PP 4.10-2 as part of the amended 2005 LRDP would minimize potential construction impacts from groundborne vibration to on-campus receptors. Development of the campus under the amended 2005 LRDP would nonetheless result in groundborne vibration levels that could exceed thresholds for each nearby building type. The impact would be less than significant if construction occurs more than 50 feet from campus facilities and 300 feet from sensitive research buildings. However, if construction activities occur less than 300 feet from research buildings with vibration sensitive equipment, the impact would be significant. LRDP Mitigation Measure 4.10-2 require the Campus to notify all academic and residential facilities within 300 feet of approved construction sites. However, construction activities under the amended 2005 LRDP would have a significant and unavoidable impact related to groundborne vibration (UC Riverside 2011).

The West Campus Solar Farm project would construct two groups of solar arrays adjacent to I-215/SR-60, agricultural uses, a parking lot, and a Caltrans service yard. The existing International Village campus apartment complex is located to the west of the Gage Canal right-of-way and the proposed project site. There are no existing on-campus sensitive research buildings within the vicinity of the project site. With implementation of LRDP PP 4.10-2 and LRDP Mitigation Measure 4.10-2 described above, the West Campus Solar Farm project would have a less than significant impact on on-campus receptors from groundborne vibrations. Furthermore, given that the proposed project is less intense than the land uses planned for the site under the amended 2005 LRDP, the development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential groundborne vibration impacts to on-campus receptors or the conclusions in the LRDP Amendment 2 EIR.

Construction of the West Campus Solar Farm project would not result in a significant new impact to off-campus receptors from groundborne vibration.

Potential groundborne vibration impacts from construction of campus development, including the development of the project site under the amended 2005 LRDP, on off-campus receptors were analyzed in the LRDP Amendment 2 EIR. Construction on the campus under the amended 2005 LRDP would result in groundborne vibration levels that would not exceed Federal Railway Administration's 80 VdB vibration impact thresholds for residences. Therefore, campus construction under the amended 2005

LRDP would have a less than significant groundborne vibration impact on off-campus receptors (UC Riverside 2011).

The West Campus Solar Farm project is not located adjacent to any off-campus sensitive receptors and would not involve construction activities that generate high levels of vibrations. There would be no impact. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential groundborne noise impacts to off-campus receptors or the conclusions in the LRDP Amendment 2 EIR.

Operation of the West Campus Solar Farm project would not result in a significant new impact to on- or off-campus receptors from groundborne vibration.

Potential operational vibration impacts from campus development including the development of the project site under the amended 2005 LRDP, to on- and off-campus receptors were analyzed in the LRDP Amendment 2 EIR. Campus development would result in groundborne vibration levels that would not exceed Federal Railway Administration's impact thresholds for sensitive on-campus research buildings, residences, student housing buildings, or other institutional buildings. Therefore, campus development under the 2005 LRDP Amendment 2 would have a less than significant impact (UC Riverside 2011).

The West Campus Solar Farm project does not propose to install any equipment that would result in groundborne vibration during operation. There would be no impact related to operational vibrations. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential groundborne vibration impacts to on- and off-campus receptors or the conclusions in the LRDP Amendment 2 EIR.

Implementation of the West Campus Solar Farm would not result in a significant new impact from an increase in noise levels from vehicular traffic on the regional road network that could affect on- or off-campus receptors.

Potential traffic noise impacts from campus development, including the development of the project site under the amended 2005 LRDP, to on- and off-campus receptors were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP PP 4.10-5(a) and PP 4.10-5(b) as part of the amended 2005 LRDP would minimize potential traffic noise impacts to on- and off-campus receptors. Campus development under the amended 2005 LRDP would result in an increase in traffic volume which would increase noise along nearby roadways. The roadway levels at all on- and off-campus locations would not exceed the significance threshold and would increase by less than 5 dBA CNEL and by less than 3 dBA

CNEL where the noise level is 70 dBA CNEL or more. Therefore, campus development under the amended 2005 LRDP would have a less than significant impact (UC Riverside 2011).

The West Campus Solar Farm project would construct two groups of solar arrays. Construction on the project site would be less intensive and require fewer construction trucks than analyzed in the LRDP Amendment 2 EIR. Operation of the West Campus Solar Farm project would result in fewer vehicle trips than previously analyzed for development planned for the site. The West Campus Solar Farm project would result in a less than significant traffic noise impact to on- and off-campus receptors. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential traffic noise impacts to on- and off-campus receptors or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project, which includes relevant LRDP Programs and Practices, would not result in a significant new noise impact on on- or off-campus ambient noise levels from new stationary noise sources.

Potential noise impacts from stationary sources proposed as part of the campus development, including the development of the project site under the amended 2005 LRDP, on on- and off-campus receptors were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP Planning Strategies *Open Space 4, Campus and Community 1* and PP 4.10-6 as part of the amended 2005 LRDP would reduce potential stationary source noise impacts to on- and off-campus receptors. Campus development would include new stationary sources of noise, such as rooftop heating, ventilation, and air conditioning equipment. The new stationary sources would increase ambient noise levels in the vicinity. With appropriate shielding and location, stationary sources would not produce noise levels in excess of significance thresholds. Therefore, campus development under the amended 2005 LRDP would have a less than significant impact related to stationary sources (UC Riverside 2011).

The West Campus Solar Farm project would construct two groups of solar arrays and would not include any stationary noise sources. The inverters and the ground-mounted tracking system would produce minimal noise. The proposed project would continue to implement LRDP PP 4.10-6. The West Campus Solar Farm project would have a less than significant stationary source noise impact to on- and off-campus receptors. Furthermore, as a less intense land use than previously analyzed for the site under the amended 2005 LRDP, the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential stationary source noise impacts to on- and off-campus receptors or the conclusions in the LRDP Amendment 2 EIR.

Construction of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices, would not substantially increase the severity of the significant LRDP impact from temporary or periodic increases in ambient noise levels at locations on- and off-campus.

Potential ambient noise impacts from construction of campus facilities, including the development of the project site under the amended 2005 LRDP, to on- and off-campus receptors were analyzed in the LRDP Amendment 2 EIR. Campus development would result in the construction of facilities throughout the campus which would increase ambient noise levels in the vicinity. The continued implementation of LRDP PP 4.10-7(a) through PP 4.10-7(d) and PP 4.10-8 would minimize the ambient noise impacts from construction to on- and off-campus receptors. No mitigation is feasible to adequately reduce the noise from construction. Therefore, campus development under the amended 2005 LRDP would have a significant and unavoidable impact related to construction noise (UC Riverside 2011).

The West Campus Solar Farm project would construct two groups of solar arrays west of the existing International Village campus apartment complex. Construction could temporarily increase the ambient noise levels near the apartment complex. However, due to the limited duration of construction and nature of construction activities, and with the continued implementation of LRDP PP 4.10-7(a) through PP 4.10-7(d), the West Campus Solar Farm project would have a less than significant construction noise impact on on-campus receptors (there are no off-campus receptors near the project site). Furthermore, the project's construction noise would be significantly reduced as compared to the construction noise associated with development permitted with the underlying LRDP land use designations. Therefore, the development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential construction noise impacts to on- and off-campus receptors or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project would not result in a substantial noise impact associated with special events.

Potential noise impacts from special events were analyzed in the LRDP Amendment 2 EIR. Special events would result in temporary or periodic increases in ambient noise levels. However, the ambient noise levels from special events would not be substantial. Therefore, campus development under the amended 2005 LRDP would have a less than significant impact related to special event noise (UC Riverside 2011).

The West Campus Solar Farm project would construct two groups of solar arrays which would not result in any additional special events. There would be no impact related to special event noise. The development of the West Campus Solar Farm project would not substantially change the nature or

increase the magnitude of the potential special event noise impacts or the conclusions in the LRDP Amendment 2 EIR.

6.12.3 Analysis of Cumulative Impacts

Cumulative noise impacts of campus development under the amended 2005 LRDP are addressed in the LRDP Amendment 2 EIR. The EIR concluded that campus development in conjunction with other cumulative development would not have a significant cumulative noise impact (UC Riverside 2011). The West Campus Solar Farm project would construct quieter facilities on the site and is considered to be within the scope of impacts from development envisioned under the 2005 LRDP Amendment 2. The West Campus Solar Farm project would result in less of a cumulative impact than the uses previously planned for the project site in the amended 2005 LRDP. Therefore, West Campus Solar Farm project's cumulative noise impacts are adequately addressed in the LRDP Amendment 2 EIR.

6.12.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the West Campus Solar Farm project would be undertaken. No new information has become available and no new regulations related to noise have come into effect since the certification of the LRDP Amendment 2 EIR that would alter the previous analysis and change its conclusions relative to the West Campus Solar Farm project.

6.12.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect on off-campus receptors from stationary noise sources, vehicle noise, and groundborne vibration. The West Campus Solar Farm project would not contribute to significant impacts related to grounborne vibration impacts on on-campus receptors and ambient noise impacts to on- or off-campus receptors from construction. The project would not change the nature or increase the magnitude of potential impacts from noise or the conclusions in the LRDP Amendment 2 EIR.

6.13 POPULATION AND HOUSING

6.13.1 Relevant Elements of the West Campus Solar Farm Project

As an infrastructure project, the West Campus Solar Farm project would support growth on the campus as indicated in the amended 2005 LRDP but would not directly add any population to the campus. Based on the 2010 Census, as of 2010, the City of Riverside had a population of 303,871 people. According to the City of Riverside projections, the City's residential population will increase to approximately 383,077

persons by 2025 (City of Riverside 2025 General Plan, Housing Element). The 2008 RTP projects that the population of the City of Riverside will approach 353,162 persons by 2025 (SCAG 2008).

6.13.2 Analysis of Project

The West Campus Solar Farm project would not substantially increase the LRDP impact related to the inducement of substantial population growth in the area.

Potential growth impacts on the area from campus development, including the development of the project site under the amended 2005 LRDP, were analyzed in the LRDP Amendment 2 EIR. The continued implementation of LRDP Planning Strategy *Land Use 4* as part of the amended 2005 LRDP would reduce the impact from the increase in campus population. Campus development under the amended 2005 LRDP would result the growth of the campus population which could induce growth in the surrounding area such as City of Riverside. The City of Riverside and other local and regional planning agencies are aware of the projected population growth on the campus and the growth is accounted for in planning documents. In addition, housing for at least fifty percent of the student population is planned to be provided on the campus, reducing the impact on the City of Riverside and other areas. The analysis in the LRDP Amendment 2 EIR determined that there is adequate vacant housing in the City of Riverside to accommodate demand under the amended 2005 LRDP. Therefore, campus development under the amended 2005 LRDP would have a less than significant impact related to population growth (UC Riverside 2011).

The West Campus Solar Farm project would construct two groups of solar arrays to provide electricity for the existing and planned campus population and facilities under the amended 2005 LRDP. The proposed project would not add population or induce growth beyond what was previously analyzed, nor would it displace housing contemplated under the 2005 LRDP. Therefore, the West Campus Solar Farm project would result in a less than significant growth impact. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential growth impacts on the surrounding region or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project would not result in an increased demand for housing or displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

Potential impacts to housing and people from campus development, including the development of the project site under the 2005 LRDP, on the area were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategy *Land Use 5* as part of the 2005 LRDP would minimize the

impact from the demolition of existing housing on campus. Campus development under the 2005 LRDP would result in the growth of campus population, including students, staff, and faculty. The City of Riverside and other local and regional planning agencies are aware of the projected population growth on campus. The staff and faculty housing demand would be met within the City of Riverside because the housing demand does not exceed the projected supply. The 2005 LRDP proposes to replace any demolished on-campus housing with additional housing and provide housing for any displaced residents. Therefore, campus development under the 2005 LRDP would have a less than significant impact on existing housing stock and displacement of existing housing (UC Riverside 2005).

The West Campus Solar Farm project would be constructed on a site currently used for agricultural teaching and research purposes. No housing or people would be displaced. The proposed project would provide electricity for the existing and projected campus population but would not induce growth beyond what was previously analyzed. Therefore, the West Campus Solar Farm project would result in a less than significant impact to housing. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts on housing in the area or the conclusions in the 2005 LRDP EIR.

6.13.3 Analysis of Cumulative Impacts

Cumulative population and housing impacts of campus development under the 2005 LRDP and amended 2005 LRDP are addressed in the 2005 LRDP EIR and LRDP Amendment 2 EIR. The 2005 LRDP EIR concluded that campus development, in conjunction with cumulative development, would not have a significant population and housing impact (UC Riverside 2005). The LRDP Amendment 2 EIR concluded that the cumulative impact from the substantial population growth in the City of Riverside would be less than significant because adequate housing would be available (UC Riverside 2011). As the West Campus Solar Farm project would not change the campus's growth projections, the West Campus Solar Farm project's cumulative population and housing impacts are adequately addressed in the 2005 LRDP EIR and LRDP Amendment 2 EIR.

6.13.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

Since certification of the 2005 LRDP EIR, the City of Riverside 2025 General Plan and 2008 RTP was prepared. Although these new plans have been prepared since the 2005 LRDP EIR was certified, they have no effect on the conclusions of the 2005 LRDP EIR. In addition, the campus population projections were included in the revised plans and the LRDP Amendment 2 EIR addressed the updated City of Riverside 2025 General Plan. Therefore, there are no additional changes in circumstances in which the

proposed project would be undertaken and no new information has become available since the certification of the 2005 LRDP EIR and LRDP Amendment 2 EIR that would alter the previous analysis or change its conclusions relative to the West Campus Solar Farm project.

6.13.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect to population and housing. The project would not change the nature or increase the magnitude of potential impacts to population and housing or the conclusions in the 2005 LRDP EIR or LRDP Amendment 2 EIR.

6.14 PUBLIC SERVICES

6.14.1 Relevant Elements of the West Campus Solar Farm Project

The West Campus Solar Farm project would be served by the UC Riverside Police Department for law enforcement. The City of Riverside Fire Department (RFD) in conjunction with UCR EH&S would provide fire services for the project site. The nearest City fire station is Station 6 located at 3510 Cranford Ave. in the City Riverside (UC Riverside 2011). The Riverside Unified School District (RUSD) would provide public elementary, middle, and high school education (UC Riverside 2005).

6.14.2 Analysis of Project

The West Campus Solar Farm project would not result in a new significant impact associated with an increased demand for fire protection or law enforcement services and the construction of new facilities.

Potential impacts related to law enforcement and fire protection facilities from campus development, including the development of the project site under the amended 2005 LRDP, were analyzed in the LRDP Amendment 2 EIR. Development of the campus under the amended 2005 LRDP would result increased demand on services that could reduce response times. However, response times are currently within acceptable limits. The continued implementation of LRDP PP 4.12-2(a) and PP 4.12-2(b) would reduce the impact to law enforcement and LRDP Planning Strategy *Transportation 4* and PP 4.12-1(a) and PP 4.12-1(b) as part of the amended 2005 LRDP would reduce the impact to fire protection services. The UC Riverside Police Department would hire additional officers as needed to maintain adequate service levels. Any additional facilities required to house the new police officers would be small and not result in a significant impact. Fire flow for each project would be assessed to determine any potential inadequacies which would be upgraded as needed. LRDP Mitigation Measure 4.12-1, which requires the University to pay its proportional share of the cost of the environmental mitigation, would be implemented to further

reduce the impact. Therefore, campus development under the amended 2005 LRDP would have a less than significant impact on law enforcement and fire protection facilities (UC Riverside 2011).

The West Campus Solar Farm project would support the planned facilities and campus population detailed in the LRDP Amendment 2 EIR. The solar arrays would not result in a demand for fire protection and law enforcement services and there would be no impact. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts on law enforcement and fire protection services or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project would not result in a new significant impact associated with increased enrollment in local public schools resulting in a provision of new or physically altered public schools.

Potential impacts to local public schools from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. The analysis in the 2005 LRDP EIR concluded that campus development would result in demand for public schools from employees and some student families that may move into the Riverside area. The demand for schools would require the construction of new schools or expanded facilities at existing schools in the City if a new school is not built. However, the RUSD has plans to expand capacity independently of the 2005 LRDP population growth. Although the campus is exempt from payment of school impact fees, new development of private residential and commercial projects in the City would be subject to school impact fees. In addition, the RUSD may increase capacity by using a variety of planning options such as providing new or temporary classrooms to existing schools. Therefore, campus development under the 2005 LRDP would have a less than significant impact on public schools (UC Riverside 2005).

The West Campus Solar Farm project would support the planned facilities and campus population detailed in the 2005 LRDP. The project would not add any population to the campus and would result in no impact on schools. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts on public schools or the conclusions in the 2005 LRDP EIR.

The West Campus Solar Farm project would not result in substantial adverse physical impacts associated with the provision of new or physically altered public libraries.

Potential impacts related to public libraries from campus development, including the development of the project site under the 2005 LRDP, were analyzed in the 2005 LRDP EIR. Development of the campus

under the 2005 LRDP would result in expansion beyond the existing four libraries. The Campus would provide and meet the need for library services for the on-campus population. However, staff and faculty who would not remain on campus would rely on other nearby libraries in the City of Riverside, the County of Riverside, and surrounding three-county area of Los Angeles, Orange, and San Bernardino counties. However, the staff and faculty would be distributed throughout the area and would not result in a substantial increase in demand for library services within any one jurisdiction or at any local library facility. Therefore, as analyzed in the 2005 LRDP EIR the impacts on the libraries in the City of Riverside and other nearby areas from campus development under the 2005 LRDP would be less than significant (UC Riverside 2005).

The West Campus Solar Farm project would not add any population to the campus and would result in no impact on libraries. As the West Campus Solar Farm project would facilitate the same growth as projected in the 2005 LRDP, the development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts to public libraries, or the conclusions in the 2005 LRDP EIR as analyzed for the 2005 LRDP.

6.14.3 Analysis of Cumulative Impacts

Cumulative public service impacts of campus development under the 2005 LRDP are addressed in the 2005 LRDP EIR. The cumulative impact on fire and police facilities from the amended 2005 LRDP is addressed in the LRDP Amendment 2 EIR. Both EIRs concluded that campus development, in conjunction with cumulative development, would not have a significant public services impact (UC Riverside 2005, UC Riverside 2011). As the West Campus Solar Farm project would facilitate the same growth in campus population growth as projected in the amended 2005 LRDP, the West Campus Solar Farm project's cumulative public services impacts are adequately addressed in the 2005 LRDP EIR and LRDP Amendment 2 EIR.

6.14.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the West Campus Solar Farm project would be undertaken. No new information has become available and no new regulations related to public services have come into effect since the certification of the 2005 LRDP EIR and LRDP Amendment 2 EIR that would alter the previous analysis and change its conclusions relative to the West Campus Solar Farm project.

6.14.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect to public services. The differences between the 2005 LRDP and 2005 LRDP Amendment 2 and the West Campus Solar Farm project would not change the nature or increase the magnitude of potential impacts to public services or the conclusions in the 2005 LRDP EIR and LRDP Amendment 2 EIR.

6.15 RECREATION

6.15.1 Relevant Elements of the West Campus Solar Farm Project

The City of Riverside Parks and Recreation Department has neighborhood, community, and citywide parks. There is a total of about 1,002 acres of City parks located in the vicinity of the campus and 18 City-operated parks and recreational facilities within 2 miles of the campus. There are additional park and recreational facilities maintained by the County of Riverside Open Space and Recreation Department such as Box Springs Mountain Park located to the east of the campus (UC Riverside 2005).

6.15.2 Analysis of Project

The West Campus Solar Farm project would not result in a new significant impact associated with an increased demand for parks and recreational facilities, and would not require the construction of new recreational facilities off-site.

Potential recreational impacts from growth associated with the 2005 LRDP were analyzed in the 2005 LRDP EIR. The continued implementation of LRDP Planning Strategy *Open Space 7* as part of the 2005 LRDP would minimize the impact from demand for recreational facilities. Development of the 2005 LRDP would result in the growth of campus population, including students, staff, and faculty which would increase demand for recreational facilities. The 2005 LRDP would provide recreational space and parks on the campus. The staff and faculty who would not live on the campus could increase demand for recreational facilities. However, the staff and faculty would be distributed throughout the area and would not result in a substantial increase in demand for park and recreation facilities within any one jurisdiction. Therefore, campus development under the 2005 LRDP would have a less than significant impact on recreational facilities (UC Riverside 2005).

The West Campus Solar Farm project would construct two groups of solar arrays which would support the previously analyzed 2005 LRDP growth but would not directly add any new population to the campus or the nearby communities. Therefore, the proposed project would not contribute to any increase in demand for recreational facilities. The development of the West Campus Solar Farm project would not

substantially change the nature or increase the magnitude of the potential impacts on recreational facilities in the area or the conclusions in the 2005 LRDP EIR.

The West Campus Solar Farm project would not result in a new significant impact associated with the construction of recreational facilities or the conversion of existing recreational facilities to non-recreational uses.

Potential impacts from construction of recreational facilities or conversion of existing recreational facilities under the 2005 LRDP were analyzed in the 2005 LRDP EIR. Development of the campus under the 2005 LRDP would result in the construction of additional recreational facilities. The physical impacts of construction would be reduced with continued implementation of LRDP Planning Strategies, Programs and Practices and mitigation measures in the EIR. In addition, construction activities would comply with all SCAQMD rules and regulations as indicated in Section 6.3 Air Quality. There would not be any impacts beyond those identified in the 2005 LRDP EIR. The 2005 LRDP would displace some recreational facilities on-campus but the loss would be offset by the increased recreational opportunities elsewhere on the campus. Therefore, campus development under the 2005 LRDP would have a less than significant impact related to construction of recreational facilities and conversion of existing recreational facilities (UC Riverside 2005).

The West Campus Solar Farm project would construct two groups of solar arrays on a site currently used for agricultural teaching and research. Recreational facilities were not planned for the project site in the 2005 LRDP or the amended 2005 LRDP. Therefore, the proposed project would not displace any planned recreational facilities and would not construct new recreational facilities. There would be no impact on recreational facilities. The development of the West Campus Solar Farm project would not substantially change the nature or increase the magnitude of the potential impacts from conversion or construction of recreational facilities, or the conclusions in the 2005 LRDP EIR.

6.15.3 Analysis of Cumulative Impacts

Cumulative impacts to parks and recreational facilities from the development of the campus are addressed in the 2005 LRDP EIR. The 2005 LRDP EIR concluded that the impact from an increase in demand for neighborhood and community park facilities and construction of recreational facilities would not be cumulatively considerable (UC Riverside 2005). As the West Campus Solar Farm project would not add any population to the campus or change the growth projections of the campus, the West Campus Solar Farm project's cumulative impacts on parks and recreational facilities are adequately addressed in the 2005 LRDP EIR.

6.15.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the West Campus Solar Farm project would be undertaken. No new information has become available and no new regulations related to recreation and parks have come into effect since the certification of the 2005 LRDP EIR that would alter the previous analysis and change its conclusions.

6.15.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect on recreation and parks. The project would not change the nature or increase the magnitude of potential impacts to recreation and parks or the conclusions in the 2005 LRDP EIR.

6.16 TRANSPORTATION/TRAFFIC

6.16.1 Relevant Elements of the West Campus Solar Farm Project

Access to the West Campus Solar Farm project site would be from Martin Luther King Jr. Boulevard, through UCR parking lot 30. Martin Luther King Jr. Boulevard is a four-lane, east-west divided arterial that divides the West Campus into northern and southern halves.

During construction of the project, equipment trucks, tractor trailers and personal vehicles would access the site. During the operation of the project, maintenance and service vehicles would access the project site periodically.

6.16.2 Analysis of Project

Implementation of the West Campus Solar Farm project would not increase the severity of the previously identified significant LRDP impacts on intersection levels of service under existing conditions and 2020 conditions.

As analyzed in the LRDP Amendment 2 EIR, campus development, including the development of the project site under the amended 2005 LRDP, would increase campus trip generation under existing and 2020 conditions, which would increase traffic volumes on the local street network. The level of service (LOS) would degrade at some intersections due to the increase in campus traffic. The continued implementation of LRDP Planning Strategies *Land Use 4*, *Land Use 7*, *Transportation 1 through 6*, and PP 4.14-1 as part of the amended 2005 LRDP would minimize the impact to intersection LOS from campus traffic. LRDP Mitigation Measures 4.14-1(a) through 4.14-1(f) would further minimize intersection

impacts by identifying improvements to adversely affected study intersections. The improvements would improve intersection function to acceptable operating conditions. However, all off-campus intersection improvements are within the jurisdiction of the City of Riverside. Therefore, implementation of all the mitigation measures is not feasible. The LOS at some intersections would remain adversely affected under existing and 2020 conditions. The analysis concluded that the impact from campus development under the amended 2005 LRDP would be significant and unavoidable (UC Riverside 2011).

The West Campus Solar Farm project would construct less intense facilities and result in fewer vehicle trips to and from the site than previously analyzed for the LRDP planned land uses for the project site, and given the nature of the proposed project, its traffic impacts would be less than significant. Although the proposed project would result in substantially fewer vehicle trips than previously analyzed, the significant level of service impacts from campus growth under the amended 2005 LRDP may still occur because the proposed project is temporary and does not supersede or replace the underlying LRDP land use designations. The development of the West Campus Solar Farm project would not result in an increase in the severity of this previously identified impact.

Implementation of the West Campus Solar Farm project would not result in a new significant impact to local roadway segment levels of service under existing conditions or 2020 conditions.

As analyzed in the LRDP Amendment 2 EIR, campus development, including the development of the project site under the amended 2005 LRDP, would increase campus trip generation beyond what was analyzed in the 2005 LRDP EIR. The continued implementation of LRDP PP 4.14-1 as part of the amended 2005 LRDP would reduce the impact to local roadway segments from campus traffic and the roadways segments would operate at a level of service (LOS) D or better. The impact from campus development under the amended 2005 LRDP on roadway segments would be less than significant (UC Riverside 2011).

The West Campus Solar Farm project would amend the LRDP to authorize the construction of less intense facilities resulting in substantially fewer vehicle trips to and from the site than the permitted with the underlying LRDP land use designations. The impact of the project would be less than significant and the development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts on roadway segments related to levels of service under existing conditions and 2020 conditions or the conclusions in the LRDP Amendment 2 EIR.

Construction-related vehicle trips associated with the West Campus Solar Farm project, would not increase the severity of the previously identified significant LRDP impact to traffic conditions along roadway segments and intersections.

As analyzed in the LRDP Amendment 2 EIR, campus development, including the development of the project site under the amended 2005 LRDP, would increase vehicle traffic during construction and renovation of facilities on campus. The continued implementation of LRDP PP 4.14-2 as part of the amended 2005 LRDP would minimize the impact to intersection LOS from construction traffic. Coordination of construction activities would limit the potential impacts to traffic. However, construction vehicle traffic may still result in localized impacts. The impact to traffic conditions from the construction and renovation on the campus under the amended 2005 LRDP would be significant and unavoidable (UC Riverside 2011).

The West Campus Solar Farm project would authorize the temporary construction of less intense facilities than permitted under the LRDP and resulting in substantially fewer construction vehicle trips than projected in the LRDP EIR. As the proposed project would result in few vehicle trips during construction, the project's impact to traffic conditions would be less than significant.

Implementation of the West Campus Solar Farm project would not increase the severity of the previously identified LRDP-level significant LOS impact to roadways designated by the Riverside County Congestion Management Plan under 2020 conditions or existing conditions.

As analyzed in the LRDP Amendment 2 EIR, campus development, including the development of the project site under the amended 2005 LRDP, would increase campus trip generation which would increase traffic volumes on the highway network. The LOS of some highway segments would be significantly affected by campus development under the amended 2005 LRDP. To address the impact, certain improvements would be required that would involve additional right of way acquisitions, or are unplanned, or unfunded, and are not anticipated to be feasible. The LOS of some freeway segments would remain adversely affected. The impact from campus development under the amended 2005 LRDP would be significant and unavoidable (UC Riverside 2011).

The West Campus Solar Farm project would temporarily construct less intense facilities and result in substantially fewer vehicle trips to and from the project site. Although the proposed project would result in fewer vehicle trips than previously analyzed, the significant level of service impacts from traffic associated with campus development under the amended 2005 LRDP would still occur. The development of the West Campus Solar Farm project would not result in an increase in the severity of this previously

identified impact. No new or different mitigation measures are available to reduce this impact of LRDP development.

Implementation of the West Campus Solar Farm project, which includes relevant Program and Practices, would not result in hazards due to design features or land use incompatibilities or during construction, to vehicle traffic or pedestrians.

As analyzed in the LRDP Amendment 2 EIR, campus development, including the development of the project site under the amended 2005 LRDP, would not result in hazardous design features or incompatible use and construction would not result in hazards to vehicles or pedestrians. As part of the amended 2005 LRDP the continued implementation of LRDP PP 4.14-4 would reduce the impact from parking and roadway design, LRDP PP 4.14-5 would reduce the vehicle hazard impact from temporary roadway closures, and LRDP PP 4.14-6 would reduce the hazard to pedestrians from sidewalk and path closures. The concentration of agricultural operations on the southern half of the West Campus would reduce traffic hazards associated with farm equipment. Therefore, campus development under the amended 2005 LRDP would have a less than significant impact related to hazardous design features, incompatible uses, or construction conditions (UC Riverside 2011).

The West Campus Solar Farm project is substantially the same as the previously planned land uses for the project site in terms of reduction in incompatible uses and the potential for vehicle and pedestrian hazards associated with construction work. Therefore, the development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts related to hazardous design features, incompatible uses, or construction conditions or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project, which includes relevant LRDP Program and Practices, is not near a public airport, would not affect the nearby private airport or change air traffic patterns, and would not substantially increase hazards due to a design feature or result in adequate emergency access.

As with the campus development under the 2005 LRDP, the West Campus Solar Farm project site is not within the land use planning area of a public airport. Therefore, there would be no change in air traffic patterns from construction or operation of the project. The continued implementation of LRDP PP 4.14-5 and PP 4.14-8 as part of the proposed project would reduce the impact to impairment of emergency access. The proposed project is not expected to result in any substantial delays for emergency vehicles. The impact would be less than significant.

Implementation of the West Campus Solar Farm project would not conflict with adopted policies, plans, or programs supporting alternative transportation, or substantially increase demand for public transit facilities.

As analyzed in the LRDP Amendment 2 EIR, campus development, including the development of the project site under the amended 2005 LRDP, would not substantially increase demand for regional and local transit services. The amended 2005 LRDP would increase the campus population and consequently increase demand for public transportation. The continued implementation of LRDP PP 4.14-1 as part of the amended 2005 LRDP would reduce the impact to public transit. LRDP Mitigation Measure 4.14-13 would be implemented to ensure that the Campus works with service providers to provide adequate public transit service to the campus. Therefore, the amended 2005 LRDP would result in a less than significant impact related to public transit or public transit plans (UC Riverside 2011). As the West Campus Solar Farm project would not add population to the campus or facilitate population growth beyond that envisioned in the amended 2005 LRDP, the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts to public transit, public transit plans, bicycle plans, pedestrian systems, or the conclusions in the LRDP Amendment 2 EIR.

6.16.3 Analysis of Cumulative Impacts

The cumulative impact of traffic that would result from regional future growth, including the West Campus Solar Farm project, is analyzed in the LRDP Amendment 2 EIR. The scale of development for the West Campus Solar Farm project is smaller than previously analyzed for the project site in the LRDP Amendment 2 EIR, but the project supports the same population growth analyzed in the LRDP Amendment EIR. Therefore, the project is adequately analyzed for its cumulative impacts in the LRDP Amendment 2 EIR.

6.16.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no additional changes in circumstances in which the project would be undertaken and no new information has become available since the certification of the LRDP Amendment 2 EIR that would alter the previous analysis or change its conclusions.

6.16.5 Conclusion

The development of the West Campus Solar Farm project would not adversely affect public transit plans, bicycle plans, or pedestrian systems. In addition, the West Campus Solar Farm project is not near a public airport, would not affect the nearby private airport, and would not substantially increase hazards due to

a design feature or result in adequate emergency access. The West Campus Solar Farm project would not contribute to the significant and unavoidable impact on signalized intersections under future conditions and a significant and unavoidable impact related to exceedance of the level of service threshold along local and freeway roadway segments under future conditions. The project would not change the nature or increase the magnitude of potential impacts to transportation and traffic or the conclusions in the LRDP Amendment 2 EIR.

6.17 UTILITIES AND SERVICE SYSTEMS

6.17.1 Relevant Elements of the West Campus Solar Farm Project

The City of Riverside supplies domestic water to the UC Riverside campus. The water is supplied by pumping groundwater from 48 wells operated by Riverside Public Utilities (RPU). The City of Riverside owns and operates the Riverside's Regional Water Quality Control Plant (RRWQCP) which serves the campus. Nonhazardous municipal waste from the campus is handled by Burrtec Waste Industries. The waste is sent to the Badlands Landfill. RPU provides electricity and the Southern California Gas Company would provide natural gas to the campus (UCR Riverside 2011).

The West Campus Solar Farm project would construct a solar farm that would generate about 3.5-MW of electricity per year. There is an existing campus-owned 12 kV substation located directly to the southeast of the project site.

6.17.2 Analysis of Project

The West Campus Solar Farm project would not require development of a new water supply, or the construction of new or expanded wastewater and storm water treatment or conveyance facilities; and the project would be served by a landfill with sufficient permitted capacity.

As analyzed in the LRDP Amendment 2 EIR, campus development, including the development of the project site under the amended 2005 LRDP, would not require expanded water supply or natural gas production or transmission facilities, the expansion of the regional landfill, or substantially affect the capacity of the Badlands Landfill. The additional production of wastewater would result in the need for new or expanded wastewater treatment and conveyance facilities. In addition, the increased impervious surfaces would result in the need for new or expanded stormwater drainage facilities. The continued implementation of LRDP PP 4.15-1(a) through PP 4.15-1(d) as part of the amended 2005 LRDP would reduce the impact to water supply by implementing water conservation measures. LRDP PP 4.15-5 would reduce the impacts associated with water quality standards or waste discharge requirements. LRDP Mitigation Measure 4.15-2 would further reduce the impact to water treatment facilities. LRDP Mitigation

Measure 4.15-3 would further reduce the impact to wastewater treatment capacity. LRDP Mitigation Measure 4.15-4 would further reduce the impact to wastewater conveyance facilities. LRDP Mitigation Measure 4.15-5 would reduce the impact to storm water facilities. LRDP Mitigation Measures 4.15-6-(a) and 4.15-6(b) would reduce the impact from the increase in demand on the capacity of existing wastewater trunk lines. The impact on potable water supply and facilities, wastewater facilities, storm water facilities, natural gas facilities, and the local landfill from campus development under the amended 2005 LRDP was determined to be less than significant (UC Riverside 2011).

As noted in the project description, the project site contains abandoned orchards which will be removed and all plant materials will be composted or appropriately disposed. Once installed, the West Campus Solar Farm project would not require natural gas, landfill services, or produce wastewater. Periodic maintenance and cleaning of the solar panels would be necessary. Minimal water would be used to clean the panels during maintenance. In addition, the water demand for the West Campus Solar Farm project would not exceed that anticipated for development implementing the underlying LRDP land uses for the project site. The West Campus Solar Farm project would have a less significant impact on water supply or conveyance facilities, wastewater and stormwater treatment plant capacity, natural gas line extensions, the expansion of the regional landfill, and the capacity of the Badlands Landfill. The development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts to potable water facilities, wastewater facilities, storm water facilities, energy services, the local landfill, or the conclusions in the LRDP Amendment 2 EIR.

The West Campus Solar Farm project would not require construction of or improvements to electrical transmission facilities.

As analyzed in the LRDP Amendment 2 EIR, campus development, including the development of the project site under the amended 2005 LRDP, would not require construction of new electrical transmission facilities. The total capacity of the existing 12 kV substation is 54 MVA which would be able to accommodate the full development of the campus under the amended 2005 LRDP (UC Riverside 2011).

The West Campus Solar Farm project would produce energy which would be routed through the existing 12 kV substation to be used on the campus. The substation has enough capacity to handle the electricity generated at the Solar Farm and no electrical facilities or improvements would need to be constructed. In addition, the Solar Farm would provide approximately 38 percent of the base electrical demand on the campus, so any additional connections to route the energy produced to another off-site location would not be necessary. The development of the West Campus Solar Farm project would not change the nature or increase the magnitude of the potential impacts to electrical transmission facilities or the conclusions in the LRDP Amendment 2 EIR.

6.17.3 Analysis of Cumulative Impacts

Cumulative impacts of campus development under the amended 2005 LRDP on utilities and service systems are addressed in the LRDP Amendment 2 EIR. The EIR concluded that campus development, in conjunction with other cumulative development, would result in demand for water, electrical, and natural gas; and expansion or construction of new wastewater facilities and regional landfill. The cumulative impacts from demand for water, the demand placed on the RRWQCP, Badlands Landfill, and the demand for electricity and natural gas would be less than significant (UC Riverside 2011).

As discussed above, the proposed project would create little to no demand on utilities and will in fact reduce the demand for electricity, water and wastewater compared to land uses planned for the project site under the amended 2005 LRDP. However, the West Campus Solar Farm project would still support the same population growth as previously analyzed. Therefore, the West Campus Solar Farm project's cumulative impacts on utilities and service systems are adequately addressed in the LRDP Amendment 2 EIR.

6.17.4 Changes in Circumstances or New Information that could affect the Earlier Environmental Analysis

There are no changes in circumstances in which the West Campus Solar Farm project would be undertaken. No new information has become available and no new regulations related to utilities and service systems have come into effect since the certification of the LRDP Amendment 2 EIR that would alter the previous analysis and change its conclusions.

6.17.5 Conclusion

The West Campus Solar Farm project would not have a substantial adverse effect on utilities and service systems. The project would not change the nature or increase the magnitude of potential impacts to utilities and service systems or the conclusions in the LRDP Amendment 2 EIR.

7.0 SUPPORTING INFORMATION SOURCES

CHJ Consultants. 2013. Phase I Environmental Site Assessment Proposed West Campus Solar Photovoltaic Project. May.

UC Riverside. 2005. *2005 Long Range Development Plan*, Environmental Impact Report. Prepared by EIP Associates. November.

UC Riverside. 2011. *2005 Long Range Development Plan Amendment 2*, Environmental Impact Report. Prepared by Impact Sciences, Inc. August.

UC Riverside. 2005. *Long Range Development Plan*. Prepared by the University of California, Riverside.

8.0 ADDENDUM PREPARERS

Impact Sciences, Inc.

Managing Principal: Shabnam Barati, Ph.D.
Air Quality Engineer: Eric Bell
Staff Planner: Caitlin Gilleran

Impact	Applicable LRDP Planning Strategies, Programs and Practices, and Mitigation Measures
Implementation of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices, would not result in a new significant impact on scenic vistas.	**PP 4.1-1:** The Campus shall provide design professionals with the 2007 Campus Design Guidelines and instructions to implement the guidelines, including those sections related to use of consistent scale and massing, compatible architectural style, complementary color palette, preservation of existing site features, and appropriate site and exterior lighting design.
Implementation of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices, would not result in a new significant impact to the visual quality and character of the site and its surroundings.	**PP 4.1-1:** The Campus shall provide design professionals with the 2007 Campus Design Guidelines and instructions to implement the guidelines, including those sections related to use of consistent scale and massing, compatible architectural style, complementary color palette, preservation of existing site features, and appropriate site and exterior lighting design.
Implementation of the West Campus Solar Farm project, which includes relevant LRDP Planning Strategies and Programs and Practices, would not result in a new significant impact related to new sources of light and glare.	**Planning Strategy Conservation 2:** Site buildings and plan site development to minimize site disturbance, reduce erosion and sedimentation, reduce stormwater runoff, and maintain existing landscapes, including healthy mature trees whenever possible. **PP 4.1-1:** The Campus shall provide design professionals with the 2007 Campus Design Guidelines and instructions to implement the guidelines, including those sections related to use of consistent scale and massing, compatible architectural style, complementary color palette, preservation of existing site features, and appropriate site and exterior lighting design. **PP 4.1-2(b):** The campus shall continue to relocate, where feasible, mature "specimen" trees that would be removed as a result of construction activities on the campus.
Construction of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices and Mitigation Measures, would not significantly increase the severity of construction emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation.	**PP 4.3-2(a):** Construction contract specifications shall include the following: (i) Compliance with all SCAQMD rules and regulations (ii) Maintenance programs to assure vehicles remain in good operating condition (iii) Avoid unnecessary idling of construction vehicles and equipment (iv) Use of alternative fuel construction vehicles (v) Provision of electrical power to the site, to eliminate the need for on-site generators **PP 4.3-2(b):** The Campus shall continue to implement dust control measures consistent with SCAQMD Rule 403—Fugitive Dust during the construction phases of new project development. The following actions are currently recommended to implement Rule 403 and have been quantified by the SCAQMD as being able to reduce dust generation between 30 and 85 percent depending on the source of the dust generation. The Campus shall implement these measures as necessary to reduce fugitive dust. Individual measures shall be specified in construction documents and require implementation by construction contractor: (i) Apply water and/or approved non-toxic chemical soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas that have been inactive for 10 or more days). (ii) Replace ground cover in disturbed areas as quickly as possible. (iii) Enclose, cover, water twice daily, or apply approved chemical soil binders to exposed piles with 5 percent or greater silt content. (iv) Water active grading sites at least twice daily. (v) Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour over a 30-minute period. (vi) All trucks hauling dirt, sand, soil, or other loose materials shall be covered or maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of

	the trailer), in accordance with Section 23114 of the California Vehicle Code. (vii) Sweep streets at the end of the day if visible soil material is carried over to adjacent roads. (ix) Apply water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces. (x) Post and enforce traffic speed limits of 15 miles per hour or less on all unpaved roads. **Mitigation Measure 4.3-1(a):** For each construction project on the campus, the project contractor will implement Programs and Practices 4.3-2(a) and 4.3-2(b). In addition, the following PM10 and PM2.5 control measure shall be implemented for each construction project: • Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance. **Mitigation Measure 4.3-1(b):** For each construction project on the campus, the University shall require that the project include a construction emissions control plan that includes a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used for an aggregate of 40 or more hours during any portion of the construction project. During construction activity, the contractor shall utilize CARB certified equipment or better for all on-site construction equipment according to the following schedule: • January 1, 2011 to December 31, 2011: All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier 2 off-road emissions standards. In addition, all construction equipment shall be outfitted with the BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. • January 1, 2012 to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. Post January 1, 2015: All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. • A copy of each unit's certified specification, BACT documentation and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit or equipment. • Encourage construction contractors to apply for AQMD 'SOON" funds. Incentives could be provided for those construction contractors who apply for AQMD "SOON" funds. The "SOON" program provides funds to accelerate clean-up of off-road diesel vehicles, such as heavy duty construction equipment. More information on this program can be found at the following website: http://www.aqmd.gov/tao/implementati on/

	soonprogram.htm The contractor shall also implement the following measures during construction: • Prohibit vehicle and engine idling in excess of 5 minutes and ensure that all off-road equipment is compliant with the California Air Resources Board's (CARB) in-use off-road diesel vehicle regulation and SCAQMD Rule 2449. • Configure construction parking to minimize traffic interference. • Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow. • Provide dedicated turn lanes for movement of construction trucks and equipment on- and off site. • Schedule construction activities that affect traffic flow on the arterial system to off-peak hour to the extent practicable. • Improve traffic flow by signal synchronization, and ensure that all vehicles and equipment will be properly tuned and maintained according to manufacturers' specifications. • Use diesel-powered construction vehicles and equipment that operate on low-NOx fuel where possible. • Reroute construction trucks away from congested streets or sensitive receptor areas. • Maintain and tune all vehicles and equipment according to manufacturers' specifications.
Implementation of the West Campus Solar Farm project, which includes relevant LRDP Mitigation Measures, would not result in a new significant impact with regards to the movement of any native resident or migratory fish or wildlife species or migratory wildlife corridors or affect nesting birds.	**Mitigation Measure 4.4-4(a**): Prior to the onset of construction activities that would result in the removal of mature trees and would occur between March and mid- August, surveys for nesting special status avian species and raptors shall be conducted on the affected portion of the campus following USFWS and/or CDFG guidelines. If no active avian nests are identified on or within 250 feet of the construction site, no further mitigation is necessary. **Mitigation Measure 4.4-4(b):** If active nests for avian species of concern or raptor nests are found within the construction footprint or a 250-foot buffer zone, exterior construction activities shall be delayed within the construction footprint and buffer zone until the young have fledged or appropriate mitigation measures responding to the specific situation have been developed and implemented in consultation with USFWS and CDFG.
Implementation of the West Campus Solar Farm project, which includes relevant LRDP Planning Strategies and Planning Strategies and Programs and Practices, would not result in a new significant impact on archaeological, human remains, and paleontological resources.	**Planning Strategy Conservation 2:** Site buildings and plan site development to minimize site disturbance, reduce erosion and sedimentation, reduce stormwater runoff, and maintain existing landscapes, including healthy mature trees whenever possible. **PP 4.5-3:** If construction would occur within the southeast hills or within the portion of the West Campus north of Martin Luther King Boulevard, a surface field survey shall be conducted in conjunction with a project specific environmental analysis in accordance with CEQA. Depending on the results of the survey, the following measures shall be implemented: (i) If no evidence of surface archaeological resources is discovered, or if development would occur in areas not designated as sensitive for archaeological resources: • Prior to site preparation or grading activities, construction personnel shall be informed of the potential for encountering unique archaeological resources and taught how to identify these resources if encountered. This shall include the provision of written materials to familiarize personnel with the range of resources that might be expected, the type of activities that may result in impacts, and the legal framework of cultural resources protection. Construction specifications shall require that all construction personnel shall be instructed to stop work in the vicinity of a potential discovery until a qualified, non-University archaeologist assesses the significance of the find and implements

	appropriate measures to protect or scientifically remove the find. Construction personnel shall also be informed that unauthorized collection of archaeological resources is prohibited. • The campus shall require the site project contractor to report any evidence of archaeological resources unearthed during development excavation to the campus. • The archaeologist shall then be present during the grading and shall have the authority to halt disturbance of any archaeological resources long enough to assess the situation, conduct testing, and implement mitigation measures that would reduce impacts in accordance with Section 21083.2 of CEQA. (ii) If any evidence of archaeological materials is discovered on the surface during field survey, then: • A qualified archaeologist shall prepare a recovery plan for the resources. • An archaeologist shall also be present during grading and shall have the authority to halt disturbance of any archaeological resources long enough to assess the situation, conduct testing, and implement mitigation measures that would reduce impacts in accordance with Section 21083.2 of CEQA. **PP 4.5-4:** Construction specifications shall require that if a paleontological resource is uncovered during construction activities: (i) A qualified paleontologist shall determine the significance of the find. (ii) The campus shall make an effort to preserve the find intact through feasible project design measures. (iii) If it cannot be preserved intact, then the University shall retain a qualified non-University paleontologist to design and implement a treatment plan to document and evaluate the data and/or preserve appropriate scientific samples. (iv) The paleontologist shall prepare a report of the results of the study, following accepted professional practice. (v) Copies of the report shall be submitted to the University and the Riverside County Museum. **P4.5-5:** In the event of the discovery of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find shall halt immediately and the area of the find shall be protected and the University immediately shall notify the Riverside County Coroner of the find and comply with the provisions of P.R.C. Section 5097 with respect to Native American involvement, burial treatment, and re-burial, if necessary.
Implementation of the West Campus Solar Farm project, which includes relevant LRDP Planning Strategies, would not result in a new significant impact associated with substantial soil erosion or the loss of topsoil, expansive soil, or soil incapable of adequately supporting the use of septic tanks or alternative wastewater disposal units.	**Planning Strategy Conservation 2:** Site buildings and plan site development to minimize site disturbance, reduce erosion and sedimentation, reduce stormwater runoff, and maintain existing landscapes, including healthy mature trees whenever possible.
Implementation of the West Campus Solar Farm project, which includes relevant LRDP Planning Strategies, would not result in a new significant impact associated with exposure of people or structure to increased risk associated with landsliding, lateral spreading, subsidence, liquefaction, collapse, or differential settlement.	**Planning Strategy Conservation 2:** Site buildings and plan site development to minimize site disturbance, reduce erosion and sedimentation, reduce stormwater runoff, and maintain existing landscapes, including healthy mature trees whenever possible.
Implementation of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices and Mitigation Measures, would not result a new significant impact to the public or the environment from being located on a site which	**PP 4.7-4:** Prior to demolition of structures on the campus or new construction on former agricultural teaching and research fields, the campus shall complete a Phase I environmental site assessment to determine the potential for soil or groundwater contamination on a project site. If the assessment determines that a substantial potential exists on the site, the

included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 or from renovation or demolition of buildings which may contain hazardous materials.	campus shall develop and implement an appropriate testing and, if needed, develop a remediation strategy prior to demolition or construction activities. If contaminated soil and/or groundwater is encountered during the removal of on-site debris or during excavation and/or grading activities (i) The construction contractor(s) shall stop work and immediately inform EH&S. (ii) An on-site assessment shall be conducted to determine if the discovered materials pose a significant risk to the public or construction workers. (iii) If the materials are determined to pose such a risk, a remediation plan shall be prepared and submitted to EH&S to comply with all federal and State regulations necessary to clean and/or remove the contaminated soil and/or groundwater. (iv) Soil remediation methods could include, but are not necessarily limited to, excavation and on-site treatment, excavation and off-site treatment or disposal, and/or treatment without excavation. (v) Remediation alternatives for cleanup of contaminated groundwater could include, but are not necessarily limited to, on-site treatment, extraction and off-site treatment, and/or disposal. (vi) The construction schedule shall be modified or delayed to ensure that construction will not inhibit remediation activities and will not expose the public or construction workers to significant risks associated with hazardous conditions. **Mitigation Measure 4.7-4:** Prior to development on former agricultural lands, appropriate soil testing shall be performed to determine whether chemical residue is present from prior activities in amounts that would pose health hazards to construction workers and/or occupants of new buildings. If contamination is determined to be present, PP 4.7-4 shall be implemented.
The West Campus Solar Farm project, which includes relevant LRDP Planning Strategies and Programs and Practices, would not result in new significant impact from runoff that would violate water quality standards or waste discharge requirements.	**Planning Strategy Conservation 2:** Site buildings and plan site development to minimize site disturbance, reduce erosion and sedimentation, reduce stormwater runoff, and maintain existing landscapes, including healthy mature trees whenever possible. **PP 4.8-1:** The campus will continue to comply with all applicable water quality requirements established by the SARWQCB.
The West Campus Solar Farm project, which includes relevant LRDP Planning Strategies and Programs and Practices, would not substantially alter drainage patterns on campus and would not result in substantial erosion or siltation on- or off-site.	**Planning Strategy Conservation 2 :** Site buildings and plan site development to minimize site disturbance, reduce erosion and sedimentation, reduce stormwater runoff, and maintain existing landscapes, including healthy mature trees whenever possible. **PP 4.8-3(c):** The campus shall continue to implement dust control measures consistent with SCAQMD Rule 403—Fugitive Dust during the construction phases of new project development. The following actions are currently recommended to implement Rule 403 and have been quantified by the SCAQMD as being able to reduce dust generation between 30 and 85 percent depending on the source of the dust generation. The Campus shall implement these measures as necessary to reduce fugitive dust. Individual measures shall be specified in construction documents and require implementation by construction contractor: (i) Apply water and/or approved nontoxic chemical soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas that have been inactive for 10 or more days) (ii) Replace ground cover in disturbed areas as quickly as possible (iii) Enclose, cover, water twice daily, or apply approved chemical soil binders to exposed piles with 5 percent or greater silt content (iv) Water active grading sites at least twice daily (v) Suspend all excavating and grading operations when wind speeds (as

	instantaneous gusts) exceed 25 miles per hour over a 30-minute period (vi) All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer), in accordance with Section 23114 of the California Vehicle Code (vii) Sweep streets at the end of the day if visible soil material is carried over to adjacent roads (viii) Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip (ix) Apply water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces (x) Post and enforce traffic speed limits of 15 miles per hour or less on all unpaved roads **PP 4.8-3(e):** Prior to the time of design approval, the campus will evaluate each specific project to determine if the project runoff would exceed the capacity of the existing storm drain system. If it is found that the capacity would be exceeded, one or more of the following components of the storm drain system would be implemented to minimize the occurrence of local flooding: (i) Multi-project stormwater detention basins (ii) Single-project detention basins (iii) Surface detention design (iv) Expansion or modification of the existing storm drain system (v) Installation of necessary outlet control facilities
Construction of the UCR Solar Project West Campus Solar Farm project, which includes relevant LRDP Programs and Practices and Mitigation Measures, would not significantly increase the severity of the impact to on-campus receptors from groundborne vibration.	**PP 4.10-2:** The UCR Campus shall limit the hours of exterior construction activities from 7:00 AM to 9:00 PM Monday through Friday and 8:00 AM to 6:00 PM on Saturday when necessary. Construction traffic shall follow transportation routes prescribed for all construction traffic to minimize the impact of this traffic (including noise impacts) on the surrounding community. **Mitigation Measure 4.10-2:** The Campus shall notify all academic and residential facilities within 300 feet of approved construction sites of the planned schedule of vibration causing activities so that the occupants and/or researchers can take necessary precautionary measures to avoid negative effects to their activities and/or research.
The West Campus Solar Farm project, which includes relevant Programs and Practices, would not result in a significant new noise impact on on- or off-campus ambient noise levels from new stationary noise sources.	**PP 4.10-6:** The Campus shall continue to shield all new stationary sources of noise that would be located in close proximity to noise-sensitive buildings and uses.
Construction of the West Campus Solar Farm project, which includes relevant LRDP Programs and Practices, would not substantially increase the severity of the significant LRDP impact from temporary or periodic increases in ambient noise levels at locations on- and off-campus.	**PP 4.10-7(a):** To the extent feasible, construction activities shall be limited to 7:00 AM to 9:00 PM Monday through Friday, 8:00 AM to 6:00 PM on Saturday, and no construction on Sunday and national holidays, as appropriate, in order to minimize disruption to area residences surrounding the campus and to on-campus uses that are sensitive to noise. **PP 4.10-7(b):** The Campus shall continue to require by contract specifications that construction equipment be required to be muffled or otherwise shielded. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers. **PP 4.10-7(c):** The Campus shall continue to require that stationary construction equipment material and vehicle staging be placed to direct noise away from sensitive receptors. **PP 4.10-7(d):** The Campus shall continue to conduct regular meetings, as

	needed, with on campus constituents to provide advance notice of construction activities in order to coordinate these activities with the academic calendar, scheduled events, and other situations, as needed.
The West Campus Solar Farm project, which includes relevant LRDP Program and Practices, is not near a public airport, would not affect the nearby private airport or change air traffic patterns, and would not substantially increase hazards due to a design feature or result in adequate emergency access.	**PP 4.14-5:** 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. **PP 4.14-8:** To maintain adequate access for emergency vehicles when construction projects would result in roadway closures, the Office of Architects and Engineers shall consult with the UCPD, EH&S, and the RFD to disclose roadway closures and identify alternative travel routes.