7.1 INTRODUCTION

This section presents the CEQA findings regarding significant and unavoidable effects, significant irreversible environmental changes, growth inducing impacts, and effects found not to be significant.

7.2 SIGNIFICANT AND UNAVOIDABLE EFFECTS

As identified and described in Chapter 4, implementing the 2014 LRDP would result in the following significant impacts that cannot be mitigated to a less than significant level.

Below is a summary of those impacts:

- Operational activities associated with development under the 2014 LRDP would result in criteria pollutant emissions that would exceed BAAQMD CEQA thresholds and therefore potentially violate an air quality standard or contribute substantially to an existing or projected air quality violation (Air Quality)
- Operational activities associated with 2014 LRDP implementation would expose people to substantial levels of TACs or expose sensitive receptors to substantial pollution concentrations in excess of the relevant BAAQMD thresholds. (Air Quality)
- Development under the 2014 LRDP would conflict with or obstruct implementation of the applicable air quality plan. (Air Quality)
- Development under the 2014 LRDP would result in significant impacts on historic Buildings 150 and 175 through demolition or visual intrusion from new building construction. (Cultural Resources)
- Development under the 2014 LRDP could result in significant impacts on historic structures that have not been identified or that would become of historic age over the life of the plan. (Cultural Resources)
- Development under the 2014 LRDP would generate GHG emissions that would result in a significant impact on the environment. (Greenhouse Gas Emissions)
- Development under the 2014 LRDP would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. (Greenhouse Gas Emissions)
- Development under the 2014 LRDP would conflict with an applicable plan, ordinance, or policy establishing effectiveness measures for circulation system performance and would cause an exceedance of a level of service standard established for the study intersections under 2035 conditions. (Transportation and Traffic)
- Development under the 2014 LRDP would conflict with an applicable plan, ordinance. or policy establishing effectiveness measures for circulation system performance and would cause an exceedance of a level of service standard established for the study intersections under existing conditions. (Transportation and Traffic)
- Development under the 2014 LRDP would conflict with an applicable plan, ordinance, or policy establishing effectiveness measures for circulation system performance and would

cause an exceedance of a level of service standard established for CMP facilities (freeways) under 2035 conditions. (Transportation and Traffic)

7.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the *State CEQA Guidelines* states that an EIR must include a discussion of any significant irreversible environmental changes that would be caused by a proposed project. Generally, a project would result in irreversible environmental changes if:

- The primary and secondary impacts would generally commit future generations to similar uses, such as when a project extends transportation or other infrastructure to an area previously without those services;
- The project would involve a large commitment of nonrenewable resources; or
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project.

7.3.1 Commitment of the RBC Site to Institutional Use

The proposed project does not involve the extension of transportation or utility infrastructure to any areas currently not served by such infrastructure. The RBC site is served by existing roadway network and utilities, and is currently used for academic and research purposes by the University. Implementation of the 2014 LRDP would not fundamentally alter land use at the site, which would continue to serve the academic and scientific uses of the University. It would continue to commit the RBC site to institutional uses. Because the site is already disturbed and developed, the proposed project would not result in a significant irreversible commitment of future generations to any new uses.

7.3.2 Consumption of Resources, including Nonrenewable Resources

Resources that would be permanently and continually consumed by project implementation include water, electricity, natural gas, and fossil fuels. In addition, construction activities related to the proposed 2014 LRDP would consume nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil, natural gas, and gasoline) for automobiles and construction equipment. However, the consumption of these resources during the construction and operation of campus facilities would not represent unnecessary, inefficient, or wasteful use of resources.

The University plans to develop the RBC as a showcase of sustainable design and operations. In August 2011, the University updated its UC Sustainable Practices Policy,⁴⁰ which set environmental practices goals for both construction and operation in eight areas: green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmentally preferable purchasing, and sustainable food service. All RBC projects would meet or exceed the goals defined in this, or any successor, UC sustainability policy. In addition to satisfying the UC sustainability policy, all DOE funded projects at the RBC would meet or exceed the goals defined in DOE Order 436.1, which identifies requirements and responsibilities for managing sustainability within DOE facilities.

As described in Section 3.6.5, RBC physical development would incorporate energy efficiency principles in all construction and demolition projects, renovation projects, operations, and maintenance within budgetary constraints. In cases where certain facility types, such as a laboratories or data centers, are not required to meet energy consumption code requirements, the projects would be designed to meet specific energy and carbon performance metrics such as those

⁴⁰ http://www.universityofcalifornia.edu/sustainability/policy.html

defined by the "Labs21" (DOE and EPA), "Smart Labs" (UC Irvine), or similar applicable programs.

In order to minimize water use, the RBC projects would include such measures as installation of water-efficient landscaping and drip or other efficient irrigation systems, water-efficient fixtures, and rainwater and stormwater capture for irrigation use.

The RBC would support bio-diversity and habitat conservation by using native plants wherever possible. In addition, the RBC would use low-impact development design techniques and Bay-Friendly landscape design (see www.stopwaste.org) and make stormwater management a site feature.

The RBC would also comply with the UC Sustainable Practices Policy for zero municipal solid waste by 2020 by creating a robust on-site recycling program for diverting municipal solid waste from landfills. Building materials would be selected to reduce embodied energy, maximize building lifespan, and be recyclable or reusable. Material use overall would be minimized, whether in buildings or in other site operations (e.g., paper), and recycled wherever practicable. Materials would be locally sourced and from renewable sources to the degree feasible, including demolition materials re-use and recycling.

In addition to improving shuttle access, the RBC would implement a TDM program that would include alternate mode use incentives such as discounted transit passes, parking cash-out, Guaranteed Ride Home, and flexible car share programs.

In addition, RBC would comply with all applicable building codes, including CALGreen standards, and would ensure that all natural resources are conserved to the maximum extent feasible. It is also possible that new technologies or systems will emerge, or will become more cost-effective or user-friendly, to further reduce the campus' reliance upon nonrenewable energy resources. Overall, the consumption of natural resources would increase at a lesser rate than the projected population increase due to the variety of energy and water conservation measures that the University has implemented and would continue to implement.

In summary, the project would not result in a significant irreversible consumption of nonrenewable resources. Consumption of both renewable and non-renewable resources during the construction and operation of campus facilities would not be inefficient, wasteful, or unjustified.

7.3.3 Irreversible Damage from Environmental Accidents or Other Irreversible Environmental Changes

The *State CEQA Guidelines* also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the project. While future development at the RBC site would involve the use, transport, storage, and disposal of hazardous wastes, as described in Section 4.7, Hazards and Hazardous Materials, the RBC would comply with all applicable state and federal laws and existing and new campus programs, practices, and procedures related to hazardous materials, which would reduce the likelihood and severity of accidents that could result in irreversible environmental damage. Thus, the potential for RBC development pursuant to the 2014 LRDP to cause irreversible environmental damage from an accident involving hazardous materials is not reasonably foreseeable.

The 2014 LRDP would result in one significant irreversible change, demolition of historical resources that, once gone, cannot be replaced. As described in Section 4.4, Cultural Resources, implementation of the proposed 2014 LRDP would cause a substantial adverse change on

historical resources, including historical resources that have not yet been identified. At a minimum, demolition of Buildings 150 and 175 is anticipated during the lifetime of the 2014 LRDP. This is identified as a significant, unavoidable impact in Section 4.4.

7.4 **GROWTH INDUCING IMPACTS**

As described in Section 4.11, Population and Housing, the project would increase the employee population at the RBC site, but it would not induce substantial population growth in Richmond or elsewhere in the region, either directly or indirectly. The proposed 2014 LRDP, in conjunction with other projects that could be developed in Richmond, would induce population growth in Richmond and the Bay Area, but the 2014 LRDP's contribution to this impact would not be cumulatively considerable.

7.5 EFFECTS FOUND TO BE INSIGNIFICANT WITHOUT FURTHER ANALYSIS

Project impacts to Agriculture and Forest Resources and Mineral Resources were determined to require no additional analysis. Impacts related to the following topic areas were determined to require no additional analysis and are discussed in the Initial Study in Appendix A:

- Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings in a state scenic highway corridor (Aesthetics and Visual Quality)
- Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use (Agriculture and Forest Resources)
- Conflicts with existing zoning for agricultural use, or a Williamson Act contract (Agriculture and Forest Resources)
- Changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use (Agriculture and Forest Resources)
- Conflicts with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g) or timberland (as defined by Public Resources Code Section 4526) (Agriculture and Forest Resources)
- Loss of forest land or conversion of forest land to non-forest uses (Agriculture and Forest Resources)
- Conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan (Biological Resources)
- Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42. (Geology and Soils)
- Exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides (Geology and Soils)
- Soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (Geology and Soils)

- For a project in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, safety hazards for people residing or working in the project area (Hazards and Hazardous Materials)
- For a project near a private airstrip, safety hazards for people residing or working in the project area (Hazards and Hazardous Materials)
- Exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (Hazards and Hazardous Materials)
- Housing in a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (Hydrology and Water Quality)
- Conflicts with any applicable habitat conservation plan or natural community conservation plan (Land Use and Planning)
- Loss of availability of a known mineral resource that would be of value to the region and the residents of the state (Mineral Resources)
- Loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan (Mineral Resources)
- For a project in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels (Noise)
- For a project near a private airstrip, exposure of people residing or working in the project area to excessive noise levels (Noise)
- Displacement of substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (Population and Housing)
- Displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere (Population and Housing)
- Change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks (Transportation and Traffic)