CHAPTER 10
REVISIONS TO THE DRAFT EIR

This chapter presents substantive corrections and changes made to the Draft EIR and incorporated as part of the Final EIR. Revised or new language is underlined (except where an entire passage is newly added, where underlining is not used in the interest of clarity). Deleted language is indicated by ~~strikethrough~~ text.

Where possible, when a change has been made as part of a response to a comment on the Draft EIR, the comment reference is noted in brackets. Some changes were responses to multiple comments. Where no comment number is given, corrections or updates were made by the EIR authors.

10.1 SECTION 1.2

Page 1-2 of the Draft EIR

The UC proposes to establish a new major research campus at properties it owns in Richmond, California. This campus would provide ~~for consolidation of biosciences programs of the LBNL and~~ for development of additional facilities for use by LBNL and UC Berkeley, and foster opportunities and synergisms between LBNL, UC Berkeley, and institutional or industry counterparts to conduct energy, environment, and health related research and development. The University proposes to rename the properties as the Richmond Bay Campus.

10.2 SECTION 1.3

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To accomplish the purpose and need, the University has the following project objectives. The project should:

- Be within an approximately 20- to 25-minute commute from the existing LBNL main entrance at Blackberry Gate on Hearst Avenue; or an approximately 20 minute commute from UC Berkeley's main entrance at Oxford and University Avenue.
- Have development capacity for approximately 5.4 million gsf of laboratory, office, and support facilities and related utility and transportation infrastructure to support the University's research, teaching, and public service mission.
- Be in a safe and welcoming community with a positive civic expression of interest in development of the site.
- Be readily accessible to a variety of modes of public transportation, inclusive of local buses, mass transit (Bay Area Rapid Transit [BART], Amtrak, and Alameda-Contra Costa [AC] Transit), and shuttle services, and allow safe bicyclist access from designated bicycle routes.
- Allow for electrical, natural gas, and water utilities for the lowest possible cost.
- ~~Allow consolidation of LBNL bioscience programs.~~
- Allow for establishment of a design framework for development of a state-of-the-art research campus that will be the location of choice for internationally recognized researchers.

- Foster synergy and collaboration between UC Berkeley and LBNL in and across disciplines and institutions in both the public and private sectors.
- Provide sustainable land use and circulation patterns which maximize density to reduce overall building footprints and conserve open space, and maximize bicycle, pedestrian and shuttle services and allow for placement and massing of buildings to maximize shared views.
- Facilitate efficient constructability of facilities (buildings, parking structures, bridges, etc.), infrastructure development (roads, underground utilities, pedestrian walkways, etc.), and open space.
- Foster connectivity with the surrounding community.
- Leverage capital investment for environmental stewardship.

10.3 SECTION 1.4

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Comments received in the public scoping process were considered during preparation of this Draft EIR. This Draft EIR ~~has been~~ was made available for a 60-day public review period (November 15, 2013, to January 21, 2014). All comments on the Draft EIR ~~should be~~ were sent to:

Jeff Philliber
Environmental Planning Group
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 76-225
Berkeley, CA 94720

Comments ~~may~~ were also ~~be~~ sent by e-mail to: lrdp-eir@lbl.gov (attention: Jeff Philliber).

The 2014 LRDP and this Draft EIR ~~are also~~ were publicly available at www.lbl.gov/lrdp (for the duration of this CEQA process) and at the following locations:

Berkeley Lab Main Library
One Cyclotron Road
Building 50, Room 4034
Berkeley, CA 94720

Richmond City Library
325 Civic Center Plaza
Richmond, CA 94804

A public hearing on the adequacy of the Draft EIR ~~will be~~ was held December 11, 2013, at:

Richmond City Hall
450 Civic Center Plaza
Richmond, CA 94804

Following the 60-day public review period, comments on the adequacy of the Draft EIR, submitted within the review period, ~~will be~~ have been addressed in the Final EIR. The Final EIR will be made available online at http://richmondbaycampus.lbl.gov/ and will include the responses to Draft EIR comments, a mitigation monitoring and reporting program, any changes made to the EIR, and any additional information concerning the project. The Regents will then consider the Final EIR prior

to taking any action to approve, modify, or reject the project. Before taking action on the proposed project, The Regents must certify the Final EIR, adopt CEQA Findings, and approve the Mitigation Monitoring and Reporting Program.

10.4 SECTION 1.5

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- **Section 7 Consultation~~:~~.** The Federal Endangered Species Act (ESA) requires a federal agency (potentially the Army Corps of Engineers if issuance of a Section 404 permit is required, or the Department of Energy) to seek formal consultation with the U.S. Fish and Wildlife Service (USFWS) for any action that may result in the "take" of any species listed or proposed for listing as threatened or endangered. Based on this consultation, the USFWS may issue a biological opinion determining whether the project is likely to adversely affect or jeopardize the continued existence of a federally listed species, or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species. Section 7 consultation may be required for any project that receives federal funding. In some cases, the USFWS finds that an action may adversely affect a species, but not jeopardize its continued existence. When this happens, the USFWS prepares an incidental take statement for the proposed federal action. Under most circumstances, the ESA prohibits take. "Incidental take," which is take that results from a federal action but is not the purpose of the action, may be allowed when the USFWS approves it through an incidental take statement. The statement includes the amount or extent of anticipated take due to the federal action, reasonable and prudent measures to minimize the take, and terms and conditions that must be observed when implementing those measures.
- **Section 10 of the Endangered Species Act~~:~~.** Section 10 of the ~~Federal Endangered Species Act~~ ESA provides a nonfederal applicant a mechanism to obtain incidental take authorization, as described above under Section 7 Consultation, for federally listed threatened or endangered species. Under Section 10, a habitat conservation plan is required to support the incidental take statement.

10.5 SECTION 2.3.1

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In the near term, existing programs at the site in sustainable transportation and earthquake engineering, among others, will continue; the site will also continue to house important collections of the University library and UC Berkeley museums. New programs under consideration may establish the campus as a hub of joint research in advanced manufacturing, ~~bioscience,~~ and energy storage. In addition, the programs at the RBC will maintain a close connection to the research conducted on the main campuses of LBNL and UC Berkeley. The RBC will strengthen opportunities for partnerships with private industry. In the longer term, the RBC research would be likely to span the ~~biosciences, e~~nergy, environmental sciences and technology, computing sciences, nuclear and particle physics, engineering and materials sciences, chemical sciences, accelerator sciences, climate sciences, and other disciplines. This research would be done on a scale that would be housed in buildings such as those described in Section 3.7, Illustrative Development Scenario. UC Berkeley expects that student research and teaching programs would be housed at the site as part of the educational mission of the campus.

10.6 SECTION 2.3.8

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~~The remedy would also include specific actions: soil excavation at an area with mercury contamination from historic production of mercury fulminate, soil excavation of chemicals of concerns at Building 120/Corporation Yard. It would also~~ The remedy would include site-wide prescriptive requirements consisting of land use controls: deed restrictions and a soil management plan. The remedy would also include specific actions: soil excavation at an area with mercury contamination from historical production of mercury fulminate, soil excavation at select locations with polychlorinated biphenyl (PCB) contamination, and groundwater remediation at Building 280B. Remediation of groundwater impacted by TCE originating from the adjacent former Zeneca property will be addressed under the cleanup order of the adjacent former Zeneca site under the DTSC Site Investigation and Remediation Order (IS/E-RAO 06/07-005). The soil excavation areas are in the southern portion of the site, while the groundwater remediation would occur in the north-central portion of the RBC site. Continued investigation within the Natural Open Space area will continue under the DTSC ~~Order~~ Docket No. IS/E-RAO 06/07-004 for the Richmond Field Station (DTSC Order).

10.7 SECTION 2.4

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The LBNL main site is in the Berkeley hills on approximately 202 acres of UC land. The main site comprises approximately 1.6 million gsf in permanent facilities and temporary trailers. Main LBNL site structures are at full occupancy. LBNL currently leases approximately 371,100 gsf of commercial property in eight off-site locations and occupies an additional 47,333 sf of research and administration space on the UC Berkeley campus. The University determined that an additional campus site could ~~provide opportunities to consolidate LBNL biosciences research facilities and~~ accommodate future growth of existing or new LBNL and UC Berkeley programs.

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The purpose of the new campus and the associated LRDP is ~~to provide for the consolidation of LBNL biosciences programs;~~ to support existing or new LBNL and UC Berkeley program growth; to address constraints on locating new research activities at the LBNL main site; to achieve the UC Berkeley's 2002 working paper goal for creating a premiere research facility supporting and complementing UC Berkeley teaching, research, and public service programs at the Richmond property; to reduce UC Berkeley and LBNL fiscal and programmatic costs related to leasing space and dispersed programs; and to allow for successful facilities development for LBNL, UC Berkeley, and other public and private entities in a manner that supports LBNL and UC missions in a time of funding constraints and that continues their history of successful scientific collaboration.

To accomplish the purpose and need, the University has these project objectives. The project should:

- Be within an approximately 20- to 25-minute commute from the existing LBNL main entrance at Blackberry Gate on Hearst Avenue; or an approximately 20 minute commute from UC Berkeley's main entrance at Oxford and University Avenue.
- Have development capacity for approximately 5.4 million gsf of laboratory, office, and support facilities and related utility and transportation infrastructure to support the University's research, teaching, and public service mission.

- Be in a safe and welcoming community with a positive civic expression of interest in development of the site.
- Be readily accessible to a variety of modes of public transportation, inclusive of local buses, mass transit (BART, Amtrak, and AC Transit), and shuttle services, and allow safe bicyclist access from designated bicycle routes.
- Allow for electrical, natural gas, and water utilities for the lowest possible cost.
- ~~Allow consolidation of LBNL bioscience programs.~~
- Allow for establishment of a design framework for development of a state-of-the-art research campus that will be the location of choice for internationally recognized researchers.
- Foster synergy and collaboration between UC Berkeley and LBNL in and across disciplines and institutions in both the public and private sectors.
- Provide sustainable land use and circulation patterns that maximize density to reduce overall building footprints and conserve open space, and maximize bicycle, pedestrian and shuttle services ~~to~~ and allow for placement and massing of buildings to maximize shared views.
- Facilitate efficient constructability of facilities (buildings, parking structures, bridges, etc.), infrastructure development (roads, underground utilities, pedestrian walkways, etc.), and open space.
- Foster connectivity with the surrounding community.
- Leverage capital investment for environmental stewardship.

10.8 TABLE 2-2

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[Table Note: The LRDP includes implementing the proposed RAW if it is approved by DTSC. RAW impacts were separately analyzed in Chapter 5 of the EIR to inform DTSC decision-making under CEQA. DTSC will make its decision on the proposed RAW after the date of The Regents' consideration of the LRDP. At that time, assuming The Regents have approved the LRDP, LRDP policies and mitigation measures will have been previously approved by The Regents as part of the LRDP and therefore will be standard project features for activities under the LRDP, including the RAW. As explained in Chapter 5, all RAW impacts would be less than significant with implementation of these standard project features as part of the RAW, and no RAW-specific mitigation measures are necessary.]

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
AESTHETICS AND VISUAL QUALITY			
LRDP Impact AES-1 Development under the 2014 LRDP could substantially degrade the existing visual character and quality of the RBC site and its surroundings.	S	**LRDP MM AES-1:** The University shall develop and implement a Physical Design Framework that protects the visual quality of both the on- and off-campus environments through provisions that address building scale, materials, and color schemes. The Physical Design Framework shall include best management practices and procedures for avoiding or minimizing aesthetic nuisances in demolition, construction, and operational phases of the project. Design review processes for planning of new buildings and development shall be clearly articulated and followed throughout the life of the project. Increased RBC scale and density would be addressed in a number of ways through the Physical Design Framework and subsequent plans: buildings would be restricted in height and height zones would further restrict heights in certain locations. Building facades would be broken up by architectural and design features so as to minimize the appearance of mass and bulk. Reflective material would be restricted, which, would minimize the appearance of the new buildings particularly at greater distances. Trees and other landscaping features would be used to further break up, obscure, or minimize RBC development. Aesthetically objectionable appurtenances such as stacks, machinery, tanks, and HVAC systems on top of buildings would be sheltered from view wherever practical. Demolition debris and long-term construction supplies and equipment would be stored such that – to the extent practicable – they would not be visually intrusive from off-site viewpoints.	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
LRDP Impact AES-2 Development under the 2014 LRDP would not adversely affect any scenic vistas at the RBC site and its vicinity.	LTS	None required	LTS
LRDP Impact AES-3 Development under the 2014 LRDP would create new sources of light and glare that would not adversely affect regional day or nighttime views.	LTS	None required	LTS
~~**RAW Impact AES-1** Implementing the RAW would not have a substantial adverse effect on aesthetics and visual resources.~~	~~LTS~~	~~None required~~	~~LTS~~
AIR QUALITY			
LRDP Impact AIR-1 Criteria pollutant emissions associated with the construction and demolition activities under the 2014 LRDP would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.	LTS	None required	LTS
LRDP Impact AIR-2 Operational activities associated with development under the 2014 LRDP would result in criteria pollutant emissions that	S	**LRDP MM AIR-2:** When the University has developed 1,000,000 square feet of building space on the RBC site, before approving the construction of another building, the University shall prepare and implement an operational emissions minimization program that will be composed of campus-wide programs to minimize emissions from mobile and area sources, and project-specific emissions control measures, based on project-specific analysis, to minimize emissions from area and stationary	SU

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
would exceed Bay Area Air Quality Management District California Environmental Quality Act thresholds and therefore potentially violate an air quality standard or contribute substantially to an existing or projected air quality violation.		sources. <u>Campus-wide Control Measures</u> Campus-wide programs would include, but not be limited to, the following: • Implement an enhanced transportation demand management program to minimize vehicular traffic. The transportation demand management program shall include the continued implementation of existing transportation demand management measures such as provision of preferential carpool/vanpool parking; secure bike parking; showers and changing facilities; transit subsidies Guaranteed Ride Home Program; and information to employees and students regarding alternative transportation modes. The transportation demand management program will be expanded, following an evaluation of campus population and trip generation, to incorporate additional measures such as car share services; free transit passes; parking cash-out; daily parking charge; employee telecommuting program; compressed work schedules; infrastructure that allows employees to interact or conduct meetings and business without traveling; and a dedicated transportation coordinator. • Convert campus fleet to low-emission, alternative fuel, and electric vehicles over time. • Use electric equipment for landscape maintenance. • Implement an educational program for faculty and staff and distribute information to students and visitors about air pollution problems and solutions. • Develop centralized utilities such as a central plant (in place of individual boilers in buildings). <u>Stationary and Area Source Control Measures</u> When the University has developed 1,000,000 square feet of building space on the RBC site, if and when a specific building project is proposed that would add new stationary or area sources of emissions to the RBC site, the University will conduct a project-specific air quality impact assessment. If significant impacts are identified, project-specific mitigation measures will be implemented, which would include, but not be limited to, the following: • Select solar or low-emission boilers. • Select low-emission cooling towers. • Other control measures determined appropriate for the specific project based on project-specific analysis.	

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
LRDP Impact AIR-3 Construction and demolition associated with development under the 2014 LRDP would not expose people to substantial levels of toxic air contaminants or expose sensitive receptors to substantial pollutant concentrations in excess of the relevant Bay Area Air Quality Management District California Environmental Quality Act thresholds.	LTS	None required	LTS
LRDP Impact AIR-4 Operational activities associated with development under the 2014 LRDP would expose people to substantial levels of TACs or expose sensitive receptors to substantial pollution concentrations in excess of the relevant Bay Area Air Quality Management District California Environmental Quality Act thresholds.	S	~~**LRDP MM AIR-4**~~ **LRDP MM AIR-4a:** Implement LRDP MM AIR-2 to minimize the operational emissions of fine particulate matter ($PM_{2.5}$) from mobile and stationary sources and toxic air contaminant emissions from on-site stationary sources. **LRDP MM AIR-4b:**To reduce the effects from RBC laboratory emissions of formaldehyde and chloroform, the University shall implement one of the following measures in conjunction with every laboratory project that involves the use of these chemicals: • Implement one or more emission control technologies on laboratory fume hoods or stacks. Controls will be limited to portions of the laboratory that involves the use of formaldehyde and chloroform. Controls will be selected specific to the chemical emissions to be controlled (formaldehyde or chloroform or both chemicals), and in the case of laboratory stacks, may include, as appropriate, activated carbon filters, scrubbers, biofilters, flares, catalytic converters, cryogenic condensers, vapor recovery systems, and thermal oxidizers. • Demonstrate that the project's use of formaldehyde and chloroform will be at least 10 percent below that assumed for the LRDP human health risk assessment. In the event that neither measure can be implemented, the laboratory project shall demonstrate by preparing a new human health risk assessment that the maximum acute hazard from project emissions, in conjunction with existing site emissions and future emissions under the 2014 LRDP, will not exceed a hazard index of 1.0.	SU
LRDP Impact AIR-5	S	Implement LRDP MM AIR-2	SU

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
Development under the 2014 LRDP would conflict with or obstruct implementation of the applicable air quality plan.			
LRDP Impact AIR-6 Development under the 2014 LRDP would not create objectionable odors affecting a substantial number of people.	LTS	None required	LTS
LRDP Impact AIR-7 Development under the 2014 LRDP would not create a carbon monoxide hotspot, an area where the carbon monoxide concentration would exceed the state ambient air quality standards.	LTS	None required	LTS
~~**RAW Impact AIR-1** Implementation of the RAW would generate emissions of criteria and toxic air contaminants that would not violate an air quality standard or contribute to an existing violation.~~	~~LTS~~	~~None required~~	~~LTS~~
BIOLOGICAL RESOURCES			
LRDP Impact BIO-1 Development under the 2014 LRDP would not have a substantial adverse effect on special-status plant species.	LTS	None required; nonetheless LRDP MM BIO-5 would reduce any potential impact	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
LRDP Impact BIO-2 Development under the 2014 LRDP could adversely affect special-status bird species protected under the Migratory Bird Treaty Act, Endangered Species Act, and/or California Endangered Species Act and result in nest abandonment and reproductive failure.	S	**LRDP MM BIO-2:** ~~Where practical, avoid~~ Avoid construction, demolition, or renovation activities in areas adjacent or nearby to marshland nesting bird habitat during the nesting season (~~March 1 – August 31).~~ February 1 – August 31) and specify that construction schedules make efforts to further reduce noise and vibration during known nesting periods. If construction, demolition, or renovation were proposed to occur ~~in areas adjacent or nearby to marshland nesting habitat~~ during the nesting season, a nesting bird survey shall be performed by a qualified biologist up to approximately 7 days prior to work commencing, up to 100 feet beyond the project boundary. If no birds or evidence of birds are found, no further action is required, provided work commences within approximately 1 week of the survey to prevent "take" of individual birds that may have begun nesting after the survey. If nesting birds with eggs or young are observed during the pre-construction surveys, construction, demolition, or renovation in the affected project area shall not commence within 100 feet of the occupied nest until after the young have fledged. Engage in Endangered Species Act Section 7 or Section 10 consultation (formal or informal, as appropriate) with the US Fish and Wildlife Service for implementation level LRDP components ~~if~~ (depending on whether those components constitute a federal or state action (e.g., approvals or funding) to address any potential impacts on California clapper rail. Develop appropriate measures with the US Fish and Wildlife Service and implement them. Establish a 150-foot-wide temporary "no disturbance" buffer around the wetland/upland boundary of Western Stege Marsh/Meeker Slough when construction occurs during the breeding season (mid-March to July). This buffer would protect and buffer potential California clapper rail habitat and nesting areas during construction by prohibiting entry into this area. To prevent take of individuals, as required under the Migratory Bird Treaty Act, Endangered Species Act, California Endangered Species Act, and California Fish and Game Code, which includes harm and harassment under the Endangered Species Act, a buffer zone of an appropriate size to prevent substantial adverse effects from construction would be established through consultation with the US Fish and Wildlife Service. Post interpretative California clapper rail signs in and near Western Stege Marsh/Meeker Slough. Signs should include seasonal use restrictions (e.g., stay on designated trails, pets on leash), to reduce disturbance potential during construction and operations.	LTS
LRDP Impact BIO-3 During the bat breeding season, tree and building removal and	S	**LRDP MM BIO-3:** 2014 LRDP implementation projects shall avoid disturbance to special-status bats' maternity roosts during the breeding season in accordance with the following procedures for Pre-Construction Special-Status Bat Surveys and Subsequent Actions. No more than 2 weeks prior	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
other construction activity associated with development under the proposed 2014 LRDP could result in a substantial adverse effect on bats.		to commencement of any concrete breaking or similarly noisy construction/demolition activity during the breeding season (March 1 through August 31), a qualified bat biologist shall conduct pre-demolition surveys of all potential special-status bat breeding habitat in the disturbance vicinity. Depending on the survey findings, the following actions shall be taken to avoid potential adverse effects on breeding special-status bats: 1. If active roosts are identified during pre-construction surveys, a no-disturbance buffer shall be created by the qualified bat biologist, in consultation with the California Department of Fish and Wildlife, around active roosts during the breeding season. The size of the buffer shall take into account factors such as: a. Noise and human disturbance levels at the project site and the roost site at the time of the survey and the noise and disturbance expected during the construction, b. Distance and amount of vegetation or other screening between the project site and the roost, and c. Sensitivity of individual nesting species and the behaviors of the bats. 2. If pre-construction surveys indicate that no roosts of special-status bats are present, or that roosts are inactive or potential habitat is unoccupied, no further mitigation is required. 3. Pre-construction surveys are not required for demolition or construction scheduled to occur during the non-breeding season (September 1 through February 28). 4. Noisy demolition or construction as described above (or activities producing similar substantial increases in noise and activity levels in the vicinity) commencing during the non-breeding season and continuing into the breeding season do not require surveys (as it is assumed that any bats taking up roosts would be acclimated to project-related activities already under way). However, if trees are to be removed during the breeding season, the trees shall be surveyed for roosts prior to their removal, according to the survey and protective action guidelines 1a through 1c, above. 5. Bat roosts initiated during demolition or construction are presumed to be unaffected by the activity, and a buffer is not necessary. 6. Destruction of roosts of special-status bats and overt interference with roosting activities of special-status bats shall be prohibited. 7. The noise control procedures for maximum noise, equipment, and operations identified in Section 4.10, Noise, shall be implemented.	

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
LRDP Impact BIO-4 Development under the 2014 LRDP would not have a substantial adverse effect on monarch butterfly.	LTS	None required	LTS
LRDP Impact BIO-5 Development under the 2014 LRDP could have a substantial adverse effect on sensitive natural communities.	S	**LRDP MM BIO-5:** Mitigation for LRDP-related impacts on grasslands will expand as the campus grows. ~~a) Any project proposed under the LRDP, whether in or outside of the Natural Open Space area, shall include a construction and operation management plan to minimize the threat of weeds to these grasslands.~~ a) Once the RBC LRDP is approved for implementation, UC Berkeley shall commence initial phase implementation of a Coastal Terrace Prairie Management Plan that addresses exotics removal, tree and Baccharis (a genus in the Aster family) removal, weed management, and programs for native plant stock preservation to aid in preservation and enhancement of the grassland portion of the Natural Open Space area. See Appendix G for the 2014 Richmond Bay Campus Coastal Terrace Prairie Management Plan. b) As initial projects under the LRDP are implemented, proactive (not passive) measures to improve the quality of the native grasslands in the Natural Open Space area shall be funded and undertaken. This may take the form of support for research and education into effective restoration. Possible fund sources include the UC Berkeley Capital Renewal Program, which assesses a four percent fee on all capital budgets (UC Berkeley 2013). c) Once a project is proposed that may alter high quality grassland within the Natural Open Space land use zone ~~for~~ by constructing minor access roads ~~or~~, structures, or ~~to construct~~ boardwalks ~~is proposed~~, the University shall ~~prepare a grassland management plan~~ update its Coastal Terrace Prairie Management Plan to guide conservation and enhancement efforts, as well as the siting of boardwalks and minor access roads and structures in a resource-sensitive manner. The plan shall include weed management actions, annual monitoring and reporting, and adaptive management sufficient to maintain or improve the quality of the grasslands preserved in the designated Natural Open Space. The effectiveness of the plan shall be continually evaluated and the plan adjusted as needed. d) Prior to approving any action to develop the Northwest Meadow or to develop on other ~~designated~~ high, medium, or low quality grasslands outside of the Natural Open Space land use zone, the University shall ~~plan and~~ conduct a site-specific native plant survey. All survey results would be published to the University environmental website for the RBC. The University would apply the results of such surveys to implement a program ~~to~~ that would use	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
		the native plant stock from such area to aid enhancement and restoration in Natural Open Space grassland areas ~~not currently designated high quality~~, and to develop or restore meadow acreage elsewhere. Possible locations include formal landscaped open areas of the RBC, ~~roof tops~~ rooftops of buildings at the RBC, demonstration meadows at UC Berkeley or in the city of Richmond that help explain the former extent of regional coastal terrace prairie grasslands.	
LRDP Impact BIO-6 Development under the 2014 LRDP could have a substantial adverse effect on federally protected wetlands.	S	**LRDP MM BIO-6:** **BIO-6a:** 2014 LRDP development projects shall avoid, to the extent feasible, the filling of or discharging to potentially jurisdictional waters. Therefore, during the design phase of any future development project that may affect potentially jurisdictional waters, a preliminary evaluation of the project site shall be made by a qualified biologist to determine if the site is proximate to potentially jurisdictional waters and, if deemed necessary by the biologist, a wetlands delineation shall be prepared and submitted to the US Army Corps of Engineers for verification. Because the US Army Corps of Engineers' preferred mitigation for impacts to jurisdictional waters is avoidance, to the extent practicable, 2014 LRDP development shall be located to avoid the filling of or discharging to jurisdictional waters. **BIO-6b:** Any unavoidable loss of jurisdictional waters shall be compensated for through the development and implementation of a project-specific wetland mitigation plan. If a 2014 LRDP development project were to potentially impact jurisdictional waters, impact compensation would be based on the US Army Corps of Engineers-verified wetlands delineation identified in Mitigation Measure BIO-6a. During the permit application process for specific development projects that would impact jurisdictional waters, the University would consult with the US Army Corps of Engineers, California Department of Fish and Wildlife, and San Francisco Bay Regional Water Quality Control Board. The consultation would be to identify the most appropriate assessment and mitigation methods to adequately address losses to wetland function that could occur from the development projects. A project-specific wetland mitigation plan would be developed prior to project implementation and submitted to permitting agencies for their approval. The plan may include on-site or off-site restoration or creation or purchasing of credits from a wetland mitigation bank. All mitigation work proposed in existing wetlands on- or off-site shall be authorized by applicable permits. **BIO-6c:** To the extent feasible, construction projects that might affect jurisdictional drainages or wetlands shall be scheduled for dry-weather months. Avoiding ground-disturbing activities during the rainy season would further decrease the potential risk of construction-related discharges to	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
		jurisdictional waters.	
LRDP Impact BIO-7 Development under the 2014 LRDP would not have a substantial adverse effect on fish and wildlife movement, migratory corridors, or nursery sites.	LTS	None required	LTS
LRDP Impact BIO-8 Development under the 2014 LRDP would not conflict with any local applicable policies protecting biological resources.	LTS	None required	LTS
~~**RAW Impact BIO-1** Implementing the RAW could have a substantial adverse effect on biological resources.~~	~~S~~	~~Implement LRDP MM BIO-2, BIO-3, BIO-5, and BIO-6~~	~~LTS~~
CULTURAL RESOURCES			
LRDP Impact CR-1 Development under the 2014 LRDP could result in significant impacts on previously undiscovered, unevaluated, or unrecorded archaeological resources or human remains during construction and clearing.	S	**LRDP MM CR-1:** Prior to any project-related excavation or construction, the University shall adequately survey all relevant disturbance areas for archaeological resources and assess the potential for buried resources based on past land use, site records, and proximity to known resources and landforms. Depending on the resulting level of suspected archaeological sensitivity, archaeological testing shall be done and/or qualified archaeological monitors will be present during ground disturbing activities. Prior to any ground disturbing activities that could disturb potentially existing archaeological resources, the University would prepare a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan to be implemented if an unanticipated discovery is made. At a minimum, the plan would detail the following elements: • Worker and supervisor training in the identification of cultural remains that could be found in the proposed project area	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
		• Worker and supervisor response procedures to be followed if there is an unanticipated discovery, including appropriate points of contact for professionals qualified to make decisions about the potential significance of any find • Identities of persons authorized to stop or redirect work that could affect the discovery, and their on-call contact information • Procedures for monitoring construction activities in archaeologically sensitive areas • A minimum radius (typically a minimum of 50 feet) around any discovery in which work would be halted until the significance of the resource has been evaluated and mitigation implemented as appropriate • Procedures for identifying and evaluating the historical significance of a discovery • Procedures for consulting Native Americans when identifying and evaluating the significance of discoveries involving Native American cultural materials • Procedures to be followed for treatment of discovered human remains per current state law, including appropriate notification and consultation with Native American groups or individuals If any suspected human bone is found during construction, all work should stop and the Contra Costa County coroner should be notified immediately per State law and the Discovery Plan. If the remains are determined to be Native American, the Native American Heritage Commission shall be notified for determination of the most likely descendent and tribal affiliation for disposition. No additional work shall take place near the find until the identified actions have been implemented.	
LRDP Impact CR-2 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.	S	**LRDP MM CR-2:** Because demolition of Buildings 150 and 175 cannot be avoided, historic documentation would be completed by professionals meeting the Secretary of the Interior's Professional Qualification Standards for architectural history. Recording each structure to the standard established for the National Park Service's Historic American Building Survey or Historic American Engineering Record would include high resolution digital photographs taken of historic buildings in their current condition. Up to 20 archival black and white prints would be prepared as part of the recordation package. Construction or as-built drawings (if available) would be reproduced on archival paper.	SU

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
LRDP Impact CR-3 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.	S	**LRDP MM CR-3:** **CR-3a:** Prior to any project construction or demolition activities, the University shall ensure that all buildings and structures in the construction footprint have been adequately inventoried. If any of the inventoried structures are found to be historically significant and are to be retained, the University shall develop reuse or maintenance plans to identify the historic features of the building and prepare design guidelines based on the Secretary of Interior's Standards and Guidelines for the Treatment of Historic Properties and to ensure that the buildings retain their historic, character–defining features. **CR-3b:** If avoidance of direct or indirect impacts on (as yet unidentified) historic buildings is not possible, the University shall determine site specific mitigation measures. Historic documentation would be completed by professionals meeting the Secretary of the Interior's Professional Qualification Standards for architectural history. Structures would be recorded to the standard established for the National Park Service's Historic American Building Survey or Historic American Engineering Record. This would include high resolution digital photography of historic buildings in their current condition. Up to 20 archival black and white prints would be prepared as part of the recordation package. Construction or as-built drawings (if available) would be reproduced on archival paper.	SU
~~**RAW Impact CR-1** Implementing the RAW could have a substantial adverse effect on cultural resources.~~	~~S~~	~~Implement LRDP MM CR-1~~	~~LTS~~
GEOLOGY AND SOILS			
LRDP Impact GEO-1 Development under the 2014 LRDP would not expose people and structures to substantial adverse effects from seismic hazards such as ground shaking and earthquake-induced ground failure at the RBC site.	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
LRDP Impact GEO-2 Development under the 2014 LRDP would result in construction on soils that could be subject to erosion and instability.	S	**LRDP MM GEO-2:** **GEO-2a:** A site-specific, design-level geotechnical investigation shall be completed during the design phase of each new building project and prior to construction approval on the RBC site. This investigation shall be conducted by a licensed geotechnical engineer and shall include an evaluation of potential soils hazards and appropriate measures to minimize these hazards. Geotechnical recommendations shall subsequently be incorporated into building design. **GEO-2b:** Construction under the LRDP shall comply with the Association of Bay Area Government's Manual of Standards for Erosion and Sediment Control Measures, and the California Stormwater Quality Association's Stormwater Best Management Practice Handbook for Construction (CASQA 2003) (or subsequent editions thereof). Construction under the LRDP shall use construction BMPs and standards to control and reduce erosion. These measures could include, but are not limited to, restricting grading to the dry season, protecting all finished graded slopes from erosion using such techniques as erosion control matting and hydroseeding, or other suitable measures. **GEO-2c:** All LRDP construction projects shall include, as appropriate, revegetation of disturbed areas (including slope stabilization projects) using native shrubs, trees, or grasses.	LTS
~~**RAW Impact GEO-1** Implementing the RAW would not have a substantial adverse effect on geology and soils.~~	~~LTS~~	~~None required~~	~~LTS~~
GREENHOUSE GAS EMISSIONS			
LRDP Impact GHG-1 Development under the 2014 LRDP would generate greenhouse gas emissions that would result in a significant impact on the environment.	S	**LRDP MM GHG-1:** The University will develop a climate action plan for the RBC site within three years of the adoption of the 2014 LRDP or before construction on the first project under the 2014 LRDP commences, whichever comes first. The climate action plan will include campus-wide greenhouse gas reduction measures as well as a suite of project-level greenhouse gas reduction measures that will be incorporated into each building project, as appropriate, during the planning, design and construction of the project. ~~One or more climate action plans would be developed and implemented for the RBC.~~ The climate action plan ~~would~~ will include target emission rates per service person that are consistent with AB 32 and Executive Order S-3-05 emissions targets. The climate action plan would also implement specific control measures and programs to achieve these targets. These control measures and	SU

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
		programs ~~would~~ will be developed specifically for each project based on its siting and design needs, but they will at minimum address these general topics: • Energy Efficiency: minimize energy consumption to the extent possible through measures such as design guidelines for new buildings that require specific levels of energy efficiency, incentive programs for employees or departments to reduce energy use, programs to track energy use and discover opportunities to reduce waste, and landscaping or other features that provide shade or otherwise help reduce energy use. • Renewable Energy Generation: investigate and develop opportunities for renewable energy generation on campus, whether solar, wind, or other sources. • Vehicle Trip Minimization: encourage the use of carpools, shuttles, bicycles, or public transportation that provide resources for employees to access and use alternative transportation, and provide infrastructure that allows employees to interact or conduct meetings and business without traveling. • Renewable Fuel Vehicles: encourage or require the use of renewable fuel vehicles such as by providing electric vehicle charging and compressed natural gas fueling stations, purchasing renewable fuel vehicles for the campus fleet, and providing preferential parking or other incentives for drivers using renewable fuel or hybrid vehicles. • Waste Reduction: implement waste reduction, aggressive recycling goals with incentives, composting systems for general buildings and dining areas, guidelines for low waste construction and purchasing, and educational programs.	
LRDP Impact GHG-2 Development under the 2014 LRDP would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions.	S	**LRDP MM GHG-2:** Implement LRDP MM GHG-1	SU
~~**RAW Impact GHG-1** Implementation of the RAW would generate greenhouse gas emissions that would not result in a significant impact on the~~	~~LTS~~	~~None required~~	~~LTS~~

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
~~environment or conflict with an applicable greenhouse gas plan.~~			
HAZARDS AND HAZARDOUS MATERIALS			
LRDP Impact HAZ-1 Development under the 2014 LRDP would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LTS	None required	LTS
LRDP Impact HAZ-2 Development under the 2014 LRDP would not create a significant public or environmental hazard through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	None required	LTS
LRDP Impact HAZ-3 Development under the 2014 LRDP would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	None required	LTS
LRDP Impact HAZ-4 The RBC would be on a site included on a list of hazardous materials sites compiled	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
pursuant to the California Government Code Section 65962.5, but this would not create a significant hazard to the public or the environment.			
LRDP Impact HAZ-5 Development under the 2014 LRDP would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	None required	LTS
~~**RAW Impact HAZ-1** Implementing the RAW would not have a substantial adverse effect related to hazards and hazardous materials.~~	~~LTS~~	~~None required~~	~~LTS~~
HYDROLOGY AND WATER QUALITY			
LRDP Impact HYD-1 Stormwater runoff and dewatering associated with 2014 LRDP-related construction activities could result in a violation of water quality standards.	LTS	None required	LTS
LRDP Impact HYD-2 Development under the 2014 LRDP would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
aquifer volume or a lowering of the local groundwater table level.			
LRDP Impact HYD-3 Development under the 2014 LRDP would not substantially alter the existing drainage pattern of the RBC site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.	LTS	None required	LTS
LRDP Impact HYD-4 Development under the 2014 LRDP would not substantially alter drainage patterns in a manner which would result in flooding on- or off-site.	LTS	None required	LTS
LRDP Impact HYD-5 Development under the 2014 LRDP would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LTS	None required	LTS
LRDP Impact HYD-6 Development under the 2014 LRDP would not place structures within a 100-year flood hazard area which would	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
impede or redirect flood flows or expose people or structures to a significant risk of loss, injury, or death involving flooding.			
LRDP Impact HYD-7 Development under the 2014 LRDP would not expose people or structures to inundation by seiches, tsunamis, or mudflows.	LTS	None required	LTS
~~**RAW Impact HYD-1** Implementing the RAW would not have a substantial adverse effect on hydrology and water quality.~~	~~LTS~~	~~None required~~	~~LTS~~
LAND USE AND PLANNING			
LRDP Impact LU-1 Development under the 2014 LRDP would not physically divide an established community.	NI	None required	NI
LRDP Impact LU-2 Development under the 2014 LRDP would not result in development that would conflict with land use plans applicable to the project site or with land use plans for properties adjacent to the project site.	LTS	None required	LTS
~~**RAW Impact LU-1** Implementation of the RAW~~	~~LTS~~	~~None required~~	~~LTS~~

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
~~would not have a substantial adverse effect on land use and planning.~~			
NOISE			
LRDP Impact NOISE-1 Construction activities associated with development under the 2014 LRDP could generate and expose people to noise levels exceeding Richmond Community Noise Ordinance standards.	S	**LRDP MM NOISE-1:** **NOISE-1a:** Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum sound levels at the surrounding properties shall not exceed the dBA levels set forth in the Richmond Municipal Code Section 9.52.110. **NOISE-1b:** The following measures shall be implemented for all construction equipment in accordance with Richmond Municipal Code Section 9.52.060. Quiet construction equipment, particularly air compressors, shall be used whenever possible. Construction equipment powered by internal combustion engines shall be properly muffled and maintained. Stationery noise-generating construction equipment such as tree grinders and air compressors are to be as far as is practical from existing residences. Unnecessary idling of internal combustion engines shall be prohibited. Sources of impulsive sound and jack hammers shall not be used on Sundays and holidays, except for emergencies. **NOISE-1c:** If after implementing NOISE-1a and -1b, construction noise creates a disturbance or results in noise complaints from adjacent property, additional noise reduction strategies shall be evaluated and the necessary practicable technically and economically feasible noise mitigating measures would be implemented, sufficiently to ensure meeting City Noise Ordinance requirements.	LTS
LRDP Impact NOISE-2 Development under the 2014 LRDP would not generate or expose people to excessive groundborne vibration.	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
LRDP Impact NOISE-3 Development under the 2014 LRDP could generate and expose people to noise levels exceeding Richmond Community Noise Ordinance standards or result in a substantial permanent increase in ambient project vicinity noise levels.	LTS	None required	LTS
~~**RAW Impact NOISE-1** Implementing the RAW could have a substantial adverse effect on noise.~~	~~S~~	~~Implement LRDP MM NOISE-1a through NOISE-1c~~	~~LTS~~
POPULATION AND HOUSING			
LRDP Impact POP-1 Development under the 2014 LRDP would incrementally increase the RBC site population over the LRDP's approximately 40-year planning period, but would not induce substantial population growth.	LTS	None required	LTS
~~**RAW Impact POP-1** Implementing the RAW would not have a substantial adverse effect on population and housing.~~	~~LTS~~	~~None required~~	~~LTS~~

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
PUBLIC SERVICES AND RECREATION			
LRDP Impact PS-1 Development under the 2014 LRDP would increase the demand for fire services and could result in the construction of new or expanded fire stations. The impacts from the construction of a fire station would be less than significant.	LTS	None required	LTS
LRDP Impact PS-2 Development under the 2014 LRDP would increase police services demand that could necessitate construction of new police facilities on the RBC site, but such construction would not result in significant environmental impacts.	LTS	None required	LTS
LRDP Impact PS-3 Development under the 2014 LRDP would not result in the need for new or physically altered public school facilities.	LTS	None required	LTS
LRDP Impact PS-4 Development under the 2014 LRDP would not trigger construction, substantially increase demand, or substantially degrade parks and recreational facilities.	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
~~**RAW Impact PS-1**~~ ~~Implementation of the RAW would not result in a substantial adverse effect on public services and recreational facilities.~~	~~LTS~~	~~None required~~	~~LTS~~
TRANSPORTATION AND TRAFFIC			
LRDP Impact TRA-1 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.	S	**LRDP MM TRA-1:** The University shall develop and implement a campus traffic mitigation program, a multi-component program to monitor trip generation, reduce peak-hour trips to the extent feasible, or participate in intersection improvements to mitigate off-site impacts at the intersections affected by the proposed project. Each component of this program is described below. Travel Demand Management. To reduce on- and off-campus vehicle trips and resulting impacts, the University shall develop and implement a transportation demand management program in consultation with the City of Richmond. The program ~~is proposed~~ will to be adopted by the University following The Regents' approval of the RBC LRDP. The transportation demand management program will include measures to increase transit and shuttle use, encourage alternative transportation modes including bicycle transportation, implement parking policies that reduce demand, and other mechanisms that reduce vehicle trips to and from the campus. The University shall monitor the performance of RBC transportation demand management strategies through annual surveys. The University shall report on implementation of adopted transportation demand management strategies, whether defined in the LRDP or in a stand-alone transportation demand management program, annually following completion of an initial traffic-inducing project under the RBC LRDP. Transit Enhancement. To enhance transit systems serving the campus, the University shall work cooperatively with AC Transit and other local agencies to coordinate service routes with existing and proposed shuttle and transit programs. Sustainability and Monitoring. The University shall review individual projects proposed under the 2014 LRDP for consistency with UC sustainable transportation policy and the RBC transportation demand management program to ensure that bicycle and pedestrian improvements, alternative fuel infrastructure, transit stops, and other project features that promote alternative transportation are incorporated into each project to the extent feasible. Campus Traffic Impact Monitoring. The University shall conduct traffic counts at key RBC gateway locations no less frequently than every 5 years to determine campus-generated traffic. The University may undertake such traffic counts in connection with specific development projects at the	SU

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
		RBC in order to inform signal warrant analyses and to help guide the selection of improvements that would mitigate significant traffic impacts. Mitigation Payments. The University shall contribute funding on a fair-share basis, to be determined in consultation with the City of Richmond and Caltrans, for ~~periodic (annual or less frequently, as agreed among consulting agencies)~~ improvements to signalized and unsignalized intersections, roadway segments, and in connection with railroad crossings that are necessary to mitigate the RBC's significant traffic impacts. Those improvements may include, but are not limited to, new traffic signals, conversion of intersection approaches, conversion or optimization of traffic signal operations, and advance queue warning signs. The University's contribution, which shall be proportional to the University's responsibility for any traffic increases that necessitate mitigation, shall include funds for the design and construction of required improvements. When determining the University's contribution, the University's proportional responsibility for traffic impacts shall be measured through comparison to the traffic conditions that prevailed at the time of the LRDP's approval, as described and analyzed in the LRDP EIR's discussion of existing traffic conditions. With respect to unsignalized intersections specifically, the University shall contribute funding on a fair-share basis—following University approval of traffic-inducing development at the RBC—for signal warrant analyses at unsignalized intersections significantly impacted by traffic resulting from the approved development. Data from the University's campus traffic impact monitoring counts, described above, may inform the signal warrant analyses. Those analyses would be used by the City to determine when a signal is needed. When ~~these~~ signal warrant analyses show that a signal is warranted and the City determines that the required intersection improvements are needed, the University shall reimburse the City on a fair-share basis for the ~~design and construction of the~~ required mitigation, including new traffic signals and related improvements at the intersection impacted by the project. Should the City determine that alternative mitigation strategies may reduce or avoid the significant impact, the University shall work with the City and Caltrans to identify and implement such alternative feasible measures on a fair-share basis.	
LRDP Impact TRA-2 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	S	LRDP MM TRA-2: Implement LRDP MM TRA-1.	SU

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
service standard established for the study intersections under existing conditions.			
LRDP Impact TRA-3 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 Congestion Management Plan facilities (freeways) under 2035 conditions.	S	~~None available~~ **LRDP MM TRA-3:** Implement LRDP MM TRA-1. No freeway capacity projects are currently planned by Caltrans for this section of Interstate 580. As the feasibility of freeway widening is not known, this impact is considered to be significant and unavoidable.	SU
LRDP Impact TRA-4 Development under the 2014 LRDP would not conflict with an applicable plan, ordinance, or policy establishing effectiveness measures circulation system performance and would not cause an exceedance of a level of service standard established for Congestion Management Plan facilities (freeways) under existing conditions.	LTS	None required	LTS
LRDP Impact TRA-5 Development under the 2014 LRDP would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
the performance or safety of such facilities.			
LRDP Impact TRA-6 The 2014 LRDP would not increase hazards due to a design feature or incompatible use, create unsafe conditions for pedestrians or bicycles, or result in inadequate emergency access.	LTS	None required	LTS
LRDP Impact TRA-7 Traffic associated with the 2014 LRDP campus facilities construction would temporarily and intermittently adversely affect the road network near the RBC site.	S	**LRDP MM TRA-7:** Prepare a construction traffic management plan for each RBC construction project to reduce construction impacts on traffic and parking. The University shall work with City of Richmond in preparing the plan, which will address: • Proposed truck routes • Hours of construction and limits on number of truck trips during peak commute periods (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.) if traffic conditions demonstrate the need to reduce construction traffic so as to avoid causing significant delays. • Parking management plan for construction workers; • Tools to provide safe access for pedestrians, bicyclists, automobiles, and emergency access vehicles. • Identification of alternative routes for temporary closure of streets or paths during construction.	LTS
~~**RAW Impact TRA-1** Implementing the RAW would not have a substantial adverse effect on transportation and traffic.~~	~~LTS~~	~~None required~~	~~LTS~~

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
UTILITIES, SERVICE SYSTEMS, AND ENERGY			
LRDP Impact UTL-1 Development under the 2014 LRDP would not result in the need for new or expanded water supply entitlements.	LTS	None required	LTS
LRDP Impact UTL-2 Development under the 2014 LRDP would not require or result in new or expanded water treatment facilities.	LTS	None required	LTS
LRDP Impact UTL-3 Development under the 2014 LRDP would require the construction of new or expanded water delivery systems. The construction of new or expanded water delivery systems would not result in significant environmental effects.	LTS	None required	LTS
LRDP Impact UTL-4 Development under the 2014 LRDP would require the construction of new or expanded wastewater treatment facilities.	S	**LRDP MM UTL-4:** When a project under the 2014 LRDP is proposed that would increase wastewater flows discharged from the RBC site, the University shall work with the City of Richmond to evaluate the impact of the specific project on both the sewer mains and at the Richmond Municipal Sewer District wastewater treatment plant, and if necessary based on the results of the evaluation, the University will compensate the City for the cost of implementing improvements such as slip-lining sewer pipelines downstream of the project site to reduce infiltration and inflow volumes equivalent to or greater than the incremental volume of wastewater generated by the project, or if necessary would construct underground vaults on the RBC site to detain wastewater to reduce peak flows to sewer mains during wet weather.	LTS
LRDP Impact UTL-5 Development under the 2014	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
LRDP would require the construction of new or expanded wastewater conveyance systems. The construction of new or expanded wastewater conveyance systems would not result in significant environmental effects.			
LRDP Impact UTL-6 Development under the 2014 LRDP would require the construction of new or expanded stormwater drainage facilities. The construction of new or expanded stormwater drainage facilities would not result in significant environmental effects.	LTS	None required	LTS
LRDP Impact UTL-7 Development under the 2014 LRDP would generate solid waste, but not enough to require new or expanded permitted landfill capacity.	LTS	None required	LTS
LRDP Impact UTL-8 Development under the 2014 LRDP would comply with all applicable federal, State, and local statutes and regulations related to solid waste.	LTS	None required	LTS
LRDP Impact UTL-9 Development under the 2014 LRDP would require the	LTS	None required	LTS

Table 2-2
Summary of Impacts and Mitigation Measures

Impact	Impact Significance Before Mitigation	Mitigation Measures	Impact Significance With Mitigation
construction of new or expanded electrical distribution facilities. The construction of new or expanded electrical distribution facilities would not result in significant environmental effects.			
LRDP Impact UTL-10 Development under the 2014 LRDP would require the construction of new or expanded natural gas distribution facilities. The construction of new or expanded natural gas distribution facilities would not result in significant environmental effects.	LTS	None required	LTS
LRDP Impact UTL-11 Development under the 2014 LRDP would not result in the wasteful, inefficient, or unnecessary energy use.	LTS	None required	LTS
~~**RAW Impact UTL-1** Implementing the RAW would not result in a substantial adverse effect on utilities, service systems, and energy.~~	~~LTS~~	~~None required~~	~~LTS~~

LEGEND:
SU = Significant and unavoidable impact
S = Significant impact
LTS = Less than significant impact
NI = No impact

10.9 SECTION 3.5.1

Page 3-9 of the Draft EIR

The LBNL main site is located in the Berkeley hills on approximately 202 acres of UC land. The main site comprises approximately 1.6 million gsf in permanent and temporary facilities (LBNL 2012 Annual Lab Plan). Main LBNL site structures are at full occupancy. LBNL currently leases commercial property totaling approximately 371,100 gsf in eight off-site locations and occupies an additional 47,333 gsf of space on the UC Berkeley campus for research and administrative purposes (LBNL 2012 Annual Lab Plan). The University has determined that an additional campus site is needed ~~to consolidate the LBNL biosciences research facilities currently located in off-site leased space. The additional campus would also provide opportunities~~ to accommodate future growth of existing or new LBNL programs, particularly for program activities not requiring routine use of the LBNL national user facilities, (e.g. Advanced Light Source) at the LBNL main site.

10.10 SECTION 3.5.2

Page 3-10 of the Draft EIR

The purpose of the new campus and the associated LRDP is ~~to provide for consolidation of LBNL biosciences programs;~~ to support existing or new LBNL and UC Berkeley program growth; to address constraints on locating new research activities at the LBNL main site; to achieve the UC Berkeley's 2002 working paper goal for creating a premiere research facility supporting and complementing UC Berkeley teaching, research, and public service programs at the Richmond property; to reduce UC Berkeley and LBNL fiscal and programmatic costs related to leasing space and dispersed programs; and to allow for successful facilities development for LBNL, UC Berkeley, and other public and private entities in a manner that supports LBNL and UC missions in a time of funding constraints and that continues their history of successful scientific collaboration.

10.11 SECTION 3.5.3

Page 3-10 of the Draft EIR

To accomplish the purpose and need, the University has these project objectives. The project should:

- Be within an approximately 20- to 25-minute commute from the existing LBNL main entrance at Blackberry Gate on Hearst Avenue; or an approximately 20 minute commute from UC Berkeley's main entrance at Oxford and University Avenue.
- Have development capacity for approximately 5.4 million gsf of laboratory, office, and support facilities and related utility and transportation infrastructure to support the University's research, teaching, and public service mission.
- Be in a safe and welcoming community with a positive civic expression of interest in development of the site.
- Be readily accessible to a variety of modes of public transportation, inclusive of local buses, mass transit (BART, Amtrak, and AC Transit), and shuttle services, and allow safe bicyclist access from designated bicycle routes.
- Allow for electrical, natural gas, and water utilities for the lowest possible cost.

- ~~Allow consolidation of LBNL bioscience programs.~~
- Allow for establishment of a design framework for development of a state-of-the-art research campus that will be the location of choice for internationally recognized researchers.
- Foster synergy and collaboration between UC Berkeley and LBNL in and across disciplines and institutions in both the public and private sectors.
- Provide sustainable land use and circulation patterns that maximize density to reduce overall building footprints and conserve open space, and maximize bicycle, pedestrian and shuttle services and allow for placement and massing of buildings to maximize shared views.
- Facilitate efficient constructability of facilities (buildings, parking structures, bridges, etc.), infrastructure development (roads, underground utilities, pedestrian walkways, etc.), and open space.
- Foster connectivity with the surrounding community.
- Leverage capital investment for environmental stewardship.

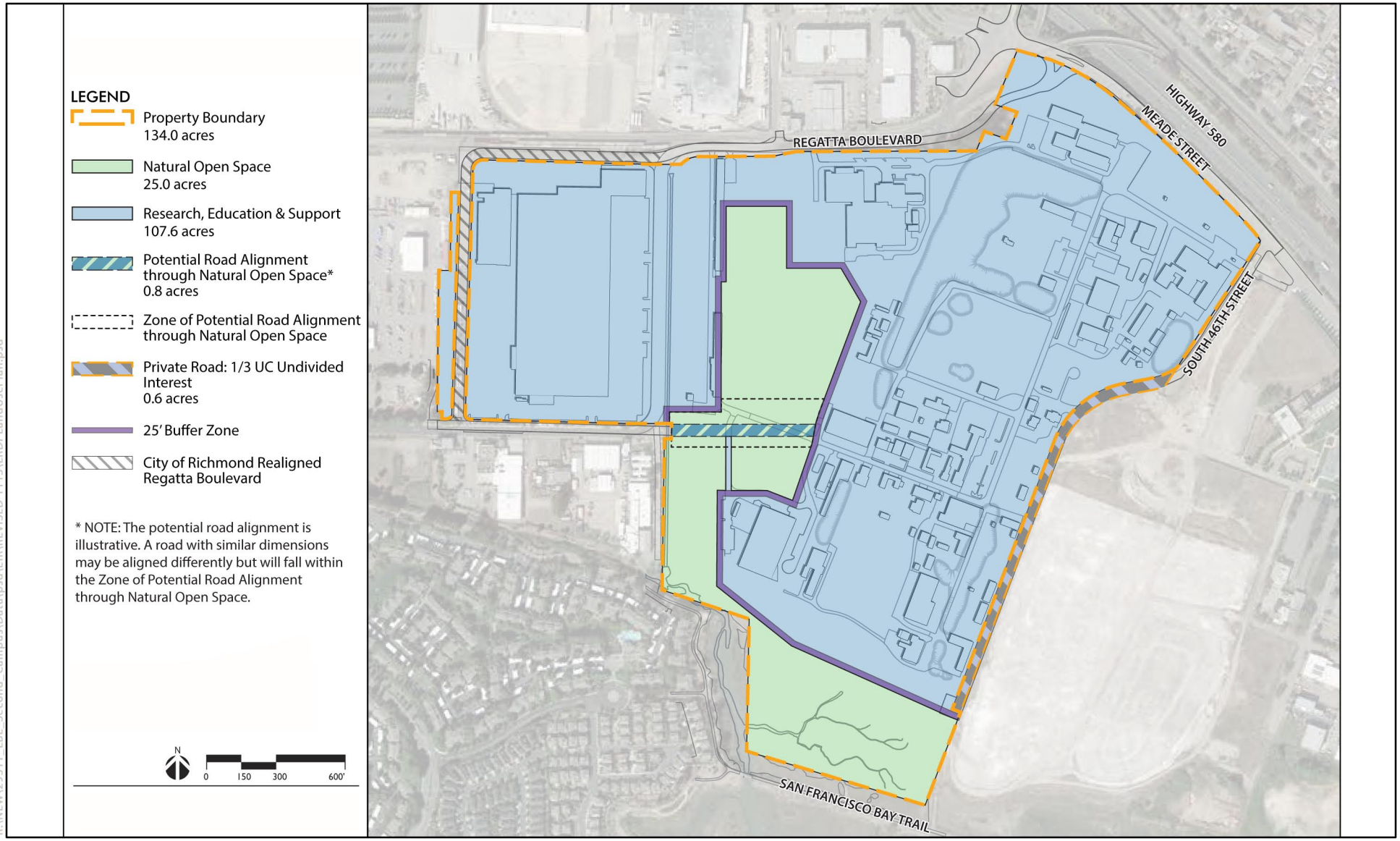
10.12 SECTION 3.6.2

Page 3-12 of the Draft EIR

In the near term, existing programs at the site in sustainable transportation and earthquake engineering, among others, will continue; the site will also continue to house important collections of the University library and UC Berkeley museums. New programs under consideration may establish the campus as a hub of joint research in advanced manufacturing, ~~bioscience,~~ and energy storage. In addition, the programs at the RBC will maintain a close connection to the research conducted on the main campuses of LBNL and UC Berkeley. The RBC will strengthen opportunities for partnerships with private industry. In the longer term, the RBC research would be likely to span the ~~biosciences,~~ energy and environmental sciences and technology, computing sciences, nuclear and particle physics, engineering and materials sciences, chemical sciences, accelerator sciences, climate sciences, and other disciplines. The scale and scope of this research would be appropriate for the size and scope of buildings described in Section 3.7, Illustrative Development Scenario. UC Berkeley expects that student research and teaching programs would also take place at the site, as part of the educational mission of the campus.

10.13 FIGURE 3-3

Page 3-15 of the Draft EIR [Comment GGAS-3]



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LRDP Land Use Plan

Richmond, California

TETRA TECH

Figure 3-3

10.14 SECTION 3.9

Page 3-28 of the Draft EIR [Comments CITY-3 and CITY-4]

~~Past activities at the RFS site have resulted in~~ Between the mid-1800s and the ~~deposition of~~ late 1900s, the Richmond South Shoreline Area was home to numerous assembly and chemical ~~contaminants affecting both soil and groundwater. Upon taking ownership of~~ manufacturing facilities, including the Kaiser Shipyards and Stauffer Chemical. The California Cap Company manufactured blasting caps, shells, and explosives on portions of the RBC site from the 1870s to the 1940s. When the University of California purchased the property~~,~~ in 1950, it obtained space and facilities for expanding research and academic programs for a growing post-World War II student population. However, along with owning the property the University became responsible for addressing ~~historic~~ legacy contamination from industrial activities that occurred prior to its ownership. ~~Under~~

In 1999, the University began investigating site contamination under the oversight of ~~DTSC, the University has undertaken investigation~~ the San Francisco Bay Regional Water Quality Control Board. The main contaminants identified were metals from the California Cap Company's mercury fulminate manufacturing plant and pyrite cinder waste that originated from sulfuric acid production at the former neighboring Stauffer Chemical plant. The metals included arsenic, cadmium, copper, lead, mercury, selenium, and zinc, some of ~~those~~ which can be toxic to humans and wildlife if ingested (eaten) or inhaled as dust. Portions of Western Stege Marsh also contained low pH (acidic) orange-stained groundwater and sediments resulting from pyrite cinders disposed of in the marsh. In addition, an isolated area of polychlorinated biphenyl (PCB) contamination was found at a storm drain outfall in Meeker Slough.

UC Berkeley established a multi-year program to remove contaminants from the site. Work began in 2002 with removal of the largest areas of contaminated ~~media over several years.~~ soil which were excavated, treated, and transported off-site to approved treatment and disposal facilities. Excavated areas were replaced with clean bay mud or clean dirt and restored with native marsh and coastal terrace prairie plants.

In 2005, after completion of removal of the major source areas, investigation and remediation oversight was transferred to the California Department of Toxic Substances Control (DTSC). DTSC required additional soil and groundwater sampling of the upland portions of the site in addition to requiring the owner of the neighboring former Stauffer Chemical site to investigate and cleanup areas of groundwater contamination at the property boundary. In 2008, the California Department of Public Health and the Federal Agency for Toxic Substances Control and Disease Registry completed a Public Health Assessment for the Richmond Field Station and determined the site to be safe for normal activities.

10.15 SECTION 4.2.4

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Criteria Pollutant Emissions

Impacts from construction or direct or indirect operational emissions associated with the proposed project would be considered significant if they exceeded the following thresholds:

- 54 pounds per day of ROGs or volatile organic compounds (VOCs), NOx, or $PM_{2.5}$ (vehicle exhaust); or
- 82 pounds per day of PM_{10} (vehicle exhaust).

~~The~~ These BAAQMD CEQA thresholds are the same for construction and operational emissions ~~of criteria pollutants~~. BAAQMD has not established a quantitative threshold for $PM_{2.5}$ and PM_{10} from fugitive dust emissions from construction activities, but rather states that BMPs should be employed to control such emissions.

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Fugitive dust would be generated by construction activities such as excavation, site elevation, and grading. While BAAQMD ~~does not have a~~ has quantitative thresholds for $PM_{2.5}$ and PM_{10} from vehicle exhaust, it has not established a threshold for fugitive dust emissions from construction activities, but rather states that BMPs should be employed to control such fugitive dust emissions. Since there is no quantitative threshold for construction fugitive dust, these emissions were ~~not quantified.~~ calculated (see Appendix B), but are not presented in this section.

Table 4.2-4
LRDP Construction Emissions (pounds per day)

	On-site Stationary (Exhaust)	On-site Mobile (Exhaust)	Off-site Mobile (Exhaust)	Total Construction Emissions	BAAQMD CEQA Threshold
ROG/VOC	--	0.48	1.12	1.59	54
NOx	--	3.42	9.18	12.6	54
CO	--	2.56	8.14	10.7	NE
PM_{10}	--	0.16	0.29	0.45	82
$PM_{2.5}$	--	0.16	0.27	0.42	54

Note: all table units are pounds per day, rounded to two decimal places. Minor discrepancies between the totals reported in column 4 and the sum of individual values in columns 1 through 3 are a result of rounding.

-- = not evaluated; BAAQMD = Bay Area Air Quality Management District; CEQA = California Environmental Quality Act; CO = carbon monoxide; NA = not applicable; NE = not established; NOx = nitrogen oxides; $PM_{2.5}$ = fine particulate matter; PM_{10} = inhalable particulate matter; ROG = reactive organic gases; VOC = volatile organic compounds

Source: Golder Associates, Inc. 2013

As stated in the LRDP Policy S3, fugitive dust from construction activities would be controlled by implementing the construction BMPs recommended in the BAAQMD CEQA Air Quality Guidelines. The BMPs relevant to controlling fugitive dust ~~are~~ include:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

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LRDP MM AIR-2 would also minimize emissions from on-site boilers and reduce the significant impact to on-site workers. In addition, LRDP MM AIR-~~4 is~~ 4a and LRDP MM AIR-4b are proposed to minimize TAC emissions from RBC laboratories, which would reduce the impact to the on-site workers to a less than significant level.

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LRDP MM AIR-4a. Implement LRDP MM AIR-2 to minimize the operational emissions of $PM_{2.5}$ from mobile and stationary sources and TAC emissions from on-site stationary sources.

LRDP MM AIR-4b: To reduce the effects from RBC laboratory emissions of formaldehyde and chloroform, the University shall implement one of the following measures in conjunction with every laboratory project that involves the use of these chemicals:

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Cumulative MM AIR-2b: When the University has developed 500,000 square feet of R&D building space on the RBC site, before approving the construction of another R&D building, LBNL and UC Berkeley will prepare an updated human health risk assessment (HHRA) that will estimate and report the human health effects of RBC operations on on-site and off-site receptors. If the HHRA indicates that there would be no significant health effects from RBC operations (project level or cumulative, based on significance thresholds applicable at that time), no further action is required.

In the event that significant human health effects are indicated, LBNL and UC Berkeley will implement control measures to minimize TAC emissions from laboratories, parking garages, other stationary sources, or other measures to reduce the human health effects from RBC TAC emissions to levels below applicable significance thresholds.

Control measures for new or existing laboratories could include, but would not be limited to, the measures listed in LRDP MM AIR-4a and LRDP MM AIR-4b.

Control measures for parking structures could include, but would not be limited to, the following:

- Locate parking structures to be as distant as possible from receptors to the north of the campus;

- Control parking structure emissions through a collection and bag house system.

10.16 SECTION 4.3.1

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This section presents existing RBC site biological resources and analyzes the potential for development under the 2014 LRDP to affect those resources. Information and analysis in this section is based on California Natural Diversity Database (CNDDB) searches (CNDDB 2012), several previous reports including RFS Habitat Assessment Report and RFS Constraints Analysis (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a, 2012), the RFS Remediation Project IS (URS 2003), UC Richmond Field Station's Remnant Coastal Terrace Prairie (Amme 2005), RFS Grasslands Constraints Analysis (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2013a), URS (2007) Botanical Survey Report, The Watershed Project (2007) Remediation and Restoration Progress Report, Lidicker et al. (2003) compendium of flowering plants at the Richmond Field Station, The Manual of California Vegetation (Sawyer et al. 2009), and Richmond Field Station Remediation Project Biological Assessment Report (Blasland, Bouck, and Lee, Inc. 2003). A Tetra Tech biologist and professional wetland scientist conducted a site visit and general biological survey on January 4, 2013 (Tetra Tech 2013a). Tetra Tech biologists delineated wetlands on February 13 and 15, 2013 (Tetra Tech 2013b).

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Grasslands

Grassland habitat, including native and non-native grasslands, provides primary habitat, such as nesting and foraging, and secondary habitat, such as movement corridors. Small species using this as primary habitat include reptiles and amphibians, such as southern alligator lizard (*Gerrhonotus multicarinatus*), western fence lizard (*Sceloporus occidentalis*), and Pacific slender salamander (*Batrachoseps attenuatus*). ~~These grasslands may also attract see-eating and insect-eating birds and mammals. The site's low growing, sparse vegetation may provide nesting substrate for a variety of birds that prefer nesting open lands, such as killdeer *(Charadrius vociferus)* (WRA and Jane Valerius Environmental Consulting 2011a).)~~(Wildlife Research Associates and Jane Valerius 2013a). These grasslands may also attract seed-eating and insect-eating birds and mammals. California quail (*Lophortyx californicus*), mourning dove (*Zenaidura macroura*), and meadowlark (*Sturnella neglecta*) are a few seed-eaters that nest and forage in grasslands. Insect-eaters, such as scrub jay (*Aphelocoma coerulescens*), barn swallow (*Hirundo rustica*), and mockingbird (*Mimus polyglottus*), use the habitat for foraging only. Additional species that could use the grasslands include American crow *(Corvus brachyrhynchos*) and western bluebird (*Sialia mexicana*). Grasslands are important foraging grounds for aerial and ground foraging insect-eating bat species, such as myotis (*Myotis* spp.) and pallid bat (*Antrozous pallidus*). A large number of other mammal species, such as California vole (*Microtus californicus*), Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), and black-tailed jackrabbit (*Lepus californicus*), also forage within grasslands and have been reported on the site (Gustein 1989). Small rodents attract raptors (birds of prey), such as owls that hunt at night, as well as dayhunting raptors such as red-tailed hawks (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), among others, which have been reported on the site (Gustein 1989). Black-tailed deer (*Odoicoileus hemionus californicus*) use grassland for grazing and, if the grass is tall enough, for bedding at night. Surveys of the coastal terrace prairie grasslands for moth and butterfly species in the early 1990s found five or six species not known to occur in the East Bay previously

(citation). These species are rare in the East Bay area, but are not designated special status species.

~~*Saltmarsh*~~
Salt Marsh

The Richmond Inner Harbor and associated saltmarsh in Western Stege Marsh is on the RBC site southern boundary. Species occurring in the salt marsh habitat include great blue heron (*Ardea herodius*) and great egret (*Ardea alba*). They forage in the salt marsh and nest in nearby riparian areas. Shorebirds, such as black-necked stilt (*Himantopus mexicanus*), willet (*Catoptophorus semipalmatus*), ~~and~~ American avocet (*Recurvirostra americana*), and gulls (*Larus* spp.), use salt marshes for foraging on crustaceans and arthropods. Waterfowl use saltmarshes for feeding and resting during the winter and spring migrations along the Pacific Flyway. Feral cats and red fox (*Vulpes vulpes*), both non-native species, have become a recent threat to mammalian and avian species using salt marshes and other wetlands. Saltmarsh habitat provides important foraging and drinking areas for bats such as *Myotis* species and pallid bat (*Antrozous pallidus*). Several special status wildlife species are unique to this habitat, including California clapper rail (*Rallus longirostris obsoletus*) that has been reported in Western Stege Marsh (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a).

Eucalyptus Stands

RBC site eucalyptus stands are shown on Figure 4-8. The monarch butterfly (*Danaus plexippus*) is known to form tight aggregations during the winter months, often in eucalyptus trees, for cover and thermal regulation. Monarchs historically depended on native California trees but, due to land development, logging, and land management, have had to rely more on non-native eucalyptus trees in the last century. Potential negative impacts of eucalyptus trees on monarch butterflies are not well understood. Eucalyptus appears to offer less protection to butterflies and birds from wind and precipitation than native pines, cypress, and redwood (Stock et al. no date; Williams 2002). The eucalyptus trees provide cover and potential nesting habitat for raptors and songbirds. Because of the physical characteristics of these trees, nests are more likely to be shaken out of eucalyptus trees by the wind. Thus, eucalyptus may provide habitat for monarchs and birds, and be a sink, attracting these species to a habitat that can be harmful. Because any large tree has some potential for roosting bats, especially those with hollows or loose bark, bats could roost in these trees. The lack of understory minimizes the use of this habitat by insects and invertebrates (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a).

Developed

There are several structures on the RBC site (Figure 4-8). Bird species that potentially use these structures include passerines (songbirds), such as barn swallow (*Hirundo rustica*), ~~and~~black phoebe (*Sayornis nigricans*), and European starling (*Sturnus vulgaris*), and raptors, such as barn owl (*Tyto alba*). These species have adapted to the disturbances associated with human settlements and will nest and forage near humans. In general, the nesting season for both passerines and raptors typically begins at the end of February and may last up to mid-August.

Buildings also provide bat roosting habitat. Because bats show high roost fidelity, it is possible for older structures to provide roost habitat for decades. Not all buildings available to bats provide the temperature, humidity, and other requirements for bats. As a result, not all buildings provide suitable roost habitat (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a). Other mammal species that could use developed habitats include cottontail (*Sylvilagus bachmani*), house mouse *(Mus musculus*), deer mouse (*Peromyscus maniculatus*), raccoon (*Procyon lotor*), skunk (*Mephitis mephitis*), and opossum (*Didelphis virginiana*).

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Wildlife

Wildlife resources at the RBC site and vicinity include numerous species of invertebrates, fish, reptiles, amphibians, birds, and mammals (including bats). in habitats as described above. Developed areas provide little habitat value to most wildlife species; therefore, wildlife on the property consists of species that have adapted to the human-influenced landscape. The general lack of understory growth does not provide much habitat for insects and invertebrates and in turn, there are few reptiles (which feed upon insect prey). In general, wildlife species are not expected to be found in any consistent numbers within developed areas at the RBC site and the available habitat would mainly be used for cover or resting. Small mammal species that may be found with developed areas on the property such as the site include cottontail *(Sylvilagus bachmani)*, black-tailed hare *(Lepus californicus)*, jackrabbit, house mouse *(Mus musculus)*, deer mouse *(Peromyscus maniculatus)*, pocket gopher *(Thomomys bottae)*, and squirrel species such as Spermophilus beecheyi. squirrels. Striped skunk, and red fox *(Vulpes vulpes)* prey on the smaller mammal species.

Other species may pass through or fly overRepresentative birds at the property. Typical bird species site include gulls *(Larus* spp.*)*, herons, waterfowl, hummingbirds, swallows *(Hirundo* spp.*)*, raptors, northern mockingbird *)Mimus polyglottos)*, European starling *(Sturnus vulgaris)*, American crow *(Corvus brachryhynchos)*, western meadowlark *(Sturnella neglecta)*, belted kingfisher *(Ceryle alcyon)*., western bluebird *(Sialia Mexicana)*, Saltmarsh common yellowthroat *(Geothylpis trichassinuosa)*, Alameda song sparrow (*Melospiza melodia pusilla*), and the western meadowlark *(Sturnella neglecta)* as described above.

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Special-Status Species

The analysis addresses all special-status species with the potential to occur on the RBC site. For this EIR, special-status species are those that are legally protected by CDFW, USFWS, or the Migratory Bird Treaty Act (MBTA). State and federally listed species known or that have the potential to occur are listed in Table 4.3-1. Legally protected species include those that are federally listed as endangered, threatened, or candidate species under the ESA; that are state listed as endangered, rare, threatened, rare, California fully protected, or species of special concern under the California Endangered Species Act (CESA) or California Fish and Game Code; or that are listed in the MBTA. Protected species include those plant species listed as 1A or 1B on the California Native Plant Society (CNPS) plant list (CNDDB 2012). The 1A list is for plants presumed to be extinct in California, and the 1B list is for plants that are rare or endangered in California and elsewhere. Special These laws are described in Section 4.3.3. No special-status species that invertebrates, reptiles, amphibians, fish, or plants meeting the above criteria have been confirmed documented at the RBC site or have potential to occur there (WRA, and no suitable habitat is present (Table 4.3-1) (Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a) are listed in Table 4.3-1.; CNDDB 2013.

Birds

The RBC site vegetation communities offer perching and roosting opportunities for a variety of avian species including raptors. Many The RBC site consists of several vegetation communities, as described above, in close proximity to each other, adjacent to surface water associated with the bay. This combination provides food, water, and cover for a relatively diverse avian community. These habitats offer perching, roosting, foraging, migrating, and breeding opportunities for a variety of avian species. A relatively large number of bird species have been documented on the site (Loughman 1989, eBird 2014, Berthelsen no date). A portion of these species nests at the

RBC site, while others may nest elsewhere and forage at the RBC site, especially at the Western Stege Marsh, Meeker Slough, and the grasslands. A substantial number of species may only occur briefly during migration in the spring and fall especially at Western Stege Marsh and Meeker Slough. Special status bird species that could occur at the RBC site are described below.

Migratory Bird Treaty Act

Most native bird species, including all raptors, are protected under the MBTA. Passerine birds such as the Allen's (*Selasphorus sasin)* or Anna's hummingbird (*Calypte anna*) ~~(also MBTA protected)~~ may occur as they feed on the flower nectar in the developed, horticultural landscaped areas. Raptors such as the American kestrel (*Falco sparverius*), osprey (*Pandion haliaetus*), barn owl (*Tyto alba*) and northern harrier (*Circus cyaneus*) likely roost~~,~~ and forage~~, and nest~~ in the ~~eucalyptus.~~ grasslands and marsh. A variety of ~~other~~ bird species may nest ~~at the RBC site, including on exisiting site buildings. Bird species that may nest~~ on and in the buildings, ~~include~~ including cliff swallow ~~*(Petrochelidon pyrrhonota)*~~, barn swallow, black phoebe, barn owl, and American kestrel.

Most of the bird species described above under Wildlife Habitats are protected by the MBTA with the exception of non-native species such as European starling. The marsh provides habitat for open water species, including pied-billed grebe (*Podilymbus podiceps*), double-crested cormorant (*Phalacrocorax auritus*), caspian tern (*Sterna caspia*), and a variety of duck species, all of which are protected under MBTA. The ~~federal~~ grasslands provide habitat for a variety of grassland birds, such as western meadowlark, as described above under Wildlife Habitats.

Endangered Species Act

The California clapper rail is a medium-sized waterbird listed as Endangered under the ESA (EPA 2010). This species uses salt marshes dominated by pickleweed and ~~state endangered~~ Pacific cordgrass and make use of small tidal sloughs for foraging, movement corridors, and escape habitat. They construct nests out of primarily either pickleweed (*Salicornia virginica*) or cordgrass (*Spartina foliosa*). They primarily eat invertebrates. California clapper rail is known to nest and forage in Western Stege Marsh and Meeker Slough~~.~~ and is a year-round resident. They breed from February to late August.

The California least tern, which is listed as Endangered under the ESA, has been observed at Meeker Slough (eBird 2014). This small shorebird nests colonially on sparsely vegetated sites, usually on a sand or gravel substrate near water, including at documented sites in San Francisco Bay (CDFG no date). Least terns feed in shallow estuaries or lagoons where small fish are abundant by hovering and plunging into the water. This species is likely to forage at Meeker Slough on occasion but is very unlikely to nest at the RBC site due to a lack of suitable nesting habitat.

California Endangered Species Act

The California clapper rail and California least tern, as described above, are also listed as Endangered under the CESA. Willow flycatcher (*Empidonax traillii*) is listed as Endangered under the CESA. This species generally occurs in wet meadows and montane riparian habitats at elevations of 2,000 to 8,000 feet. It is a spring and fall migrant at lower elevations and has been observed at Meeker Slough on at least one occasion (eBirds 2014). This species could occur on occasion at Meeker Slough during spring and fall migration, but is very unlikely to nest at the RBC site based on its current documented range (CDFG 2005). California black rail (*Laterallus jamaicensis coturniculus*) is listed as Threatened under the CESA. Suitable salt marsh habitat exists at Western Stege Marsh. However, the species has not been documented at the RBC site

(Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a; CNDDB 2013; Loughman 1989; eBird 2014; Berthelsen no date).

Other marsh birds with the potential to occur are the Saltmarsh common yellowthroat and the Alameda song sparrow, both protected as a California Species of Concern and under the MBTA. Overall, there is moderate potential for passerines to nest in the RBC project site and for saltmarsh shorebirds to occur or possibly nest in the saltmarsh. Raptors are likely to occur in buildings and other roost sites.

California Species of Special Concern

Several bird species that have been documented at the RBC site are California Species of Special Concern (Table 4.3-1) (Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a; CNDDB 2011, 2012, 2013; Loughman 1989; eBird 2014; Berthelsen no date; CDFW 2014). These include northern harrier, white-tailed kite (*Elanus leucurus*), saltmarsh common yellowthroat, loggerhead shrike (*Lanius ludovicianus*), Alameda song sparrow, and black skimmer (*Rynchops niger*). The yellowthroat, song sparrow, and skimmer use habitats found in the marsh and slough. The shrike uses grasslands and other open habitats, and the harrier and kite could use both the grassland and marsh/slough habitats. Burrowing owl (*Athene cunicularia hypogea*) has not been identified on the RBC site, but has been reported adjacent to the site to the east (CNDDB 2013; Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a).

California Fully Protected Species

White-tailed kite, American peregrine falcon (*Falco peregrinus anatum*), California black rail, brown pelican (*Pelecanus occidentalis*), California clapper rail, and California least tern are California fully protected species that have been observed at least once or have potential to occur at the RBC site (Table 4.3-1) (Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a; CNDDB 2011, 2012, 2013; Loughman 1989; eBird 2014; Berthelsen no date; CDFW 2014). This designation provides that these protected species "…may not be taken or possessed at any time…" Brown pelican could forage in Meeker Slough, and American peregrine falcon could pass through the site over the marsh and slough in spring and fall during migration and potentially forage. There is no nesting habitat for either species at the RBC site. The other California fully protected species are described previously.

Table 4.3-1
Special Status Species That Could Occur at the RBC Site

Common Name	Scientific Name	Federal/State/ CNPS Status	Habitat	Likelihood of Occurrence / Notes
Invertebrates – None. No suitable habitat present for special status insects.				
Fish – None. No suitable habitat present for special status fish.				
Amphibians				
California red-legged frog	*Rana aurora draytonii*	FT/CSC/--	Lowlands and foothills in or near permanent sources of deep water, with dense, shrubby, or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development.	None. No suitable habitat present.
Reptiles				
Western pond turtle	*Clemmys marmorata*	--/CSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites and upland habitat for egg-laying.	None. No suitable habitat present.
Alameda whipsnake	*Mastiocophis lateralis euryxanthus*	FT/ST/--	Chaparral and scrub habitats, adjacent grasslands, oak savanna and woodland habitats.	None. No suitable habitat present.
Birds				
Burrowing owl	*Athene cunicularia hypugea*	--/~~ST~~CSC/--	Open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Prefers short grasses and moderate inclined hills.	Low: Reported adjacent to the site to the east.
Northern harrier	*Circus cyaneus*	--/CSC/--	Meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands.	Present. Has been documented in the grasslands and Meeker Slough.
White-tailed kite	*Elanus leucurus*	--/SFP/--	Low rolling foothills and valley margins with scattered oaks and river bottom-lands or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows and marshes for foraging close to isolated, dense-topped trees for nesting and perching.	High. Observed at Meeker Slough at least once.
Willow flycatcher	*Empidonax traillii*	--/SE/--	Wet meadow and montane riparian habitats at elevations of 2000-8000 feet. Spring and fall migrant at lower elevations.	High. Observed at Meeker Slough at least once. Potential to occur during migration.
American peregrine falcon	*Falco peregrinus anatum*	--/SFP/--	Migrants occur along the coast in spring and fall. Breeds mostly in woodland, forest, and coast habitats near bodies of water with cliffs and canyons nearby for cover and nesting.	High. Observed at Meeker Slough at least once. Potential to occur during migration.

Table 4.3-1
Special Status Species That Could Occur at the RBC Site

Common Name	Scientific Name	Federal/State/ CNPS Status	Habitat	Likelihood of Occurrence / Notes
Saltmarsh common yellowthroat	*Geothylpis trichas sinuosa*	--/CSC/--	Nests in fresh and salt marshes in tall grasses, tule patches and willows. Prefers thick cover for foraging and dense vegetation for nesting.	Present. Observed in Western Stege Marsh.
Loggerhead shrike	*Lanius ludovicianus*	--/CSC/--	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Present. Has been documented in the grasslands.
California black rail	*Laterallus jamaicensis coturniculus*	--/ST, SFP/--	Freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays.	Low. Suitable salt marsh habitat present. No observations.
Alameda song sparrow	*Melospiza melodia pusilla*	--/CSC/--	Found in tidal sloughs in the Salicornia marshes. Nests in Grindelia bordering slough channels.	Present. Reported from Western Stege Marsh. Habitat occurs in Western Stege Marsh.
Brown pelican	*Pelecanus occidentalis*	--/SFP/--	Feeds primarily in shallow estuaries or lagoons where small fish are abundant.	Present. Documented at Meeker Slough at least once.
California clapper rail	*Rallus longirostris obsoletus*	FE/SE/--	Salt water and brackish marshes in vicinity of tidal sloughs. Associated with pickleweed growth.	Present. Has been documented in Western Stege Marsh.
Black skimmer	*Rynchops niger*	--/CSC/--	Forages in calm shallows of harbors, lagoons, bays, estuaries, ponds, and river channels. Nests on large areas of bare earth isolated from disturbances.	High. Observed at Meeker Slough at least once.
Black phoebe	*Sayornis nigricans*	--/--/--	Nests in manmade structures on ledges and in buildings. Nest made of mud pellets, dry grasses, weed stems, plant fibers and hair.	Present. Suitable habitat present in buildings.
Allen's hummingbird	*Selasphorus sasin*	--/--/--	Nests in wooded areas, meadows, or thickets along shaded streams, on a branch low down on stem, although placement height varies between 10 inches and 90 feet.	Moderate. Suitable habitat present in aquatic and landscaped areas.
California least tern	*Sterna albifrons browni*	FE/SE, SFP/--	Feeds primarily in shallow estuaries or lagoons where small fish are abundant.	High. Documented at Meeker Slough.
Western meadowlark[1]	*Sturnella neglecta*	--/--/--	Nests in grasslands removed from trees and shrubs. Nest is domed in structure.	Moderate. Suitable grassland habitat present.

Table 4.3-1
Special Status Species That Could Occur at the RBC Site

Common Name	Scientific Name	Federal/State/ CNPS Status	Habitat	Likelihood of Occurrence / Notes
Barn owl[1]	*Tyto alba*	--/--/--	Nests in tree cavities, crevices between the fronds of palm trees or small caves in cliffs or banks and in buildings. Nests are typically 10 feet above ground.	Moderate, Suitable habitat occurs in buildings.
Mammals				
Pallid bat	*Antrozous pallidus*	--/CSC/--	Day roosts include rock outcrops, mines, caves, buildings, bridges, and hollows and cavities in a wide variety of tree species. High reliance on oak woodland habitat in many portions of its range in California.	Moderate. Potentially suitable habitat present in buildings and large trees.
California myotis	*Myotis califiornicus*	--/--/--	Roosts in caves, mine tunnels, crevices in rocks and buildings, generally near forested areas. Feeds low among trees or over shrubs.	Moderate. Potentially suitable habitat present in buildings.
Small-footed myotis	*Myotis ciliolabrum*	--/--/--	Roosts in caves, mine tunnels, crevices in rocks and buildings, generally near forested areas. Feeds around canopy, often low to the ground, higher in open habitat.	Moderate. Potentially suitable habitat present in buildings.
Long-eared myotis	*Myotis evotis*	--/--/--	Day roosts in hollow trees under exfoliating bark, and crevices in rock outcrops. Found roosting under bark of small black oaks in northern California. Found throughout California.	Low. Potentially suitable habitat present in buildings and trees.
Fringed myotis	*Myotis thysanodes*	--/--/--	Roosts in colonies in caves, cliffs and attics of old buildings. Will also use trees as day roosts.	Moderate. Potentially suitable habitat present in buildings and trees.
Yuma myotis	*Myotis yumanensis*	--/--/--	Roosts colonially in cares, tunnels and buildings. Inhabits arid regions.	Moderate. Potentially suitable habitat present in buildings.
Salt-marsh harvest mouse	*Reithrodontomys raviventris*	FE/SE/--	Prefers dense cover of native pickleweed (*Salicornia virginica*). Will use upper zone of peripheral halophytes (salt-tolerant plants) to escape the higher tides, and also move into the adjoining grasslands during the highest winter tides.	Low. Saltmarsh on-site may provide habitat.

Table 4.3-1
Special Status Species That Could Occur at the RBC Site

Common Name	Scientific Name	Federal/State/ CNPS Status	Habitat	Likelihood of Occurrence / Notes
Brazilian free-tailed bat	*Tadarida brasiliensis*	--/--/--	Roosts in large aggregations, primarily in buildings, caves, mines, and bridges. May remain in SF Bay Area during winter, active during dry/warm periods.	High. Potentially suitable habitat present in buildings.
Salt-marsh wandering shrew	*Sorex vagrans halicoetes*	--/CSC/--	Occupies tidal marshes that provide dense cover, abundant food (primarily invertebrates), suitable nesting sites, and fairly continuous ground moisture. Occupies "medium high marsh," about 6 to 8 feet above sea level, and in lower-lying marsh not regularly inundated.	Low. Saltmarsh on-site may provide habitat.
Plants				
Bent-flowered fiddleneck	*Amsinckia lunaris*	--/--/1B	Woodlands and grasslands between 50 and 500 meters elevation.	Low. No occurrences in project area. Not seen in surveys.
Pallid manzanita	*Arcostaphylos pallida*	FT/SE/1B.1	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Flowers from March to June.	Low. No occurrences in project area. Not seen in surveys.
Alkali milk-vetch	*Astragalus tener* var. *tener*	--/--/1B	Low ground, alkali flats, and flooded lands; in annual grassland, playas, or vernal pools between 1 and 170 meters elevation.	Low. Not known to occur in project area. Not seen during surveys.
Round-leaved filaree	*California macrophylla*	--/--/1B.1	Cismontane woodland, valley and foothill grassland on clay soils. Flowers from March to May.	Low. No occurrences in project area. Not seen in surveys.
Coastal bluff morning-glory	*Calystegia purprata ssp. saxicola*	--/--/1B.2	Coastal dunes, coastal scrub, North Coast coniferous forest. Flowers from May to September	Low. No occurrences in project area. Not seen in surveys.
Point Reyes bird's-beak	*Cordylanthus maritimus* ssp. *palustris*	--/--/1B	Coastal salt marsh with *Salicornia* spp., *Distichlis* spp., and *Spartina* spp. between 0 and 15 meters (49 feet) elevation.	Low. No occurrences in project area. Not seen in surveys. Believed to be extirpated in Alameda and Contra Costa Counties.
Fragrant fritillary	*Fritillaria liliaceae*	--/--/1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Often found in serpentine soils. Flowers from February to April.	Low. No occurrences in project area. Not seen in surveys.

Table 4.3-1
Special Status Species That Could Occur at the RBC Site

Common Name	Scientific Name	Federal/State/ CNPS Status	Habitat	Likelihood of Occurrence / Notes
Santa Cruz tarplant	*Holocarpha macradenia*	FT/SE/1B.1	Coastal prairie, coastal scrub, valley and foothill grassland, often on clay or sandy soils. Flowers from June to October.	Low. No occurrences in project area. Not seen in surveys. Believed to be extirpated in Alameda and Contra Costa Counties.
Robust monardella	*Monardella villosa ssp. globosa*	--/--/1B.2	Openings in broadleaf, upland forest and chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Flowers from June to July.	None. No suitable habitat present.
California seablite	*Suaeda californica*	FE/--/1B	Restricted to the upper intertidal zone of coastal salt marsh along the perimeter of a bay.	Low. No occurrences in project area. Not seen in previous surveys. Believed to be extirpated in Alameda and Contra Costa Counties.

Source: ~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a; CNDDB 2011, 2012, 2013; Loughman 1989; eBird 2014; Berthelsen No Date; CDFW 2014.

Federal Status
FE = Endangered. Species in danger of extinction throughout all or significant portion of its range.
FT = Threatened. Species likely to become endangered in foreseeable future throughout all or a significant portion of its range.
FPD = Proposed delisting.

California State Status
SE = Endangered. Species whose continued existence in California is jeopardized.
ST = Threatened. Species, although not presently threatened with extinction, that is likely to become endangered in the foreseeable future.
CNPS = California Native Plant Society
CSC = Species of Concern.
RBC = Richmond Bay Campus
SFP = State Fully Protected under Sections 3511 and 4700 of the Fish and Game Code.
SR = State Rare
CFP = California Fully Protected

California Native Plant Society
1A = Plants presumed extinct in California
1B = Plants that are rare or endangered in California and elsewhere.

Migratory Bird Treaty Act
[1]Most native bird species are protected by the MBTA. This table includes a selection of bird species with potential to nest at the RBC site that are protected by the MBTA but not otherwise listed as special status at the state or federal level. The species in this table are not intended to be all inclusive.

10.17 SECTION 4.3.3

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Section 10 of the ESA provides a nonfederal applicant a mechanism to obtain incidental take authorization, as described in Section 1.5, for federally listed threatened or endangered species.

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California Environmental Quality Act

CEQA (PRC. 21000 et seq.) was enacted in 1970 to fully disclose environmental impacts prior to state and local public agency discretionary action such as project approval or permit issuance. With regard to biological resources, CEQA considers other plants to be "sensitive" (or "special status"), in addition to federally or state listed species (14 CCR, Chapter 3, Article 20), Section 15280). Sensitive species include plants on the CNPS List 1A (presumed extinct), List 1B (rare, threatened, or endangered in California and elsewhere; eligible for state listing), or List 2 (rare, threatened, or endangered in California but more common elsewhere; eligible for state listing). To be conservative, CNPS List 3 (plants for which more information is needed) and List 4 (plants of limited distribution) are also considered sensitive~~.~~ in some jurisdictions. Sensitive wildlife species include federally or state listed species as well as CDFW-listed wildlife species of special concern.

10.18 SECTION 4.3.4

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Analytical Methods

Methods used to evaluate biological resources impacts included CNDDB searches (CNDDB 2012), several biological reports documenting surveys and assessments conducted at the RFS, both specifically for this project and for previous projects. These include the RFS Habitat Assessment Report and RFS Constraints Analysis (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a, 2012), the RFS Remediation Project IS (URS 2003), UC Richmond Field Station's Remnant Coastal Terrace Prairie (Amme 2005), the RFS Grasslands constraints Analysis (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2013a), URS (2007) Botanical Survey Report, The Watershed Project (2007) Remediation and Restoration Progress Report, Lidicker et al (2003) compendium of flowering plants at the Richmond Field Station, the Manual of California Vegetation (Sawyer et al. 2009), and Richmond Field Station Remediation Project Biological Assessment Report (Blasland, Bouck, and Lee, Inc. 2003). Methods included consultation with experts on California grasslands at UC Berkeley. Tetra Tech conducted a general biological survey (Tetra Tech 2013a) in January 2013. This survey assessed the current conditions of the southeastern portion of the RBC site existing habitats, and included identification of potential wetland areas. Tetra Tech conducted a wetland delineation survey in February 2013 to identify potential wetland boundaries in the same area (Tetra Tech 2013b).

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Because no special-status plant species have been documented on the site during extensive botanical surveys (such as Amme 1993, Lidicker et al. 2003, URS 2007~~, WRA and Jane Valerius Environmental Consulting 2011a~~) or ~~by~~ reported to the CNDDB, it is unlikely that protected species are present. Because the areas with the most suitable habitat for special-status plant species would be protected from development and no special-status species have been

documented, impacts on special-status plant species are not likely to occur from LRDP implementation. Effects on sensitive natural communities are described under LRDP Impact BIO-5.

Mitigation Measure: No mitigation measure is required; nonetheless LRDP MM BIO-5 would reduce any potential impact.

LRDP Impact BIO-2: Development under the 2014 LRDP could adversely affect special-status bird species protected under the MBTA, ESA, and/or CESA and result in nest abandonment and reproductive failure. ***(Potentially Significant; Less than Significant with Mitigation)***

The RBC site includes natural areas such as the Western Stege Marsh ~~and~~, Meeker Slough, coastal grasslands, eucalyptus groves, and numerous older, wooden buildings that ~~could be nesting or~~ provide roosting ~~sites~~, foraging, and cover habitat for ~~various bird species~~ birds (Figure 4-8). These areas also provide potential nesting habitat for a portion of the special-status bird species ~~(Table~~ that could occur at the RBC site, as described in Section 4.3~~-1~~.2. There is a high potential for nesting passerines, protected by the MBTA, to occur in multiple RBC site habitats. These include saltmarsh common yellowthroat and Alameda song sparrow in Western Stege Marsh; black phoebe on man-made structures; and western meadowlark in grasslands. California clapper rail, listed as endangered under the ESA and CESA, has been documented in Western Stege Marsh. Burrowing owl, a state species of special concern, and California black rail, a state threatened species, have not been documented on-site, but the site does contain potential owl (grasslands) and clapper rail (marsh) habitat~~.~~ (Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a; CNDDB 2013; Loughman 1989; eBird 2014; Berthelsen No Date). Raptors, protected by the MBTA and California Code Sections 3503 and 3503.5, are likely present as described in Section 4.3.2.

Because the RBC site provides suitable nesting habitat for MBTA, ESA, and/or CESA-protected birds, loud noise within 100 feet of nests during the nesting period (approximately ~~March~~ February 1 through August ~~15~~31) could result in nest abandonment and "take" of young. Such noise could be from building demolition and construction, site preparation, utilities rerouting, and tree removal during construction. These potential impacts would be minimized with the implementation of LRDP MM BIO-2.

The construction footprint would be outside of clapper rail habitat and thus minimize potential noise impacts. Nevertheless, noise and other human disturbance—especially related to construction and demolition activities—near the marsh could affect avian use and result in flushing, avoidance, or nest abandonment. This potential would be minimized through compliance with ESA and CESA and with the implementation of LRDP MM BIO-2. More specific mitigation measures and design features, developed during consultation under the ESA, would be implemented as required.

The projected campus population increase from 300 to 10,000 by 2050 could cause indirect impacts on nesting birds. This population increase would have the potential to result in long-term adverse impacts on special status species birds from operations. More people on the site would increase the probability of humans and pets walking into or near sensitive habitats such as Western Stege Marsh and coastal terrace prairie grasslands, which could alter bird behavior. ~~Although not likely, disturbance~~ Disturbance of nesting birds, including the endangered California clapper rail, could decrease reproductive success. Also indirect disturbance from

nearby operational noise sources could occur~~.~~, which would be minimized to the extent practicable with implementation of LRDP MM BIO-2.

Because campus facilities would not be located within the Natural Open Space areas, there are not likely to be direct ~~effects on Western Stege Marsh~~, adverse effects, such as habitat loss or modification, on Western Stege Marsh or Meeker Slough. Impacts on the marsh and slough from sedimentation and pollution, which could adversely affect special status birds, associated with projects implemented under the LRDP would be minimized by compliance with several policies and guidelines described in Section 4.8, Hydrology and Water Quality. These include Policy CN3.1 - Stormwater Management, Policy CN3.2 - Water Quality, City of Richmond Landscape Design and Development Guidelines, RBC 2014 LRDP Policy UI2 – Utilities and Infrastructure Policy on Sustainability, preparation and implementation of a stormwater pollution prevention plan (SWPPP) for each project, and implementation of project-specific BMPs. As described in Section 4.8, implementation of the LRDP is not expected to result in contaminants reaching receiving waters, would not substantially deplete groundwater, would maintain existing drainage patterns, and would not result in substantial additional sources of polluted runoff. Additional measures may be implemented based on consultation with USFWS or CDFW. As a result, these contaminants are not expected to affect bird species using the marsh and slough.

No grassland habitat loss within the Natural Open Space would occur, and the quality of the habitat itself for special-status grassland birds would be maintained and possibly improved in the long-term as described under LRDP MM BIO-5. However, the quantity of grassland habitat available to special status species birds that use grasslands would be reduced at the RBC site. No ESA-listed species or critical habitat occur in the grasslands, and with implementation of LRDP MM BIO-2, impacts on other special status bird species would be reduced, and take of individuals, as defined in the applicable federal and state laws, would be avoided.

The USFWS (2002) estimates that birds colliding with structures results in 100 million to 1 billion bird deaths annually in North America. Because San Francisco Bay is urban, has diverse habitats, and is on the Pacific Flyway, this problem is particularly of concern. The University in implementing projects under the LRDP would take steps to minimize this potential adverse impact by use of bird-friendly building design standards, which are included in the Physical Design Framework, which each individual project would follow. This measure is included in LRDP MM BIO-2.

Predatory birds and mammals can be a threat to nesting special status bird species with small, threatened populations. Urban environments can result in availability of trash to human-adapted animal species that exploit trash as a food source. These species also tend to eat bird eggs when available. Thus an increase in trash can threaten special status bird species. Raccoons, skunks, and gulls are examples. These and similar species are already present at the RBC site and are not expected to increase. The campus would be primarily an institutional workplace and not a recreational area. Most dining would likely occur indoors at a cafeteria facility. Outdoor dining would occur, weather permitting, but the culture of the RBC would be similar to that among the professional and scientific staff already at the UC Berkeley and LBNL main campuses, where recycling and environmentalism are the norms and leaving garbage behind and/or littering is generally not tolerated. Facilities would be modern and kept very clean, and dumpsters and other trash collecting receptacles would be equipped with closing lids and wildlife-proof structures.

Lighting has the potential to have adverse impacts on birds causing navigational confusion that can result in fatal collisions with buildings and can interfere with breeding behavior (Kempenaers et al. 2010). Projects under the LRDP would not introduce lighting where there is none as lighting already exists on the site and adjacent properties. Lighting would be aimed away from Natural

Open Space. Lighting levels, design, and practices at the RBC site would be similar to lighting employed at the LBNL main site where the campus is lit at night with restrained building lights and muted outdoor lighting. Thus any adverse impacts from lighting on special status species birds are expected to be negligible.

The American Bird Conservancy has developed "Bird-friendly Building Design standards." The RBC 2014 LRDP (LRDP Implementation Policy 2) requires compliance with the Physical Design Framework, which, as proposed in March 2014, includes reference to these design standards.

Implementing LRDP MM BIO-2 would reduce potential impacts on special-status birds from construction and operations to less than significant.

LRDP MM BIO-2: ~~Where practical, avoid~~ Avoid construction, demolition, or renovation activities in areas adjacent or nearby to marshland nesting bird habitat during the nesting season (~~March 1 – August 31).~~February 1 – August 31) and specify that construction schedules make efforts to further reduce noise and vibration during known nesting periods.

If construction, demolition, or renovation were proposed to occur ~~in areas adjacent or nearby to marshland nesting habitat~~ during the nesting season, a nesting bird survey shall be performed by a qualified biologist up to approximately 7 days prior to work commencing, up to 100 feet beyond the project boundary. If no birds or evidence of birds are found, no further action is required, provided work commences within approximately 1 week of the survey to prevent "take" of individual birds that may have begun nesting after the survey.

If active nests or young are observed during the pre-construction surveys, construction, demolition, or renovation in the affected project area shall not commence within 100 feet of the occupied nest until after the young have fledged.

Engage in ESA Section 7 or Section 10 consultation (formal or informal, as appropriate) with the USFWS for implementation level LRDP components ~~if~~(depending on whether those components constitute a federal or state action ~~(~~, e.g., approvals or funding) to address any potential impacts on California clapper rail. Develop appropriate measures with USFWS and implement them.

Establish a 150-foot-wide temporary "no disturbance" buffer around the wetland/upland boundary of Western Stege Marsh/Meeker Slough when construction occurs during the breeding season (mid-March to July). This buffer would protect and buffer potential California clapper rail habitat and nesting areas during construction by prohibiting entry into this area.

To prevent take of individuals, as required under the MBTA, ESA, CESA, and California Fish and Game Code, which includes harm and harassment under the ESA, a buffer zone of an appropriate size to prevent substantial adverse effects from construction would be established through consultation with the USFWS.

Post interpretative California clapper rail signs in and near Western Stege Marsh/Meeker Slough. Signs should include seasonal use restrictions (e.g., stay on designated trails, pets on leash), to reduce disturbance potential during construction and operations.

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LRDP Impact BIO-5: Development under the 2014 LRDP could have a substantial adverse effect on sensitive natural communities. ***(Potentially Significant; Less than Significant with Mitigation)***

Campus development under the 2014 LRDP could have adverse effects on the RBC site coastal-terrace prairie grassland habitat. Construction and operational activities and a campus population increase would potentially increase risk of adverse impacts on the high quality grasslands. Direct impacts, such as soil compaction, could occur from people driving vehicles through the grasslands. Indirect impacts include increased potential weed intrusion due to construction-related soil perturbation and unintentional seed distribution from the increased numbers of people and vehicles. This potential effect is addressed below.

There are 22 acres of high quality grassland habitat, considered a sensitive natural community, at the RBC site. These are within the Big Meadow, Northwest Meadow, West Meadow, and EPA Meadow North (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2013a). In 15 of the 22 high quality grassland acres, comprising the majority of the area within the Big, West, and EPA North Meadows, direct, adverse impacts from the LRDP would be minimal, as these acres would be part of the 25-acre Natural Open Space area. The purpose of this open space would be to retain these resources in their natural condition. The activities that would occur in protected coastal terrace prairie grassland habitat would be limited to maintenance, field research, and education. Improvements in this zone would be limited to minor access roads and structures, and boardwalks or pathways to facilitate maintenance, field research, and education. There would be a buffer between grasslands and new buildings (see Figures 3-3 and 3-4).

As noted, the LRDP designates 15 of 22 high quality grassland acres as part of the 25.2-acre Natural Open Space. Approximately seven acres of high quality grassland, including the Northwest Meadow and outside edges of the Big Meadow, would be within the Research, Education and Support Area as indicated on Figure 4-8. Thus the total area of high quality grassland could be reduced if ultimately developed. This adverse impact would be mitigated via a variety of measures, as presented below in LRDP MM BIO-5.

The Northwest Meadow is newly identified as "high quality" as the result of a recent study (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2013a). This study found that, "Only four of the seven listed plant species were Rank A or B so this area did not meet the URS criteria for defining high quality grassland habitat. However, since 2007 the presence of California oatgrass and purple needlegrass has increased in this area making it a high quality grassland habitat based on the membership rules as defined by the Manual of California Vegetation (Sawyer et al. 2009)." The Northwest Meadow and the additional high quality grassland habitat acreage within the Research, Education and Support area may be developed as defined in the LRDP for the Research, Education and Support land use designation. Campus researchers have noted that the coastal terrace prairie on the RFS site is today threatened by invasives (Sousa and Suding 2013). Invasive plants and Harding grass in particular have been spreading rapidly. In 1984 exotic annuals comprised 22 percent of the standing crop, and a 2007

report concluded that Harding grass covered over 40 percent of the grassland (RFS 2012 Restoration Report, ESPM 187).

Lark Drive, an existing street located in the designated Natural Open Space area, would be slightly realigned and improved, but would remain as a minor street with primary traffic flow directed around the perimeter of the RBC site.

Potential impacts of sedimentation and runoff on the Western Stege Marsh and Meeker Slough from removal of grasslands would be minimized by a variety of measures included in Section 4.8, Hydrology and Water Quality, and summarized above in LRDP Impact BIO-2.

Implementation of the 2014 LRDP and the mitigation measures below would result in a net benefit to the quality and continuing preservation of the sensitive natural coastal terrace prairie community at the project site, over existing conditions.

LRDP ENVIRONMENTAL PROTECTION PRACTICE BIO-5

Currently, and continuing if the LRDP is adopted, the University would mow open space areas consistent with the 2008 report, Richmond Field Station Remediation and Restoration Project Habitat Restoration Progress Report 2003 – 2007, Appendix 2 "Guidelines for Mowing Harding Grass Within and Adjacent to Coastal Terrace Prairie Habitat at the University of California, Richmond Field Station."

With implementation of the LRDP, including the mitigation measures described below, indirect impacts from individual construction projects and operations on high quality grasslands would be less than significant. Direct impacts on high quality grasslands would also be less than significant.

LRDP MM BIO-5: Mitigation for LRDP-related impacts on grasslands will expand as the campus grows.

a) ~~Any project proposed under LRDP, whether in or outside of the Natural Open Space area, shall include a construction and operation management plan to minimize the threat of weeds to these grasslands.~~ Once the RBC LRDP is approved for implementation, UC Berkeley shall commence initial phase implementation of a Coastal Terrace Prairie Management Plan that addresses exotics removal, tree and *Baccharis* (a genus in the Aster family) removal, weed management, and programs for native plant stock preservation to aid in preservation and enhancement of the grassland portion of the Natural Open Space area. See Appendix G for the 2014 Richmond Bay Campus Coastal Terrace Prairie Management Plan.

b) As initial projects under the LRDP are implemented, proactive (not passive) measures to improve the quality of the native grasslands in the Natural Open Space area shall be funded and undertaken. This may take the form of support for research and education into effective restoration. Possible fund sources include the UC Berkeley Capital Renewal Program, which assesses a four percent fee on all capital budgets (UC Berkeley 2013).

c) Once a project is proposed that may alter high quality grassland within the Natural Open Space land use zone ~~for~~ by constructing

minor access roads ~~or~~, structures, or ~~to construct~~ boardwalks ~~is proposed~~, the University shall ~~prepare a grassland management plan~~ update its Coastal Terrace Prairie Management Plan to guide conservation and enhancement efforts, as well as the siting of boardwalks and minor access roads and structures in a resource-sensitive manner. The plan shall include weed management actions, annual monitoring and reporting, and adaptive management sufficient to maintain or improve the quality of the grasslands preserved in the designated Natural Open Space. The effectiveness of the plan shall be continually evaluated and the plan adjusted as needed.

d) Prior to approving any action to develop the Northwest Meadow or to develop on other ~~designated~~ high, medium, or low quality grasslands outside of the Natural Open Space land use zone, the University shall ~~plan and~~ conduct a site-specific native plant survey. All survey results would be published to the University environmental website for the RBC. The University would apply the results of such surveys to implement a program ~~to~~ that would use the native plant stock from such area to aid enhancement and restoration in Natural Open Space grassland areas ~~not currently designated high quality~~, and to develop or restore meadow acreage elsewhere. Possible locations include formal landscaped open areas of the RBC, ~~roof tops~~ rooftops of buildings at the RBC, demonstration meadows at UC Berkeley or in the city of Richmond that help explain the former extent of regional coastal terrace prairie grasslands.

10.19 SECTION 4.3.5

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10.20 SECTION 4.6.3

Page 4-129 of the Draft EIR [Comment PubHear-4]

Local Plans and Policies

City of Richmond 2030 General Plan. The proposed RBC site is a University property that conducts work within the University's mission on land that is owned or controlled by The Regents. As a state entity created by Article IX, Section 9 of the California State Constitution, the University is exempt under the state constitution from compliance with local land use regulations, including local plans and policies. However, the University seeks to cooperate with local jurisdictions. The RBC site is in the City of Richmond. The City of Richmond has adopted a resolution committing to the emissions targets in AB 32, and has adopted an Energy and Climate Change element as part of its General Plan 2030.

The City of Richmond 2030 General Plan includes an Energy and Climate Change Element (Element 8). The greenhouse gas policies relevant to the 2014 LRDP are:

Goal EC1 – Leadership in Managing Climate Change. Take steps to address climate change and to manage its effects. This entails not only pursuing ground-breaking programs and innovative strategies, but educating residents and businesses about these actions and actively monitoring results to ensure progress in critical areas. Partner with other jurisdictions and organizations to develop effective regional solutions and regulation at regional, state and federal levels. Collaborate with residents, businesses, public agencies and neighboring jurisdictions, in order to meet or exceed state requirements for reductions in greenhouse gas emissions.

Goal EC2 – Clean and Efficient Transportation Options. Expand the City's green transportation network by encouraging the use of climate-friendly technology, planning growth around multiple modes of travel and reducing automobile reliance. In addition to promoting

improved public transit, partner with private developers to undertake citywide improvements that make active modes of travel, such as walking and bicycling, more comfortable and preferable options.

Goal EC3 – Sustainable and Efficient Energy Systems. Reduce the City's consumption of energy by encouraging energy conservation, and supporting the consumption of energy produced by climate-friendly technologies. Reduce the City's overall waste stream by reducing the City's consumption of goods and materials, and by adopting a zero-waste philosophy.

Goal EC4 – Sustainable Development. Reduce energy consumption by promoting sustainable land uses and development patterns. Pursue infill development opportunities and encourage the construction of higher-density, mixed-use projects around existing public transit infrastructure, schools, parks, neighborhood-serving retail and other critical services. Incorporate ecologically sustainable practices and materials into new development, building retrofits and streetscape improvements.

Goal EC5 – Community Revitalization and Economic Development. Transform Richmond into a healthy community where green industries and businesses can flourish. Support sustainable businesses and practices that provide both community and environmental benefits while stimulating job and revenue growth.

Goal EC6 – Climate-Resilient Communities. While the impacts of climate change on local communities are uncertain, to the extent possible, prepare to respond to and protect residents and businesses from increased risks of natural disasters such as flooding or drought.

The General Plan element also contains a range of policies and implementing actions that support each goal.

The 2030 General Plan EIR determined that the effects of GHG emissions from future development within the City pursuant to the General Plan would be significant and unavoidable. The EIR noted that the City was in the process of developing a Climate Action Plan which would provide reduction strategies for the City to attain, at a minimum, the AB 32 goal of emissions reduction by 20 percent below business as usual. The EIR also noted that the incorporation of the state measures, General Plan policies and actions, and mitigation measures would reduce the impacts from operational emissions, but even with the reduction, the emissions would exceed the BAAQMD threshold and the impact would be significant and unavoidable.

Richmond Bay Campus. The applicable local plan or policy would be a greenhouse gas reduction plan or a CAP adopted or proposed by the University for the RBC. While the University plans to adopt a CAP, it has not been developed for the RBC. BAAQMD's Clean Air Plan is a multi-pollutant plan that includes GHGs but specifically states that it is not to be considered a GHG reduction plan. Therefore, consistent with BAAQMD's CEQA guidance on GHG emissions, which is designed to meet AB 32 requirements in the region, AB 32 is the applicable plan. AB 32 establishes GHG reduction goals for the state through 2020. Because the time horizon for campus development under the proposed 2014 LRDP is 2050, in addition to AB 32, other state requirements also provide the planning framework. This is discussed further in the sections below.

10.21 SECTION 4.6.4

Page 4-136 of the Draft EIR [Comments CCISCO(2)-11 and CCISCO(2)-35]

LRDP MM GHG-1: ~~One or more CAPs would be developed and implemented for the RBC. The CAP would~~ The University will develop a CAP for the RBC site within three years of the adoption of the 2014 LRDP or before construction on the first project under the 2014 LRDP commences, whichever comes first. The CAP will include campus-wide GHG reduction measures as well as a suite of project-level GHG reduction measures that will be incorporated into each building project, as appropriate, during the planning, design and construction of the project.

The CAP will include target emission rates per service person that are consistent with AB 32 and Executive Order S-3-05 emissions targets. The CAP ~~would~~ will also implement specific control measures and programs to achieve these targets. These control measures and programs ~~would~~ will be developed specifically for each project based on its siting and design needs, but they would at minimum address these general topics:

10.22 SECTION 4.7.2

Page 4-142 of the Draft EIR [Comment BRobben-8]

Fifty-five-gallon drums and two ~~potable~~ portable fuel tanks (70 and 100 gallons) store petroleum products (for research and vehicle fueling and maintenance) and waste petroleum products, such as waste oil. Drums are kept in Buildings 120, 197, 280A, and 421.

10.23 SECTION 4.9.2

Page 4-176 of the Draft EIR [Comment EBRPD-1]

The McLaughlin Eastshore State Park is located along the shoreline adjacent to the RBC site. The park extends approximately 8.5 miles along the San Francisco Bay eastern shoreline from the Oakland Bay Bridge northward to the Marina Bay neighborhood. The park includes approximately 2,262 acres of waterfront uplands and tidelands along the cities of Oakland, Emeryville, Berkeley, Albany, and Richmond. The portion of the state park nearest the project is called the South Richmond Shoreline, a southwest-facing stretch of gravel beaches in its southern reaches and tidal marsh to the north behind the seawall. The arc of upland area extending from Point Isabel to Marina Bay is the dike the railroad used to run on (California Department of Parks and Recreation 2002). A segment of the Bay Trail is built on this dike. The East Bay Regional Park District manages the state park.

10.24 SECTION 4.9.4

Page 4-182 of the Draft EIR [Comment EBRPD-1]

Eastshore State Park General Plan

A portion of the McLaughlin Eastshore State Park, the South Richmond Shoreline, is adjacent to the RBC site. The Eastshore State Park General Plan indicates that the RFS, which is a portion of the proposed RBC, is expanding and transitioning toward cleaner and higher technology uses. The 2014 LRDP would indeed further develop the RBC site to accommodate research and

development in technologically advanced and environmentally proactive ways. The 2014 LRDP would protect the site's natural resources, including those near the South Richmond Shoreline. This resource protection would conform to Eastshore State Park General Plan policies. The University would work with the East Bay Regional Park District to identify possible natural resource enhancements and thus further promote the Park's General Plan policies. The 2014 LRDP would not conflict with the General Plan for the McLaughlin Eastshore State Park. This impact is considered less than significant.

10.25 TABLE 4.10-1

Page 4-187 of the Draft EIR [Comment EBRPD-1]

Table 4.10-1
Ambient Noise Levels at the RBC Site and its Vicinity

Map ID	Land Use	Location Description	Time Period	L_{eq}	L_{10}	L_{50}	L_{90}	CNEL*
MP-1	Residential	Residential Neighborhood at ~~Point Isabel Shoreline~~ Marina Bay	Day	53	54	51	50	58
			Night	51	53	47	46	
MP-2	Residential	Eastern Residences at Bayside Court	Day	53	53	52	51	58
			Night	51	52	49	48	
MP-3	Residential	Residences at Bayside Court	Day	53	55	51	50	56
			Night	48	50	46	45	
MP-4	Residential	Trade Winds Sailing School	Day	57	61	53	50	59
			Night	50	53	48	44	
MP-5	Civic/Public	Rosie the Riveter World War II Home Front	Day	50	52	48	46	NA
MP-6	Residential	The Anchorage at Marina Bay	Day	54	58	52	49	61
			Night	54	58	47	44	
MP-7	Residential	Neighborhood at 30th Street. and Hoffman Boulevard	Day	62	64	62	60	NA
MP-8	Residential	Neighborhood at 43rd Street and Carlson Boulevard	Day	70	71	60	56	NA
MP-9	Civic/Public	Booker T. Anderson, Jr. Park	Day	66	67	65	63	NA
LT-1	Commercial	Richmond Bay Campus	Day	54	54	50	48	57
			Night	51	51	47	45	

10.26 SECTION 4.10.4

Page 4-197 of the Draft EIR

LRDP Impact NOISE-3: Development under the 2014 LRDP ~~could~~would not generate and expose people to noise levels exceeding Richmond Community Noise Ordinance standards or result in a substantial permanent increase in ambient project vicinity noise levels. (*Less than Significant*)

10.27 SECTION 4.12.2

Page 4-215 of the Draft EIR [Comments EBRPD-1 and TRAC(2)-7]

San Francisco Bay Trail

The San Francisco Bay Trail links many of the City and regional parks in Richmond, including the Point Isabel Regional Shoreline and six City-owned parks in Marina Bay west of the project site. The San Francisco Bay Trail is a planned 500-mile hiking and biking trail encircling the San Francisco and the San Pablo Bays. ~~Twenty-five~~ Approximately 32 miles of this trail have been completed in the City; it is ultimately planned to span the entire shoreline wherever feasible. A completed Bay Trail section follows the shoreline directly adjacent to the southern boundary of the project site and also passes through a nearby portion of the McLaughlin Eastshore State Park.

McLaughlin Eastshore State Park

The McLaughlin Eastshore State Park is located along the shoreline adjacent to the RBC site. The park extends approximately 8.5 miles along the eastern San Francisco Bay shoreline from the Oakland Bay Bridge north to the Marina Bay neighborhood in the city of Richmond. The park includes approximately 2,262 acres of uplands and tidelands along the Oakland, Emeryville, Berkeley, Albany, and Richmond waterfronts. The portion of the state park near the project is called the South Richmond Shoreline; it consists of gravel beaches to the south and tidal marsh to the north behind the seawall. An upland strip of land arcing from Point Isabel to Marina Bay is the dike formerly used by the railroad (Eastshore State Park General Plan 2004). A Bay Trail segment is built on this dike. The East Bay Regional Park District manages the state park. The Eastshore State Park General Plan identifies the possibility of adding one or two new vista seating areas along the Bay Trail north of Point Isabel. The vista points could incorporate interpretive panels with information regarding the natural, cultural, and social history of the specific portion of the park. The East Bay Regional Park District also owns and manages a portion of the Western Stege Marsh adjacent to the southern boundary of the RBC site, specifically a 200-foot-wide strip of land centered on the Bay Trail.

10.28 SECTION 4.12.3

Page 4-217 of the Draft EIR [Comment TRAC(2)-8]

Parks and Recreation

Goal PR1 An Integrated System of Parks, Green Streets and Trails

Policy PR1.1 Diverse Range of Park Types and Functions. Continue to provide a diverse range of park types, functions and recreational opportunities to meet the physical and social needs of the community.

Policy PR1.2 Multimodal Connections to Parks, Open Space and Recreational Facilities. Improve connections to parks, open space and recreational facilities through an interconnected network of pedestrian-friendly green streets, multimodal corridors and trails. Enhance trails and greenways to provide recreational opportunities for residents, connect neighborhoods and community uses, improve access to natural resources and the shoreline and promote walking and bicycling.

Policy PR1.3 Equitable Distribution of Park and Recreation Facilities. Expand park and recreation opportunities in all neighborhoods and ensure that they are offered within comfortable walking distance of homes, schools and businesses in order to encourage more physically and socially active lifestyles.

Action PR1.E Shoreline Parks Plan. Coordinate efforts with community groups, property owners, and the BCDC regarding analysis of gaps and identification of opportunity sites for completing the Bay Trail; identification of routes and improvements needed to connect the shoreline with core urban areas of the City; bicycle and pedestrian trails to provide local connections between the waterfront and surrounding neighborhoods; and provisions to complete planned regional trails including the San Francisco Bay Trail, Richmond Greenway, and Wildcat Creek Regional Trail.

10.29 SECTION 4.12.4

Page 4-222 of the Draft EIR [Comment EBRPD-1]

LRDP Impact PS-4: Development under the 2014 LRDP would not trigger construction, substantially increase demand, or substantially degrade parks and recreational facilities. (*Less than Significant*)

Direct Effect of RBC Development

Currently, the RFS includes a gym and workout space, available to employees at the site. The RBC may include recreational facilities or field space, as outlined in the Research, Education, and Support land use description (see Section 3.6.6). The potential environmental effects associated with constructing new on-site recreational facilities are evaluated in Sections 4.1 through 4.11 and Sections 4.12 through 4.14 and are found to be less than significant or reduced to less than significant with mitigation. ~~Although the analysis in the LRDP Impact BIO-5 in Section 4.3, Biological Resources, concludes a significant and unavoidable impact, construction of future recreational facilities would not affect the area of the northwest meadon. Although there would be other~~ Although there would be significant and unavoidable impacts of LRDP development related to operational criteria pollutant emissions, historic buildings, operational GHG emissions, and

traffic, due to the nature of recreational facilities, these improvements would not cause or contribute to these significant and unavoidable impacts.

The 2014 LRDP proposes neither on- nor off-site residential uses that would necessitate the development of recreational facilities. The campus population would consist of researchers, faculty, staff, and some students who would tend be on the campus during daytime hours. The RBC would be developed with open space areas available to the campus population for passive recreation, such as walking along the proposed interpretive boardwalks. It is anticipated that active recreational uses would be developed, such as a sports field, gym, and other athletic facilities. The RBC workforce could also use nearby parks, including the South Richmond Shoreline portion of the McLaughlin Eastshore State Park or Shimada Friendship Park located to the west off the San Francisco Bay Trail. The McLaughlin Eastshore State Park trail would include interpretive panels for recreational users. However, the entire RBC workforce would not be expected to use the parks and any park visits would be interspersed throughout the day due to differing RBC staff schedules. It is unlikely that the small portion of the RBC workforce present at night would use nearby parks after dark due to limited visibility and unfavorable nighttime temperatures and weather. For these reasons, it is not expected that RBC use of nearby parks would be great enough to cause substantial physical deterioration.

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Campus development under the 2014 LRDP does not anticipate residential land uses on the RBC site and therefore, would not have a direct impact on parks and recreational facilities. As described above, some of the campus workforce could use the nearby parks, including the South Richmond Shoreline portion of the McLaughlin Eastshore State Park or Shimada Friendship Park; resources would also be available on the new campus itself. Such use would tend to be limited and during daylight hours. In addition, there would be on-site open space and amenities for passive recreation. A small number of RBC staff or visitors may commute by bicycle or walking and contribute to use of the San Francisco Bay Trail. To the extent that some RBC-related households might relocate to Richmond, their migration would be part of the City's planned and analyzed population growth. Any new residential development in Richmond would dedicate land or pay in-lieu fees that would help the City maintain or create new parks and recreational facilities. The additional growth and subsequent demand on parks and recreational facilities in the City of Richmond from buildout of the 2014 LRDP is considered minimal. The General Plan anticipates growth and the need for parks and recreational facilities to serve the increased demand. The 2014 LRDP would not place an additional demand beyond what was anticipated in the General Plan. Therefore, the cumulative impact to parks and recreational facilities from campus development under the 2014 LRDP would be less than significant.

10.30 SECTION 4.13.2

Page 4-228 of the Draft EIR [Comment TRAC(2)-10]

The Richmond Bicycle Master Plan and City of Richmond Pedestrian Plan propose several bicycle and pedestrian improvements in the study area, including:

- Class 1 ~~pedestrian~~ path connecting Regatta Boulevard west of Marina Bay Parkway, extending farther east to connect to the I-580 and Bayview Avenue interchange just south of the I-580 interchange.
- Class 1 ~~pedestrian~~ path adjacent to the east-west railroad tracks connecting Meade Street at Seaver Street to Regatta Boulevard.

- Class 1 ~~pedestrian~~ path along ~~south~~ South 46th Street connecting the Bay Trail and Meade Street.
- Class 1 spur along South 46th Street with staging area providing access to the Bay Trail between Point Isabel and Marina Bay.
- Class 1 path inland of Stege Marsh on the RBC site connecting South 46th Street with the planned Bay Trail staging area at the end of South 32nd Street and the existing Class 1 Meeker Tidal Creek Trail.
- Class 1 spur at the end of South 32nd Street with a trail bridge over Meeker Tidal Creek providing access to the Bay Trail between Point Isabel and Marina Bay, as well as Marina Bay Parkway.
- Class 2 bicycle lanes on a segment of Regatta Boulevard between Marina Way and Meade Street.
- Class 2 bicycle lanes on South 23rd Street/Marina Bay Parkway, including potential improvements at the I-580 overpass such as widening sidewalks, and realigning the freeway ramps to square the intersection and shorten pedestrian crossings.
- Class 2 bicycle lanes on Meade Street/South 51st Street between Regatta Boulevard and Seaport Avenue.
- Class 2 bicycle lanes on Bayview Avenue between Seaport Avenue and Carlson Boulevard connecting the two Class 1 paths.
- Class 2 bicycle lanes on Carlson Boulevard between El Cerrito City Limit and Broadway.

These potential improvements are not fully funded, designed, or approved, nor is it known when they would be implemented.

10.31 SECTION 4.13.3

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- **Policy CR2.2 – Complete Streets.** Promote mixed-use urban streets that balance public transit, walking and bicycling with other modes of travel. Support pedestrian and bicycle connectivity by restoring and reinforcing Richmond's grid-based network of streets with landscaping and amenities for transit, bicycles, pedestrians, and people with disabilities. Establish a process for modifying streets to support various modes of travel.
- **Policy CR1.5 – Safe and Convenient Walking and Bicycling.** Promote walking and bicycling as a safe and convenient mode of transportation. Improve pedestrian and bicycle amenities to serve the recreation and travel needs of residents and visitors in all parts of Richmond. Where feasible, the City will connect major destinations such as parks, open spaces, civic facilities, employment centers, retail and recreation areas with pedestrian and bicycle infrastructure; promote shared roadways in residential streets; require new development and redevelopment projects to provide pedestrian and bicycle amenities, streetscape improvements, and linkages to planned and completed City and regional multi-use trails; and develop safe routes to schools and out-of-school programs that allow access by bicycle and pedestrian paths or reliable and safe transit.

  Explore innovative solutions such as bicycle-sharing programs and encourage businesses, schools, and residential developments to provide secure bicycle parking to ensure that these ecologically-friendly, low-impact transportation modes are available to all community members, thereby reducing emissions from vehicles within the City, improving environmental quality, and enhancing mobility and connectivity.

- **Policy CR1.6 – Comprehensive Network of Multi-Use Trails.** Develop a comprehensive network of multi-use trails including enhancing bicycle and pedestrian connectivity throughout the City and the region. Completion of the Bay Trail will enhance access to the Richmond shoreline and adjacent open space. The proposed San Francisco Bay Water Trail will provide enhanced access and recreational opportunities to the Bay. Connecting the Richmond Greenway with the Ohlone Greenway and the Bay Trail, and linking Richmond with Marin County with a bicycle trail across the Richmond-San Rafael Bridge will help create a comprehensive network of multi-use trails.

- **Policy CR1.9 – Place-Based Circulation Classification System and Multi-Modal Level of Service Standards.** Classify all streets in the City to conform to the Place-Based Circulation Classification System discussed in the Circulation Element of the General Plan and adopt multi-modal level of service standards that are consistent with each street type's intended function and character.

- **Policy CR1.10 – Vehicular Level of Service Standards for West County Routes of Regional Significance.** Maintain vehicular LOS standards for signalized intersections consistent with the Contra Costa Transportation Authority's West County Action Plan for Routes of Regional Significance. Require a traffic impact study for projects that would generate more than 100 net new peak-hour vehicular trips. Require traffic impact studies to be prepared by professional transportation consultants selected and hired by the City and require the studies to be fully paid for by the project applicant.

  Traffic impact studies shall be prepared according to the Contra Costa Transportation Authority's travel demand model and technical procedures. Approve projects only if they are found to be consistent with the Contra Costa Transportation Authority's West County Action Plan for Routes of Regional Significance. Projects found to be inconsistent with the Contra Costa Transportation Authority's West County Action Plan for Routes of Regional Significance may be approved if findings of special circumstances, including appropriate mitigation measures, are adopted by the City.

- **Action CR1.B – Public Transit and Paratransit Service Improvements.** Continue to collaborate with AC transit, BART, West Contra Costa Transit Agency, Amtrak and major employers in Richmond that provide shuttle service to explore the potential for expanding transit in the evenings and late nights, and for people with special needs. Explore the potential to enhance Richmond's paratransit service. Collaborate with major employers to provide employer-based "open-door" shuttles to BART, the planned ferry terminal and other transit hubs. Collaborate with regional and Contra Costa County transportation agencies to re-establish, maintain and enhance service within the City and region. Explore strategies to address affordability, access and safety. Expand outreach and information programs to promote transit use.

- **Action CR1.D – Bicycle, Pedestrian, and Trail Standards.** Develop standards for bicycle, pedestrian, and trail improvements and amenities in new development and redevelopment projects. Include requirements for adequate, safe, and accessible bicycle parking, drinking fountains, public restrooms, benches, landscaping and lighting. Require new development and redevelopment projects to be pedestrian and bicycle friendly, and to provide adequate connections to the existing and proposed bicycle and pedestrian network.

  Require all new commercial, industrial, and residential developments to provide access for construction and operation of a trail where a local or regional trail is designated or planned. Include provisions that require owners of property along the shoreline to provide

maximum feasible public access to the shoreline and to complete the Bay Trail as part of any project approval process.

- **Action CR1.E – Trails and Greenway Program.** Expand multi-use trails and greenways in the City. Provide connector trails and linkages to improve access from neighborhoods in Central Richmond to the regional open space in the hills and along the shoreline. Address barriers such as freeways, the Richmond Parkway, and railroad tracks that limit shoreline access. Provide interpretive signs, maps, brochures, and signage along the trails to enhance the experience of users and to provide information on the City's cultural and historical assets. Create a Class 1 multi-use trail loop north of Meeker Tidal Creek and Stege Marsh as a transportation and scenic route. Also provide trailhead staging areas at the south end of 32nd and 46th Streets with bridges across Meeker Tidal Creek and the unnamed creek east of South 32nd Street.

Goal CR2 – Walkable Neighborhoods and Complete Streets. Activate the public right-of-way and improve the experience of moving people between key destinations at the pedestrian level. To make walking and bicycling a more attractive options, enhance connectivity between neighborhoods, schools, the workplace, and daily goods and services so that reaching key destinations is safer and more convenient. Contribute to walkability and livability by promoting mixed-use and complete streets, high-quality pedestrian environments, context-based street design, and efficient public transit.

- **Policy CR2.1 – Neighborhood Connectivity.** Improve access and connectivity within neighborhoods and to major destinations in the City. Improved connectivity will enhance linkages to local and regional amenities such as neighborhood parks, schools, libraries, community centers, retail, public transit, bicycle paths, historic resources, the shoreline, open space, and medical facilities.
- **Policy CR2.2 – Complete Streets.** Promote mixed-use urban streets that balance public transit, walking and bicycling with other modes of travel. Support pedestrian and bicycle connectivity by restoring and reinforcing Richmond's grid-based network of streets with landscaping and amenities for transit, bicycles, pedestrians, and people with disabilities. Establish a process for modifying streets to support various modes of travel.
- **Policy CR2.3 – Integrated Bicycle and Pedestrian System.** Plan, construct and maintain a safe, comprehensive and integrated bicycle and pedestrian system. Walking and bicycling to work, to schools and for recreation can be encouraged by providing amenities and facilities for pedestrians and bicycles, enhancing pedestrian and bicycle connectivity in neighborhoods, promoting multimodal trails and pathways accessible to all, and addressing major barriers in the community such as freeways, railroads, and steep terrain. Pedestrian improvements at parks, community centers, open space areas, schools, transit stops and commercial nodes will further enhance the bicycle and pedestrian system.

Goal CR5 – Sustainable and Green Practices. To create sustainable and clean circulation options, encourage the use of low-impact alternative fuels and new technologies and implement transportation demand management programs. Encourage measures to treat and retain storm water in the design of pedestrian and parking amenities.

- **Policy CR5.1 – Transportation Demand Management.** Promote TDM strategies among residents and businesses to reduce reliance on automobiles. Encouraging major employers to develop and implement TDM for employees will address peak commute traffic, congestion and air quality.

- **Policy CR5.3 – Green Streets.** Promote the development of street design elements that incorporate natural stormwater drainage and landscaping in new and retrofitted streets.

The Conservation and Natural Resources Element (Element 7) identifies goals and policies for promoting public access and circulation with respect to open space planning efforts. The goals and policies relevant to the 2014 LRDP are:

Goal CN2 – Conserved Open Space. Conserve open space to ensure that Richmond's expansive shoreline, network of parklands, trails, hillsides, and undeveloped natural areas remain viable in supporting biological communities and providing sanctuary for future generations. Conserve open space, expand public access to open space, where appropriate, and acquire additional lands where feasible. Continue to protect surrounding hills and viewsheds as character-defining features that provide scenic backdrops, as well as publicly accessible trails and vistas.

- **Policy CN2.2 – Richmond Shoreline. Conserve, protect, and enhance natural and cultural resources along the Richmond shoreline.** Promote a balance of uses along the shoreline that supports multiple community needs such as economic development, recreation, historic preservation, and natural resource protection.
- **Action CN2.H – Specific Actions for the Point Isabel Area.** Initiate and carry through coordinated planning to provide public access at points along Richmond's southern shoreline, from Point Isabel to and including the Marina Bay. Require the dedication of trailheads at the ends of South 46th and South 32nd Streets as part of any plans to redevelop the lands adjacent to the existing Richmond Field Station.

10.32 SECTION 4.13.4

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Analytical Methods

Standard CEQA practice typically includes assessing transportation and traffic impacts against baseline existing conditions for intersections and roadway segments. Based on the date of the Notice of Preparation, the general baseline for the RBC development is January 2013. Because development under the 2014 LRDP is anticipated to occur through 2050, those existing conditions do not represent a realistic baseline for the anticipated transportation and traffic impacts. The more appropriate baseline for analyzing these impacts is 2035, the furthest year for which the Countywide Travel Demand Model provides projections. For this reason, the analysis that follows includes both a comparison to existing conditions (LRDP Impacts TRA-2 and TRA-4) as well as to 2035 conditions (LRDP Impacts TRA-1 and TRA-3). However, because the impact analysis under 2035 conditions represents a more realistic condition, the University is using the findings under LRDP Impacts TRA-1 and TRA-3 as the basis for its mitigation commitments.

Page 4-251 of the Draft EIR [Comments DOT-2, DOT-3, and RANC(2)-2]

LRDP MM TRA-1: The University shall develop and implement a campus traffic mitigation program, a multi-component program to monitor trip generation, reduce peak-hour trips to the extent feasible, or participate in intersection improvements to mitigate off-site impacts at the intersections affected by the proposed project. Each component of this program is described below.

~~Travel~~Transportation Demand Management (TDM). To reduce on- and off-campus vehicle trips and resulting impacts, the University shall develop and implement a TDM program in consultation with the City of Richmond. The program ~~is proposed to~~ will be adopted by the University following The Regents' approval of the RBC LRDP. The TDM program will include measures to increase transit and shuttle use, encourage alternative transportation modes including bicycle transportation, implement parking policies that reduce demand, and other mechanisms that reduce vehicle trips to and from the campus. The University shall monitor the performance of RBC TDM strategies through annual surveys. The University shall report on implementation of adopted TDM strategies, whether defined in the LRDP or in a stand-alone TDM program, annually following completion of an initial traffic-inducing project under the RBC LRDP.

Transit Enhancement. To enhance transit systems serving the campus, the University shall work cooperatively with AC Transit and other local agencies to coordinate service routes with existing and proposed shuttle and transit programs.

Sustainability and Monitoring. The University shall review individual projects proposed under the 2014 LRDP for consistency with UC sustainable transportation policy and the RBC TDM program to ensure that bicycle and pedestrian improvements, alternative fuel infrastructure, transit stops, and other project features that promote alternative transportation are incorporated into each project to the extent feasible.

Campus Traffic Impact Monitoring. The University shall conduct traffic counts at key RBC gateway locations no less frequent than every 5 years to determine campus-generated traffic. The University may undertake such traffic counts in connection with specific development projects at the RBC in order to inform signal warrant analyses and to help guide the selection of improvements that would mitigate significant traffic impacts.

Mitigation Payments. The University shall contribute funding on a fair-share basis~~.~~ (to be determined in consultation with the City of Richmond and Caltrans~~.~~) for ~~periodic (annually~~ improvements to signalized and unsignalized intersections, roadway segments, and in connection with railroad crossings that are necessary to mitigate the RBC's significant traffic impacts. Those improvements may include, but are not limited to, new traffic signals, conversion of intersection approaches, conversion or ~~less frequently~~ optimization of traffic signal operations, and advance queue warning signs. The University's contribution, which shall be proportional to the University's responsibility for any traffic increases that necessitate mitigation, shall include funds for the design and construction of required improvements. When determining the University's contribution, the University's proportional responsibility for traffic impacts shall be measured through comparison to the traffic conditions that prevailed at the time of the LRDP's approval, as ~~agreed among consulting~~

~~agencies)~~ described and analyzed in the LRDP EIR's discussion of existing traffic conditions.

With respect to unsignalized intersections specifically, the University shall contribute funding on a fair-share basis—following University approval of traffic-inducing development at the RBC—for signal warrant analyses at ~~the~~ unsignalized intersections significantly impacted by ~~the project. These~~ traffic resulting from the approved development. Data from the University's campus traffic impact monitoring counts, described above, may inform the signal warrant analyses. Those analyses would be used by the City to determine when a signal is needed.

When ~~these~~ signal warrant analyses show that a signal is warranted and the City determines that the required intersection improvements are needed, the University shall reimburse the City on a fair-share basis for the ~~design and construction of the~~ required mitigation, including new traffic signals and related improvements at the intersection impacted by the project. Should the City determine that alternative mitigation strategies may reduce or avoid the significant impact, the University shall work with the City and Caltrans to identify and implement such alternative feasible measures on a fair-share basis.

LRDP Impact TRA-2: 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. (*Potentially Significant; Significant and Unavoidable*)

LRDP Impact TRA-1 presents the effects on study intersections from campus traffic at full 2014 LRDP development, which for this EIR is assumed to occur by 2050. Occupancy of the RBC would gradually increase over the life span of the 2014 LRDP. Not all of the additional vehicle trips generated under the 2014 LRDP are expected to be added to the study area transportation network immediately following approval of the proposed LRDP. Thus, an analysis of the project's traffic impacts on study intersections under existing plus 100 percent occupancy of the RBC (i.e., existing plus project conditions) does not represent a realistic condition. An existing plus project analysis is included for information only. Because the impact analysis under 2035 conditions represents a more realistic condition, the University is using the findings under LRDP Impact TRA-1 as the basis for its mitigation commitments regarding the study intersections.

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2014 LRDP campus growth would occur over approximately 40 years, and incrementally add traffic to the road network. Thus, these impacts would not occur under existing conditions. Implementing LRDP MM TRA-2 would reduce the proposed LRDP traffic impacts. For the same reasons as presented under LRDP Impact TRA-1, this impact would remain significant and unavoidable. If the City or Caltrans were to make improvements to the affected facilities, the University's implementation of LRDP MM TRA-2 would reduce the project's impact to a less than significant level at all intersections.

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2014 LRDP implementation would cause a significant impact under 2035 conditions on I-580 between Central Avenue and I-80 in the westbound direction during the a.m. peak hour and in the eastbound direction during the p.m. peak hour. This impact would result because the project would degrade the westbound segment from LOS E to LOS F during the a.m. peak hour and would increase the p.m. peak hour volume on the eastbound freeway segment by more than 5 percent on a freeway segment that would operate at LOS F without the addition of the project's traffic.

LRDP MM TRA-3: Implement LRDP MM TRA-1. No freeway capacity projects are currently planned by Caltrans for this section of I-580~~, and the cost and scale of freeway expansion is not within the University's jurisdiction or mission~~. As the feasibility of freeway widening is not known, this impact is considered to be significant and unavoidable.

LRDP Impact TRA-4: Development under the 2014 LRDP would not conflict with an applicable plan, ordinance, or policy establishing effectiveness measures circulation system performance and would not cause an exceedance of a level of service standard established for CMP facilities (freeways) under existing conditions. (*Less than Significant*)

LRDP Impact TRA-4 describes effects on freeways of full 2014 LRDP development, which is assumed to occur by 2050. As all the projected 2014 LRDP vehicle trips would not be immediately added to the study area transportation network upon LRDP approval, an existing plus project trips scenario is an unrealistic condition. An analysis was conducted to measure the project's traffic impacts on freeway segments under existing plus project conditions, but as this is an unrealistic scenario, this analysis is informational only and not a basis for determining impacts. Because the impact analysis under 2035 conditions represents a more realistic condition, the University is using the findings under LRDP Impact TRA-3 as the basis for its mitigation commitments regarding CMP facilities (freeways).

10.33 CHAPTER 5

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The analysis of impacts presented in this chapter adheres to the approach and processes described in detail in Chapter 4. Chapter 4 defines the methodology, analytical approach, key assumptions and data used in the analysis. Chapter 4 presents the scope of the EIR, the levels of significance, thorough resource settings, regulatory considerations, impacts and mitigation measures, references, cumulative impact analysis, and cumulative plans and projects. While Chapter 4 addresses all activities presented in the project description for the proposed RBC (Chapter 3) including proposed RAW prescriptive and specific cleanup actions, this chapter more specifically evaluates impacts directly relevant to RFS contamination and the proposed RAW actions described in Section 3.9 Section 3.9 includes two categories of RAW actions. One category is site-wide prescriptive actions; the other category is specific cleanup actions. This chapter provides information to support DTSC's responsible agency CEQA determination on the proposed RAW for the developable areas and groundwater of the RFS portions of the RBC site, as identified in Section 1.5, Intended Uses of the EIR. The RAW activity proposed to DTSC for approval will not result in any potentially significant impacts if identified LRDP policies and mitigation measures are adopted as proposed. LRDP policies and mitigation measures will be

applied to all projects and activities under the LRDP. Regulatory considerations and references specific to each of the 14 environmental resource areas presented in Chapter 4 are not repeated in this chapter.

10.34 SECTION 5.2

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Fugitive dust would be generated by construction activities such as excavation, site elevation, and grading. While BAAQMD ~~does not have a~~ has quantitative thresholds for $PM_{2.5}$ and PM_{10} from vehicle exhaust, it has not established a threshold for fugitive dust emissions from construction activities, but rather states that BMPs should be employed to control such fugitive dust emissions. Since there is no quantitative threshold for construction fugitive dust, these emissions were ~~not quantified.~~ calculated (see Appendix B), but are not presented in this section.

As stated in the LRDP Policy S3, fugitive dust from construction activities would be controlled by implementing the construction BMPs recommended in the BAAQMD CEQA Air Quality Guidelines. The BMPs relevant to controlling fugitive dust ~~are~~ include:

10.35 SECTION 5.3

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RAW Impact BIO-1: Implementing the RAW could have a substantial adverse effect on biological resources. (~~Potentially Significant;~~ *Less than Significant ~~with Mitigation~~*)

As described throughout Section 4.3.4, sensitive biological resources occur at the RBC site, including future areas impacted by implementation of the RAW. The RBC site includes natural areas such as the Western Stege Marsh and coastal grasslands (Figure 4-8). As shown in Figure 4-8, the proposed 2014 LRDP designates approximately 25 acres of the RBC site as Natural Open Space. This designation encompasses those areas the University plans to protect from development. Disturbance of these natural areas would be limited under the LRDP, and ~~no~~ activities associated with implementing the RAW would be ~~conducted~~ limited to disturbing discrete areas within the Natural Open Space~~;~~ for the ~~RAW scope is limited to developable portions~~ installation and sampling of ~~the RFS within the proposed RBC~~ monitoring wells required to monitor carbon tetrachloride contamination in groundwater.

With implementation of all 2014 RBC LRDP Mitigation Measures described in Section 4.3.4 as part of the RAW, adverse impacts would be less than significant. Long-term effects would be primarily beneficial as activities would reduce contaminants on the RBC site and thus reduce exposure of wildlife and vegetation to these potentially toxic substances. Specific discussions of biological resources are presented below.

Special Plant Species

Because no special-status plant species have been documented on the site during extensive botanical surveys (Amme 1993, Lidicker et al. 2003, URS 2007, ~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2011a) or by the CNDDB, it is unlikely that protected species are present. Because the areas with the most suitable habitat for special-status plant species would be protected from development and no special-status species have been documented, impacts on special-status plant species are not likely to occur from RAW implementation.

Special-Status Bird Species

The RBC site includes natural areas such as the Western Stege Marsh and coastal grasslands and numerous older, wooden buildings that could be nesting or roosting sites for various bird species (Figure 4-8). These areas provide potential nesting habitat for special-status bird species (Table 4.3-1). There is a high potential for nesting passerines, protected by the MBTA, to occur in multiple RBC site habitats. These include saltmarsh common yellowthroat and Alameda song sparrow in Western Stege Marsh; black phoebe on man-made structures; and western meadowlark in grasslands. California clapper rail, listed as endangered under the ESA and CESA, has been documented in Western Stege Marsh. Burrowing owl and California black rail, state threatened species, have not been documented on-site, but the site does contain potential owl (grasslands) and clapper rail (marsh) habitat. Raptors, protected by the MBTA and California Code Sections 3503 and 3503.5, are likely present as described in Section 4.3.2.

Because the RBC site provides suitable nesting habitat for MBTA, ESA, and/or CESA-protected birds, loud noise within 100 feet of nests during the nesting period (approximately ~~March~~ February 1 through August ~~15~~31) could result in nest abandonment and "take" of young. Such noise could be from building demolition and construction, site preparation, utilities rerouting, and tree removal during construction.

The proposed excavation activities would be outside of clapper rail habitat and thus minimize potential noise impacts. Nevertheless, noise and other human disturbance—especially related to construction and demolition activities—near the marsh could affect avian use and result in flushing, avoidance, or nest abandonment. Because RAW activities would not be located within the Natural Open Space areas, there are not likely to be direct effects on Western Stege Marsh. With implementation of LRDP MM BIO-2 as presented in Section 4.3.4 as part of the project, potential impacts on special-status birds from construction and operations would be ~~tless~~ less than significant.

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Sensitive Natural Communities

There are 22 acres of high quality grassland habitat, considered a sensitive natural community, at the RBC site. These are within the Big Meadow, Northwest Meadow, West Meadow, and EPA Meadow North (~~WRA~~ Wildlife Research Associates and Jane Valerius Environmental Consulting 2013a). In 15 of the 22 high quality grassland acres, comprising the majority of the area within the Big, West, and EPA North Meadows, ~~there would be no~~ anticipated direct impacts from the RAW activities would be limited to disturbing discrete areas for the installation and sampling of monitoring wells required to monitor carbon tetrachloride contamination in groundwater, as these acres would be part of the 25-acre Natural Open Space area. In the seven acres of high quality grassland in the ~~RES~~ Research, Education, and Support area, prescriptive RAW activities would potentially cause direct impacts associated with soil disturbance including excavation or compaction from people and vehicles.

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RAW Impact CR-1: Implementing the RAW could have a substantial adverse effect on cultural resources. (~~Potentially Significant;~~ *Less than Significant ~~with Mitigation~~*)

10.37 SECTION 5.10

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RAW Impact NOISE-1: Implementing the RAW could have a substantial adverse effect on noise. (~~Potentially Significant;~~ *Less than Significant ~~with Mitigation~~*)

10.38 SECTION 6.2

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In order to accomplish the purpose and need, the University has the following project objectives for the LRDP. The project should:

- Be located within an approximately 20- to 25-minute commute from the existing LBNL main entrance at Blackberry Gate on Hearst Avenue; or an approximately 20 minute commute from UC Berkeley's main entrance at Oxford and University Avenue.
- Have development capacity for approximately 5.4 million gsf of laboratory, office, and support facilities and related utility and transportation infrastructure to support the University's research, teaching, and public service mission.
- Be located in a safe and welcoming community with a positive civic expression of interest in development of the site.
- Be readily accessible to a variety of modes of public transportation, inclusive of local buses, mass transit (BART, Amtrak, and AC Transit), and shuttle services, and allow safe bicyclist access from designated bicycle routes.
- Allow for electrical, natural gas, and water utilities for the lowest possible cost.
- ~~Allow consolidation of LBNL bioscience programs.~~
- Allow for establishment of a design framework for development of a state-of-the-art research campus that will be the location of choice for internationally recognized researchers.
- Foster synergy and collaboration between UC Berkeley and LBNL and within and across disciplines and institutions in both the public and private sectors.
- Provide sustainable land use and circulation patterns which maximize density to reduce overall building footprints and conserve open space, and maximize bicycle, pedestrian and shuttle services and allow for placement and massing of buildings to maximize shared views.
- Facilitate efficient constructability of facilities (buildings, parking structures, bridges, etc.), infrastructure development (roads, underground utilities, pedestrian walkways, etc.), and open space.
- Foster connectivity with the surrounding community.
- Leverage capital investment for environmental stewardship

10.39 SECTION 6.4

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6.4.1 Overview

None of the alternatives presented in Section 6.3 were rejected. Alameda Point was selected as representative of a group of sites that were considered during the process that led to identification of the University's Richmond properties as the preferred location for a new research campus.

6.4.2 Coastal Terrace Prairie Campus Alternative

As proposed, the 2014 LRDP prioritizes new development on previously disturbed areas of the former RFS. Between the late 1800s and 1948, several companies, including the California Cap Company, manufactured explosives at the RFS. Meadows on the RFS site identified as North Meadow, Gull Meadow, and Central Meadow are each within areas of previous disturbance; however, an alternative to the proposed project would revise the RBC land use plan to widen the Natural Open Space and allow these meadows to be retained as open space and connected to the main prairie habitat. This alternative would also remove Lark Drive and provide a fully contiguous prairie open space area.

The alternative was rejected because it would fail to meet most of the basic objectives of the RBC 2014 LRDP. The purpose of the RBC LRDP is not to establish a prairie reserve alone. The alternative would significantly limit developable area of the RBC to the parcel along Regatta Boulevard immediately west of the RFS upland area property and to a narrow band adjacent to South 46th Street and Meade Street. In the RBC LRDP as proposed, an effort was made to graduate building heights south to north to allow views across the site, resulting in a need for the lateral coverage for buildings portrayed in the Illustrative Development Scenario. A safe and effective circulation and utilities framework requires additional lateral coverage. The prospective RBC workforce is likely similar to current University researchers who place a high value on physical exercise as a means to maintain health and wellness as well as build and maintain relationships with other workers on campus. This resulted in depicting recreation fields instead of building footprints on a portion of the developable area. Such recreational areas would likely need to be eliminated in this alternative, making the campus less appealing and less suited to the needs of its staff.

In order to have development capacity of 5.4 million gsf, the remaining developable areas would be developed at substantially higher densities and heights. Buildings would be taller and more expensive, reducing their potential for efficient constructability and preventing the maximization of shared views while also producing more substantial aesthetic impacts in the surrounding community. If developed, the campus would be denser and less welcoming. Presumably, this alternative assumes removal of the existing asphalt roadway that partially bisects the proposed Natural Open Space area. Without Lark Drive, bicyclists, pedestrians and transit would route to the perimeters, including the Bay Trail and Meade Street/Regatta Boulevard, adding demand on these rights of way. Traffic would also be more intensely concentrated around fewer buildings, leading to potentially more significant traffic impacts. With fewer connectivity options, development at the RBC would be less attractive and less likely to occur. Thus, one potential fund source for grassland restoration and maintenance would be reduced, potentially of net detriment to the grassland resource itself. The alternative would not meet core objectives that the RBC be readily accessible to a variety of transit modes and foster connectivity with the surrounding community. The limited development area and necessary verticality of development would not foster synergy and collaboration between researchers within and across disciplines, institutions, and public and private sectors.

The aforementioned problems with this alternative led to its rejection for failure to meet most of the basic project objectives.

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Biological Resources

Under this alternative, the project would not be implemented, and the existing biological resources environment would not be altered. Grassland resources would continue to degrade. Therefore, no new impacts would occur from construction of new facilities, and no new impacts from changed operations and altered landscapes would occur. No mitigation measures would be necessary.