

ADDENDUM to the

**UC BERKELEY 2020 LONG RANGE DEVELOPMENT PLAN ENVIRONMENTAL
IMPACT REPORT**

for

HILL CAMPUS FIRE RISK REDUCTION WORK TO BE UNDERTAKEN BY UC BERKELEY,
IMPLEMENTING THE 2020 LRDP AND IN COMPLIANCE WITH:

- THE HAZARDOUS FIRE RISK REDUCTION FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE EAST BAY HILLS, and RECORD OF DECISION of FEBRUARY 2015 *and*
- THE BIOLOGICAL OPINION FOR THE PROPOSED FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) HAZARDOUS FIRE RISK REDUCTION PROJECT IN THE EAST BAY HILLS OF ALAMEDA AND CONTRA COSTA COUNTIES, CALIFORNIA ((HMGP 1731-16-34, PDM-PJ-09-CA-2005-003, PDM-PJ-09-CA-2005-011, and PDM-PJ-09-CA-2006-004) (undated letter shown in Appendix P of East Bay Hills EIS)

PROJECT LOCATION:

UC BERKELEY HILL CAMPUS

COUNTY:

ALAMEDA COUNTY, CALIFORNIA

PROGRAM EIR:

UC BERKELEY 2020 LONG RANGE DEVELOPMENT PLAN EIR, CERTIFIED BY THE REGENTS JANUARY 2005, SCH #2003082131; AS UPDATED BY LRDP AMENDMENT #1 TO ADDRESS CLIMATE CHANGE AND ACCOMPANYING ADDENDUM #5 TO THE 2020 LRDP EIR

SCH #2003082131

June 2016

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DOCUMENT ORGANIZATION

This document is organized for easy use and reference; also, the purpose of CEQA is not to generate paper, but to compel governmental decisions with environmental consequences in mind. Accordingly, this document frequently references other published reports and studies in accordance with CEQA Guidelines 15150, rather than reiterating them here.

To help the reader locate information of particular interest in this document, the following table of contents is provided.

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I. INTRODUCTION AND PURPOSE OF REPORT

This Addendum was prepared pursuant to the California Environmental Quality Act (CEQA) to analyze the potential environmental impacts of proposed fire risk reduction work by the University of California at Berkeley (UC Berkeley). The work proposed involves vegetation removal activities in the UC Berkeley Hill Campus area, and was previously analyzed in the UC Berkeley 2020 Long Range Development Plan Environmental Impact Report (LRDP EIR), certified in January 2005. The fire risk reduction activities were subsequently analyzed in greater detail in an Environmental Impact Statement (EIS) prepared in 2013 pursuant to the National Environmental Policy Act (NEPA). This assessment concludes that the potential impacts from implementation of the fire risk reduction work, including the impacts analyzed in the EIS, do not constitute new information of substantial importance regarding significant environmental impacts.

In order to significantly reduce the potential fuel volume vulnerable to fire in portions of the UC Berkeley Hill Campus, and in coordination with other local agency members of the Hills Emergency Forum (<http://www.hillsemergencyforum.org/>), UC Berkeley submitted grant applications to the Federal Emergency Management Agency (FEMA) seeking funding to supplement ongoing fire fuel mitigation activities in 2005 (for Strawberry Canyon, Application Number PDM-PJ-09-CA-2005-011; for Claremont Canyon, Application Number PDM-PJ-09-CA-2005-003). In 2006, UC Berkeley was also a partner on a grant submittal made by the City of

Oakland, expected to address fuel volume on a portion of UC Berkeley property known as Frowning Ridge (Application Number PDM-PJ-09-CA-2006-004).

In accordance with Section 15164 of the CEQA Guidelines, the University of California has prepared this document to evaluate the operational decision to proceed with work proposed under these grant applications to be performed by UC Berkeley, implementing continuing fire fuel mitigation work in a manner described and analyzed in detail in FEMA's Hazardous Fire Risk Reduction Final Environmental Impact Statement for the East Bay Hills (hereafter, the EBH EIS; the broad project analyzed in the EBH EIS, including fire fuel removal actions by other agencies, is referred to as the FEMA project), approved in a Record of Decision by FEMA in February, 2015.

The following introductory material is excerpted and minimally updated from the [2002 UC Berkeley Hill Campus Working Paper](#).

The University of California owns roughly 1000 acres of land in the hills east of the UC Berkeley campus, east of California Memorial Stadium, the Greek Theater, and the Bowles/Stern/Foothill student residences. Approximately 200 of these acres are managed by the Lawrence Berkeley National Laboratory. The remaining approximately 800 acres are managed by UC Berkeley, and referred to in the campus 2020 Long Range Development Plan as the "Hill Campus". Roughly 85% of the Hill Campus acreage lies within the City of Oakland; the westernmost 10% lies within the City of Berkeley, and the easternmost 5% within unincorporated Contra Costa County (UC Berkeley Hill Campus Working Paper, December 2002).

The most dramatic physical feature of the Hill Campus is Strawberry Canyon, a watershed of roughly one square mile drained by the south fork of Strawberry Creek. This water supply helped convince the trustees of the College of California to acquire the ranch lands along the creek in 1868 as the site for their new campus. At the time, the hills above the campus were a mix of grassland, oak savannah and open chaparral. It was not until speculators in the next decade planted eucalyptus, in a failed scheme to grow and harvest them for commercial use, that the hills began to acquire their present, largely forested look. By the turn of the century, a shortage of water had begun to constrain campus growth, so the Regents acquired another 260 acres of hill watershed to the east to increase the system capacity. Around the same time, there was also a growing desire to beautify the campus: a campus nursery was established, and nearly 19,000 eucalyptus, pine, cypress and redwood trees were planted in 1913, with thousands more planted in the years to follow. Forestry professors planted several coniferous groves in the 1950s on the south slope of Strawberry Canyon, separate from the nursery development. The campus' hill lands were further augmented in 1951 and 1961 with the acquisitions of 290 and 240 more acres from the East Bay Municipal Utility District.

Vegetation of the Hill Campus is a mosaic of wet and dry north coastal scrub intermixed with stands of trees: natural oak-bay woodland as well as pine, redwood and eucalyptus plantations. The pattern of vegetation has changed significantly from the original mix of grassland and oak savannah, due not only to the decline of grazing, but also to the human introduction of eucalyptus and conifers as well as invasive perennials such as brooms and euphorbia, and to the fact these introduced species often out-compete natives.

Only scattered patches of the original native grassland remain today. These areas are of scientific interest not only in themselves, but also as the initial stage of the natural succession from grassland to shrubland to woodland. The climax oak-bay woodland supports the most diverse vertebrate fauna of any habitat in California. While clusters of oak-bay woodland occur throughout the Hill Campus, by far the largest contiguous area covers the north-facing slopes at the west end of Strawberry Canyon.

The mix of scrub and conifer and eucalyptus stands makes the East Bay Hills a regular seasonal fire risk. This risk becomes particularly pronounced during the periodic one- or two-day shifts from the normal northwesterly winds to

'Diablo' winds blowing in from the warm, dry regions to the east. 20th century Diablo wind fires have burned over ten times the acreage of normal wind condition fires, and include the firestorms of 1923 and 1991. Over 75% of the Hill Campus has a slope over 40%, and over 90% has a slope over 20%. Areas with slopes under 20% are scattered throughout the Hill Campus, often in locations not served by either roads or utilities. The generally steep terrain and poor roads in the Oakland and Berkeley hills present enormous obstacles to fire response, and some areas such as Claremont Canyon and nearby Panoramic Hill, served by only a single road, may be indefensible in Diablo wind conditions.

Developed University assets in the Hill Campus include the Strawberry Canyon Recreation Area, with clubhouse, pools and athletic fields; the Botanical Garden, the oldest campus-operated botanical garden in the country; the Lawrence Hall of Science, a four story 75,000 asf resource center for bay area schools and residents; the Silver Space Sciences Laboratory, an organized research unit of the campus of approximately 54,000 asf; the Mathematical Sciences Research Institute (MSRI), an independent institute for math scholars of approximately 28,000 asf; and the Field Station for Behavioral Research (FSBR), an organized research unit of approximately 18 acres with minimal support buildings, to conduct research on animal behavior in open air settings. Other land uses occurring in the Hill Campus include parking and staging areas for Facilities Services.

The following introductory material is excerpted from Section 3.1.15 of the UC Berkeley 2020 Long Range Development Plan

While the Hill Campus is over four times the size of the Campus Park, its potential to accommodate new development is limited by several factors. First, the Hill Campus is a scenic and recreational resource for the entire East Bay, and is part of the continuous greenbelt of park and watershed land that extends the length of the East Bay Hills from Richmond to Hayward. A greenbelt of such size and integrity, in such close proximity to densely urbanized areas, is a unique feature of the region and contributes significantly to the quality of East Bay life.

Second, the mix of scrub and conifer and eucalyptus stands makes the East Bay Hills, including the Hill Campus, a regular seasonal fire risk. This risk becomes particularly pronounced during the periodic one- or two-day shifts from the normal northwesterly winds to 'Diablo' winds blowing in from the warm, dry regions to the east. 20th century Diablo wind fires have burned over ten times the acreage of normal wind condition fires, and include the firestorms of 1923 and 1991. The steep terrain and poor access and infrastructure in the Hill Campus present enormous obstacles to fire response, and some areas such as Claremont Canyon may be indefensible in Diablo wind conditions.

Third, the steep terrain and the poor access and infrastructure also make development itself more disruptive and costly. Over 75% of the Hill Campus has a slope over 40%, and over 90% has a slope over 20%. Areas with slopes under 20% are scattered throughout the Hill Campus, often in locations not served by either roads or utilities. With few exceptions, substantial regrading would be required for new projects, and in many areas infrastructure extensions or upgrades would also be required. Lastly, the physical separation of the Hill Campus is itself a serious obstacle to productive working relationships with Campus Park units, due to time lost in travel and the absence of informal interaction.

UC Berkeley maintains an ongoing program of fire fuel management in the Hill Campus to reduce fire risk to the campus, LBNL, neighboring residents, and recreational visitors to adjacent park and watershed lands. While the treatment used in a given area must be customized to address its specific conditions, including vegetation type, access, and proximity to roads and structures, in general the treatments are designed to meet one or more of the following goals:

- reducing fuel load by removing dead material, reducing plant density, and favoring species with lower fuel content,

- reducing horizontal spread by reducing fine fuel material and by separating dense clusters of vegetation with areas of lower fuel load, and
- reducing vertical fire spread by increasing separation of understory and crown fuels.

II. PROCESS TO DATE

Contents of this section:

2020 LRDP PROCESS

EBH EIS PROCESS

HCFRR ADDENDUM PROCESS

UC Berkeley 2020 Long Range Development Plan Process

The UC Berkeley 2020 LRDP guides management of the Hill Campus, as further described below (see Project Description, Plan and Policy Context). On August 29, 2003, the University released a Notice of Preparation (“NOP”) (including an Initial Study [“IS”]) announcing the preparation of a Draft EIR for the Long Range Development Plan and describing its proposed scope. The University issued the Draft EIR on April 15, 2004 and circulated it for public review and comment for a 61-day period ending on June 14, 2004. At the request of the City of Berkeley, the comment period was extended to June 18, 2004. UC Berkeley staff presented a preview of the Draft EIR to City of Berkeley staff on April 12, 2004 in advance of formal publication. Additionally, the University held two public hearings at the UC Berkeley campus, on May 5, 2004 and May 11, 2004, to receive comments on the Draft EIR. Approximately 53 people provided comments on the Draft EIR at the public hearings. In addition, written comments were received from 4 federal and state agencies, 6 regional and local agencies, and 300 organizations and individuals during the public comment period.

In August 2004, the Chancellor of UC Berkeley met with the Mayor of Berkeley to discuss the City’s concerns over the pace of 2020 LRDP approval and over three particular aspects of the 2020 LRDP: faculty housing in the Hill Campus, the magnitude of the proposed increase in University parking, and the fiscal impacts of UC Berkeley campus operations on the City. The Chancellor agreed to request consideration of the 2020 LRDP by The Regents be postponed from November 2004 to January 2005, to allow for further consideration of these topics. UC Berkeley staff presented a preview of the Final EIR to City of Berkeley staff on December 16, 2004, in advance of formal publication.

The Final EIR included Thematic Response 8, regarding Hill Campus Development (2020 LRDP EIR Volume 3A, page 11.1-10 et seq). As noted there, numerous comments on the 2020 LRDP EIR were focused on Hill Campus development, including 136 identical form letters from individuals. Commenters objected to potential hill campus development on several grounds, including risk of wildfire. The University omitted a proposal for 100 units of faculty housing from the final LRDP. Also as noted in the Final EIR (response to comment B7-112): The 2020 LRDP includes the policies that guide the development of the Hill Area Fire Fuel Management Plan. See, for example, pages 3.1-41, 3.1-57, and 3.1-63 to 3.1-66 of the Volume 1 of the Final EIR.

In January 2005, the University certified the 2020 LRDP FEIR in accordance with CEQA, the CEQA Guidelines and the University of California Procedures for Implementation of CEQA, and adopted the 2020 LRDP. The grant applications submitted to FEMA later in 2005 and in 2006 noted that UC Berkeley had an approved programmatic Environmental Impact Report, including a Mitigation Monitoring and Reporting Program, covering the vegetation at issue in the grant proposals. The 2020 LRDP FEIR identified measures to mitigate, to the extent feasible, the

significant adverse project and cumulative impacts associated with the 2020 LRDP. Since January 2005 the University has implemented many projects consistent with the 2020 LRDP and its FEIR.

In June 2009 the University published a Notice of Availability for an addendum to the 2020 LRDP FEIR, and an amendment to the 2020 LRDP, to address climate change. While CEQA Guidelines section 15164(c) does not require that addenda be circulated for public review, the campus circulated the addendum for a public comment period that extended from June 3, 2009 through close of business on July 6, 2009. Five community members commented (two representing community groups) in six letters. No comments were received from public agencies.

The Climate Change Addendum included the following relevant discussion, beginning at page 37:

Fire Fuel Management Program: In the past 100 years over 16 large wildfires, typically burning during extreme weather, have caused catastrophic loss to both forested and urbanized areas in the Oakland/Berkeley hills, representing a nearly completed release of sequestered carbon in the vegetation and buildings of both areas (HEF, 2005). The Hills Emergency Forum (HEF), created in the aftermath of the 1991 Tunnel Fire, endorses strategies to reduce or avoid large wildland-urban interface conflagrations. Consistent with this effort, the UC Berkeley 2020 LRDP includes policies and practices that reduce the likelihood of pulse emission of GHGs from catastrophic wildfires through a variety of forest management approaches. Most notably, the campus does not rely on a fire suppression-based approach, which is more likely to result in fewer, more catastrophic wildfires. Instead, the campus seeks to apply management strategies that foment the long-term and sustainable sequestration of carbon. UC practices embrace the emerging best practice promulgated by the California Climate Action Registry by focusing long term efforts on the conversion of non-native forest ecosystems to native floral types, posing a lesser fire risk, enhancing habitat for native species, and representing a more stable long term bank for the sequestration of sustainable and historic levels of carbon on UC lands (UC Berkeley 2020 LRDP p. 55).

As noted by the HEF, eucalyptus stands in the east bay hills “are non-native and support a low diversity of species. Long term replacement by native hardwood forest or other less flammable vegetation is generally desirable, though the transition is recognized as disruptive” (HEF Management Recommendations). Monterey Pines were introduced to the study area in the 1900s and occur as mature groves, in dense plantations and mixed with Eucalyptus. Monterey Pine Forests in the study area are not essential habitat for any known species of special concern that would suggest special management requirements. These vegetation types have the highest ignition potential due to the presence of needles, hazardous understory and dead wood on the ground and lower portions of trees.

In the East Bay, pre-settlement conditions consisted of a significantly larger coverage of grasslands and chaparral, which have been largely supplanted by housing and exotic tree species. While much of UC’s Hill Campus is stocked with a growing native forest, other portions are carrying high levels of non-native trees. UC’s eucalyptus and pine dominated forests would not be considered native and are at risk of catastrophic wildfire and associated carbon releases. As of 2008, over 150 acres of the 800 acre Hill Campus have begun the conversion process toward native forests (UC Berkeley, 2007).

The removal of exotic tree species, prone to extreme pulse emissions of GHG’s during wildfires is clearly desirable from a global warming perspective. Whether the best replacement flora, from a global warming perspective is arboreal or grassland is currently a point of scientific study (see, for example, Proceedings of

the National Academy of Sciences, April 2007 <http://www.pnas.org/content/104/16/6550.abstract>). UC Berkeley stewardship efforts will likely seek a balance, mixing native hardwood forests with grassland/chaparral communities, balancing the needs for GHG control with competing environmental imperatives, such as habitat protection.

At this time and in keeping with standard inventory practice, UC Berkeley does not include GHG emissions or sequestration from land use changes in its inventory.

The LRDP amendment was approved by the University July 29, 2009 and a Notice of Determination filed with the state.

See discussion under Climate Change, below, providing GHG emission estimates for the proposed project.

East Bay Hills Environmental Impact Statement for Hazardous Fire Risk Reduction process - the following background material is excerpted and minimally altered for readability in this context, from the EIS executive summary section ES.5, from a December 1, 2014 press release published by FEMA, and from the February 2015 Record of Decision.

In January 2008, FEMA published a Notice of Availability for a Draft Environmental Assessment (EA) on the Strawberry Canyon project area for public comment (FEMA 2007). As part of the grant evaluation process, and in order to reach a determination on providing federal funding, the Department of Homeland Security's Federal Emergency Management Agency (FEMA) was required by law to comply with the National Environmental Policy Act (NEPA) which mandates that Agency decision-makers be fully informed of the environmental consequences of their decision to approve and fund such grants. In addition, the public must be informed of the proposed actions; their potential consequences and the Agency's ultimate decision on whether to proceed with funding the projects.

The 2008 EA addressed the Strawberry Canyon-PDM vegetation management project as proposed in UCB's grant application PDM-PJ-09-CA-2005-011. The public involvement process revealed concerns regarding the effectiveness and scope of the proposed vegetation removal methods, the proposed application of wood chips in portions of the project area, impacts to plant and animal species in the project area, and potential cumulative impacts of all projects in the project area. Based on the findings of that EA, FEMA (and after consulting with DHS, CEQ, Cal OES, and the subapplicants) decided to prepare an Environmental Impact Statement (EIS). The EIS addresses the potential environmental impacts of the vegetation management projects proposed in all of the grant applications submitted by UCB as well as those submitted by Oakland and EBRPD.

The public scoping process required by 40 CFR § 1501.7 was completed for the proposed action. A notice of intent to prepare an EIS for the proposed action was published in the Federal Register on June 10, 2010. The notice of intent initiated a public scoping period that concluded on October 1, 2010. FEMA conducted two public scoping meetings in August 2010 to solicit input from the public about the environmental topics to be included in the EIS and the issues to be analyzed in depth. The areas of concern and the types of comments received during scoping are described in the Scoping Report in Appendix K of the EIS.

A Notice of Availability of the draft EIS was published in the Federal Register on May 3, 2013, and the public comment period extended from May 3, 2013 to June 17, 2013. FEMA held three public meetings near the project area and received over 13,000 comment submittals on the project during the public comment period via letter, email, fax, petitions, comments submitted at the public meetings, and voicemail.

This final EIS contains two new appendices related to the public review of the draft EIS: Appendix Q, which provides responses to comments received on the draft EIS and Appendix R, which presents the comment submittals that were received during the public comment period on the draft EIS. Comments that were received during the draft EIS comment period are addressed in this final EIS. Section 7 describes the EIS public outreach and involvement process and its results.

Based on the wildfire hazard characteristics of the East Bay Hills and the Miller/Knox Regional Shoreline, and the prolonged state-wide drought which has further intensified fire risk, FEMA concluded that a need exists to reduce hazardous fire risk to inhabitants and structures in these areas. Following extensive environmental review, FEMA concluded as follows (Executive Summary, page ES-18):

With implementation of BMPs and mitigation measures, significant adverse impacts would remain only with respect to wildlife, aesthetics, community character, and noise.

Significant wildlife impacts would be short-term and limited to common wildlife species, which would be disrupted during implementation and until vegetation communities recover. In the long-term, the proposed and connected actions may benefit wildlife species by providing more habitat composed of native plant species. Significant adverse visual impacts would occur in two areas in Tilden Regional Park. Two neighborhoods would experience significant alteration of community character; although, the implementation of the unified methodology would lessen the severity of this effect somewhat because the action is spread over 10 years. At times when several pieces of heavy equipment are operating simultaneously, significant noise impacts would occur within the project areas and at the homes closest to many of the project areas. This impact would be of relatively short duration and limited to normal working hours.

The EBH EIS was approved in a Record of Decision (ROD) by FEMA in February, 2015. As stated in the ROD, the U.S. Fish and Wildlife Service issued a Biological Opinion, with an incidental take statement, required terms and conditions, and a finding that the project would not result in the jeopardy of a listed species (ROD, February 2015, page 9).

UC Berkeley HCFRR Addendum Process

UC Berkeley first published this HCFRR Addendum for comment on March 1, 2016, with notice to an extensive email list of campus neighbors and those who have requested CEQA notices. While an addendum need not be circulated for public review, comments were invited prior to 5:00 pm on Tuesday March 22, 2016. Section VIII of this document reprints all comments received, with responses.

III. PROJECT DESCRIPTION

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PROJECT LOCATION

UC Berkeley is located in the City of Berkeley, approximately ten miles east of San Francisco. See Figure 1, Regional Location. Interstate 80, Highway 13, Highway 24, and Interstate 580 provide regional vehicular access to the campus. Regional transit access is provided by Bay Area Rapid Transit District (BART) and Alameda-Contra Costa Transit (AC Transit).

The Hill Campus Fire Risk Reduction (hereafter may be referred to as the HCFRR) project site is east of the central Campus Park, east of Gayley Road and Rimway Road, and extends south of Grizzly Peak Boulevard.

The project location is east of Foothill Housing, surrounds Lawrence Berkeley National Laboratory, is north and east of Panoramic Hill, and lies on both sides of the road in the upper half of Claremont Canyon. The work site is generally bounded in the east by Grizzly Peak Blvd from Centennial to Marlborough Terrace, and generally by the Upper Jordan Fire Trail to the west. The proposed work is located on the upper reaches of the canyon above Upper Jordan Fire Trail and the upper half of Claremont Canyon, north of Claremont Avenue.

Please see figures in Attachment 1, indicating areas where project work would be undertaken.

PLAN AND POLICY CONTEXT

In 2007 and 2008, UC Berkeley sought grant funding from the federal government to accomplish goals and objectives of the UC Berkeley 2020 Long Range Development Plan (LRDP or 2020 LRDP).

Although the focus of an LRDP is upon a proposed program of development, the following 2020 LRDP Objectives (2020 LRDP page 10) are particularly relevant to the proposed project:

Plan every new project to represent the optimal investment of land and capital in the future of the campus.

The LRDP notes that both land and capital are scarce at UC Berkeley, and investment decisions must consider the long term best interest of the campus as a whole. The decision to seek federal FEMA funding to assist with the ongoing fire fuel management program, in the manner proposed by the grants and analyzed by FEMA, represents an optimal investment leveraging limited campus resources for wildland management. In addition, the cost of management and maintenance is expected to decline after the proposed project is complete.

Plan every new project as a model of resource conservation and environmental stewardship.

The campus fire fuel management work always strives to carefully manage limited resources, reduce the quantity and impact of intrusions into sensitive habitats, while effectively addressing fire fuel management objectives. The grant will prevent fire damage to sensitive natural resources.

The grant will enhance native habitat and ecological functions through the reduction of fuel volumes that could support an intense wildfire. The proposed project will enhance Alameda Whipsnake habitat as requested by the USF&WS.

Maintain and enhance the image and experience of the campus, and preserve our historic legacy of landscape and architecture.

The project would address this policy by reducing fire risk. Devastating fire potentially significantly alters both historic landscape and architecture, both on campus and in the surrounding residential neighborhoods.

Plan every new project to respect and enhance the character, livability, and cultural vitality of our city environs.

The project would address this policy by reducing fire risk. Devastating fire potentially significantly alters the character, livability, and vitality of campus and environs.

The following policy statement is excerpted from page 3.1-57 of the 2020 LRDP, adopted by the Regents of the University of California in January, 2005:

POLICY: MANAGE THE HILL CAMPUS LANDSCAPE TO REDUCE FIRE AND FLOOD RISK AND RESTORE NATIVE VEGETATION AND HYDROLOGY PATTERNS.

UC Berkeley maintains an ongoing program of fire fuel management in the Hill Campus to reduce fire risk to the campus, LBNL, neighboring residents, and recreational visitors to adjacent park and watershed lands. While the treatment used in a given area must be customized to address its specific conditions, including vegetation type, access, and proximity to roads and structures, in general the treatments are designed to meet one or more of the following goals:

- reducing fuel load by removing dead material, reducing plant density, and favoring species with lower fuel content,
- reducing horizontal spread by reducing fine fuel material and by separating dense clusters of vegetation with areas of lower fuel load, and
- reducing vertical fire spread by increasing separation of understory and crown fuels.

Whenever feasible, future fuel management practices should include the selective replacement of high-hazard introduced species with native species: for example, the restoration of native grassland and oak-bay woodland through the eradication of invasive exotics (broom, acacia, pampas grass) and the replacement of aged Monterey pines and second-growth eucalyptus. Such conversions must be planned with care, however, to avoid significant disruptive impacts to faunal habitats.

In adopting the 2020 LRDP, the UC Regents made findings that applicable Continuing Best Practices and Mitigation Measures outlined in the 2020 LRDP EIR would be considered conditions of approval for the 2020 LRDP. Therefore, an additional objective of the project is to comply with relevant Continuing Best Practices outlined in the 2020 LRDP EIR, excerpted below:

Continuing Best Practice BIO-1-c: Because trees and other vegetation require routine maintenance, as trees age and become senescent, UC Berkeley would continue to undertake trimming, thinning, or removal, particularly if trees become a safety hazard. Vegetation in the Hill Campus requires continuing management for fire safety, habitat enhancement, and other objectives. This may include removal of mature trees such as native live oaks and non-native plantings of eucalyptus and pine.

Continuing Best Practice PUB-2.1-a: UC Berkeley would continue to comply with Title 19 of the California Code of Regulations, which mandates firebreaks of up to 100 feet around buildings or structures in, upon or adjoining any mountainous, forested, brush- or grass-covered lands.

Continuing Best Practice PUB-2.1-b: UC Berkeley would continue on-going implementation of the Hill Area Fire Fuel Management program.

Continuing Best Practice PUB-2.1-c: UC Berkeley would continue to plan and implement programs to reduce risk of wildland fires, including plan review and construction inspection programs that ensure that campus projects incorporate fire prevention measures.

Continuing Best Practice PUB 2.1 d: UC Berkeley would continue to plan and collaborate with other agencies through participation in the Hills Emergency Forum.

The chief project objective is to comply with 2020 LRDP policy and best practices directed at reducing fire risk in the UC Berkeley Hill Campus. Both potential fire fuel volume and fire intensity should be reduced by implementation of the proposed project, which was proposed and would be undertaken in collaboration with other member agencies of the Hills Emergency Forum.

PROPOSED ACTION

The proposed action – the Hill Campus Fire Risk Reduction project, or HCFRR -- is intended to reduce hazardous fire risk to people and structures in the East Bay Hills. The University of California, Berkeley would undertake vegetation management work on its properties as outlined and included in grant applications submitted to Cal OES by UCB, plus additional vegetation management work not eligible for FEMA funding, as outlined in the Hazardous Fire Risk Reduction Final Environmental Impact Statement, East Bay Hills, California (hereafter, EBH EIS) (see EBH EIS Section 3.4.2, page 3-9).

The following excerpts from the EBH EIS further describe the proposed action:

The primary vegetation types that would be thinned are trees and shrubs that are more fire prone; have fine, dry, or dead material such as needles or loose papery bark; and tend to accumulate dead, dry material around them. Removal of these types of vegetation would open up areas, allowing less fire prone species that have higher moisture content and lower fuel loads to develop, including grassland and shrub islands. The combination of litter build-up (limbs, leaves, stringy bark) and extensive ladder fuels with the heavy forest fuels seen in eucalyptus stands contributes to high-intensity fires and increased potential for fires laddering up into the crowns, which allows fires to spread farther. Heavy accumulations of forest litter under mature pine canopy lead to similar fire behavior. Longer flame lengths and greater heat output are associated with increased fire intensity. Oak-bay woodlands or grassland with shrub islands produce less accumulated dead fuels and ladder fuels over time as compared to eucalyptus and pine communities. When fires do occur, the project is designed to result in fires that would be less intense and with shorter flame lengths that result in reduced risks for people and property.

The proposed and connected actions would involve removing many fire-prone trees and vegetation to reduce wildfire hazard...

Targeted trees would be cut down and processed by trained, qualified subapplicant staff or contractors using methods consistent with the California Forest Practice Rules. If a timber harvest plan is required by § 4581 of the California Public Resources Code (Z'berg-Nejedly Forest Practice Act), the plan would be prepared by a registered professional forester and would contain detailed information on the timber operations. The California Forest Practice Rules and the Z'berg-Nejedly Forest Practice Act are available at http://calfire.ca.gov/resource_mgt/downloads/2012_California_Forest_Practice_Rules.pdf.

The University properties addressed under the proposed action are referred to herein and in the EBH EIS as Strawberry Canyon, Claremont Canyon, and Frowning Ridge. The detailed project description, including maps showing the three areas, excerpted from Section 3.4.2 of the EBH EIS, is included here as Attachment 1.

Attachment 1 also reprints the Record of Decision for the EBH EIS; the HCFRR project work comports to the action as outlined in the ROD (see, for example, section 3.2 and Section 7 of the ROD in Attachment 1).

Also as reprinted in Attachment 1, the project as proposed includes application of a unified methodology at subareas where high fire risk sections of the project area are in close proximity to structures. The general strategy for small sub areas subject to the unified methodology is to convert the high fire risk canopy to lower fire risk forest through a greater emphasis on thinning rather than complete removal. Please see Attachment 1, Section 3.4.2.1 and Section 3.4.2.1.1.

Attachment 1 also includes more specific description of the work proposed on campus property through the Hill Campus Fire Risk Reduction project, a subset of the EBH EIS project. See Section 3.4.2.2.1 regarding Strawberry Canyon, Section 3.4.2.2.2 regarding Claremont Canyon, and Section 3.4.2.3.3, which describes the work proposed for Frowning Ridge.

MEASURES INCORPORATED INTO PROJECT AS PROPOSED

Sections VI and VII in this document reference mitigation and monitoring measures from different sources incorporated into the HCFRR as proposed. The proposed project incorporates relevant measures from the 2020 LRDP EIR and the EBH EIS as shown in Section VI. The proposed action includes compliance with conditions of approval set forth in a Biological Opinion completed by the United States Department of the Interior Fish and Wildlife Service in 2013 (see Section VI), and includes post treatment measures and monitoring; post treatment measures were sometimes referred to in the EBH EIS as the UCB Mitigation Monitoring Plan, but are referred to herein as the Biological Opinion Post Treatment Monitoring Plan for clarity. Please see Section VII, Biological Opinion Post Treatment Monitoring Plan (BOPTMP).

IV. ENVIRONMENTAL REVIEW SUMMARY

An Environmental Assessment has been prepared in accordance with CEQA, the CEQA Guidelines, and University of California Guidelines for the Implementation of CEQA, to determine the appropriate level of environmental review for the Hill Campus Fire Risk Reduction work.

The UC Berkeley 2020 LRDP EIR indicated that projects implementing the 2020 LRDP would be examined to determine whether subsequent project-specific environmental documents are required. The 2020 LRDP EIR states:

CEQA and the CEQA Guidelines state that subsequent projects should be examined in light of the program-level EIR to determine whether subsequent project-specific environmental documents must be prepared. If no new significant effects would occur, all significant effects have been adequately addressed, and no new mitigation measures would be required, subsequent projects within the scope of the 2020 LRDP could rely on the environmental analysis presented in the program-level EIR, and no subsequent environmental documents would be required; otherwise, project-specific environmental documents must be prepared (2020 LRDP EIR Vol I page 1-2).

The use of the 2020 LRDP EIR in project review was also specifically addressed in the first Thematic Response to comments received on the 2020 LRDP Draft EIR (2020 LRDP EIR Vol 3a, page 11.1-1). There, the document reiterated the text quoted above, and explained:

Projects subsequently proposed must be examined for consistency with the program as described in the 2020 LRDP and with the environmental impact analysis contained in the 2020 LRDP EIR; if new environmental impacts would occur, or if new mitigation measures would be required, an additional environmental document would be prepared.

In accordance with CEQA (Public Resources Code Section 21000 et seq.), and the University of California Procedures for Implementation of CEQA, this Environmental Assessment was prepared to evaluate the proposed Project in contrast to anticipated development described and analyzed in the 2020 LRDP EIR. The Environmental Assessment concludes the Project would not cause any new significant environmental effect not considered in the 2020 LRDP EIR, nor increase the severity of any impact previously found significant in the 2020 LRDP EIR; that no new information of substantial importance, which was not known at the time the 2020 LRDP EIR was certified, has become available; that the circumstances under which the Project will be undertaken have not changed to involve new significant environmental effects or substantially increased severity in environmental effects; and thus the University has determined that an Addendum to the 2020 LRDP EIR is appropriate for the Project, itself in the form of the following Environmental Assessment.

Copies of this Addendum are available for review during normal operating hours at the offices of Real Estate Division, Physical and Environmental Planning offices, 3rd floor A&E Building on the UC Berkeley campus; and online at realestate.berkeley.edu. The 2020 LRDP and the 2020 LRDP Environmental Impact Report (SCH #2003082131) are available online at lrpd.berkeley.edu; LRDP Amendment #1 and Addendum #5 to the 2020 LRDP EIR addressing Climate Change are available online at tinyurl.com/UCBclimate.

This Addendum was initially published on March 1, 2016 to the UC Berkeley Real Estate division website (realestate.berkeley.edu). Notice of the availability of the Addendum for review was sent to UC Berkeley's CEQA notice list serv, a community mailing list, requesting comments by end of the day Tuesday March 22, 2016.

PROJECT-RELATED APPROVALS

This document analyzes and documents the impacts of the proposed project and all discretionary and ministerial actions associated with the project. Consistent with Sections 15050 and 15367 of the CEQA Guidelines, the University of California is designated as Lead Agency and would use this Addendum in assessing the effects of the actions detailed above. The Addendum, and any comments received upon it, would be considered prior to any decision to approve the project. The University anticipates that the UC Berkeley Chancellor would have the authority to approve the project, under delegated approvals, and that consideration would take place spring 2016.

Responsible agencies are those agencies that may have discretionary approval over one or more actions involved with the development of a proposed project. The campus consults with the City of Berkeley for projects located in the City Environs; however, the City does not have discretionary approval over any aspect of the project.

CONSISTENCY WITH THE UC BERKELEY 2020 LRDP EIR (2005)

The 2020 LRDP Environmental Impact Report (SCH #2003082131), certified by The Regents of the University of California in January 2005, provides a comprehensive program-level analysis of the 2020 LRDP, and its potential

impacts on the environment, in accordance with Section 15168 of the California Environmental Quality Act (CEQA) Guidelines. The 2020 LRDP EIR prescribes Continuing Best Practices and Mitigation Measures for all projects implemented under the 2020 LRDP. Please see Part VI of this document for a list of 2020 LRDP EIR Best Practices and Mitigation Measures incorporated into the project as proposed.

V. 2020 LRDP ENVIRONMENTAL IMPACT REPORT – IMPACT SUMMARY AND PROJECT-RELATED ANALYSIS

AESTHETICS

UC Berkeley's Hill Campus has long been subject to management that alters the landscape, historically including plantings for research¹ and including fire fuel management activities. Current fire fuel management activities are targeted to minimize aesthetic impacts to neighbors of campus properties, while protecting against the aesthetic impact caused by catastrophic wildfire (UC Berkeley, S. Genito, personal conversation). The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP at UC Berkeley would not result in new significant aesthetic impacts (2020 LRDP FEIR Vol. 1, 4.1-15 to 4.1-19); nor would the 2020 LRDP make a cumulatively considerable contribution to adverse aesthetic impacts (2020 LRDP FEIR Vol. 1, 4.1-22 to 4.1-24).

The EBH EIS concluded that the project as implemented in UC Berkeley project areas would have no adverse effect on aesthetics and visual quality. See analysis of viewpoints 7, 8, 9, 10, beginning in Table 5.8-3 of the EIS, page 5.8-5.

The project is continuing implementation of the campus fire fuel management program in the manner outlined in the EBH EIS, and would not impact scenic vistas.

Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding the 2020 LRDP with respect to aesthetic issues that were not adequately analyzed and, as necessary, mitigated, and no new information is available. The proposed project would not alter the findings of the 2020 LRDP EIR with regard to Aesthetics.

Cumulatively, the 2020 LRDP EIR noted that projects implementing the 2020 LRDP, in combination with other foreseeable projects, would result in visual changes. The project is not a considerable contribution to any degradation of the visual character of the campus and environs, nor does it adversely affect scenic vistas, as examined in the 2020 LRDP EIR (2020 LRDP EIR p. 4.1-22).

¹ See, for example, the journal Bulletin of the National Research Council of the National Academy of Sciences, 1921, North American Forest Research, items from the University of California, College of Agriculture, Division of Forestry, Walter Mulford, Professor of Forestry, Berkeley: Item 515 “**Trees suitable for planting without irrigation in the Berkeley Hills, Alameda County.** Begun 1916. Tests have been made with species from Australia, New Zealand, Africa, Japan, and China. Some have been raised from seed in the Berkeley Nursery but many have been received from the Plant Introduction Gardens. Expensive methods of planting have given good results with several species. It is proposed to select species which will stand cheaper method of handling. Work to be extended in experimental planting area in Strawberry Canyon. Assigned to Woodbridge Metcalf’

AIR QUALITY

UC Berkeley actively manages the campus landscape. The Hill Campus Fire Risk Reduction project would not include any unusual activities of a type or scale likely to impact air quality. The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, guided by compliance with local regulations, campus policies and programs to reduce emissions and risk of toxic air contaminant releases, and incorporating existing best practices and 2020 LRDP FEIR mitigation measures would, with one exception, not result in new significant air quality impacts (2020 LRDP FEIR Vol. 1 p. 4.2-20 to 4.2-26). As the one exception, the 2020 LRDP FEIR conservatively estimated that the Bay Area Air Quality Management District's (BAAQMD) Clean Air Plan did not include an increment for growth at UC Berkeley, and found that campus growth overall may not comply with the Clean Air Plan, and may result in a cumulatively considerable increase in nonattainment pollutants that conflicts with the Clean Air Plan (2020 LRDP FEIR Vol. 1). The project is continuing implementation of the campus fire fuel management program described in the 2020 LRDP, in the manner outlined in the EBH EIS, and is not a development project constituting campus growth.

In May of 2012, the BAAQMD published updated Air Quality Guidelines for the California Environmental Quality Act. UC Berkeley implements basic construction-related mitigation measures substantially similar to those recommended by BAAQMD (BAAQMD CEQA Air Quality Guidelines page 8-3). (Note that the same measures apply for heavy duty equipment operations.)

The EBH EIS calculated emissions from the Hazardous Fire Risk Reduction program, including haul truck trips and worker trips for the work to be performed, and emission factors for off-road construction equipment engines to undertake the work needed (EBH EIS section 5.5). The EBH EIS determined that emissions of CO, VOC, NO_x, SO_x, PM-10, and PM-2.5 from the proposed and connected actions would be less than significant (EBH EIS p 5.5-10).

The action proposed herein would not result in new air quality impacts not previously considered; would not contribute to significant environmental impacts previously identified in the 2020 LRDP FEIR, and would not result in those impacts being more severe than as described in the 2020 LRDP FEIR. No additional mitigation measures have been identified that would further lessen the previously identified impact, and no additional analysis is required.

The action proposed would generate some temporary increase in activity-related emissions; however, the project would incorporate LRDP Mitigation Measure AIR-4a and AIR-4b and LRDP Continuing Best Practices Mitigation Measure AIR-4a and AIR-4b to control emissions from off-road construction vehicles and not violate air quality standards (Consistent with 2020 LRDP Impact AIR-4).

Implementation of the 2020 LRDP would not impede or conflict with the emissions reductions targets and strategies prescribed in or developed to implement AB 32, given the provisions of the 2020 LRDP and campus best practices. The proposed project would not alter these findings. Since certification of the 2020 LRDP FEIR, the key change to circumstances surrounding the 2020 LRDP is a beneficial one: namely, in November 2013 UC Berkeley announced that it has met its carbon reduction targets (see <http://newscenter.berkeley.edu/2013/11/12/two-years-early-uc-berkeley-meets-its-carbon-reduction-target/>); and a new goal of carbon neutrality has been set (<http://www.ucop.edu/initiatives/carbon-neutrality-initiative.html>). There have been no substantial changes to the 2020 LRDP and no significant adverse changes to the circumstances surrounding 2020 LRDP development with

respect to air quality that were not adequately analyzed and, as necessary, mitigated, and no new information is available.

The 2020 LRDP EIR found traffic associated with development under the 2020 LRDP would not contribute to a cumulatively considerable increase in or expose receptors to substantial CO concentrations. Using measured CO concentrations associated with peak hour vehicle volumes for the intersection of Mission Boulevard and Jackson Street/Foothill Boulevard in Hayward as a ‘worst-case’ comparable in the same air basin as the campus, the 2020 LRDP EIR found changes at local intersections resulting from implementation of the 2020 LRDP would not result in significant impacts.

Cumulatively, the 2020 LRDP EIR noted that projects implementing the 2020 LRDP, in combination with other foreseeable projects, may result in a cumulatively considerable increase in nonattainment pollutants that conflicts with the Clean Air Plan (2020 LRDP FEIR Vol. 1 p. 4.2-31) and could contribute to a cumulatively considerable increase in toxic air contaminants, primarily from diesel particulate matter, from stationary and area sources (2020 LRDP FEIR Vol 1 p. 4.2-33). The implementation of the campus fire fuel management program would not be a significant source of pollutants, TACs or diesel particulate matter. Use of heavy duty machinery required to implement the 2020 LRDP would be controlled by best management practices in accordance with air district guidance and the proposed project would not result in cumulatively considerable air quality impacts related to this work.

In accordance with NEPA, the EBH EIS concludes there is some potential for adverse effect to air quality from implementation of the connected projects due to controlled burning of cut material (see EBH EIS page 5.5-11.. This impact does not apply to the University’s action, as no burning would be undertaken by the University as part of the HCFRR project.

BIOLOGICAL RESOURCES

The 2020 LRDP FEIR includes a discussion of biological resources in the Hill Campus (2020 LRDP EIR Vol 1, p 4.3-10 through 4.3-17).

UC Berkeley’s Hill Campus has been subject to change, including plantings for research and management², and including fire fuel management activities, continually since properties there were first acquired by the University. The Hill Campus has long been subject to management that alters the landscape, vegetation and habitat.

The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, incorporating existing best practices and 2020 LRDP FEIR mitigation measures, would not result in new significant impacts upon biological resources (2020 LRDP FEIR Vol. 1, 4.3-22 to 4.3-30). The proposed project would not change this conclusion.

The EBH EIS methodology for evaluation of sensitive biological resources included database searches for CDFW-designated sensitive natural communities, and CNPS-listed special status plant species obtained from a search of the California Natural Diversity Database for all special status species occurrences within the project quadrangles, as well as a list of bats designated as high or medium priority for conservation in the western region (EBH EIS p. 4.2-26).

² Management changes such as cattle grazing, or prohibitions on deer hunting may impact the landscape. See McBride, J. “Plant Succession in the Berkeley Hills” in *Madrono*, Vol 22, No. 7, July 1974, California Botanical Society; see also campus fire mitigation plans: Rice 1986, McBride 1976, and Morales 1998.

The EBH EIS establishes mitigation measures “to provide treatment performance guidelines and resource protection for each native vegetation type in order to achieve the goals and objectives that are critical to reducing potential hazards from wildfires in the proposed and connected project areas. The [mitigation and monitoring plans] would ensure that the implementation of the vegetation treatments would continue to reduce wildfire risk and promote species habitat by restoring native vegetation communities where applicable” (EBH EIS p. 5.1-4, section 5.1.2.2.4).

In accordance with the EBH EIS, implementation of the Hill Campus Fire Risk Reduction (HCFRR) project is tied to an overall goal to achieve a ratio of 70 to 90 percent native to exotic plant communities (EBH EIS p. 5.1-7). Mitigation measures would minimize the need for new fire roads, avoid stream, riparian, and designated critical habitats, and limit stockpiling and staging areas to locations within areas designated by the USFWS and/or NMFS. Pursuant to the conditions of approval of the Biological Opinion, UC Berkeley would create at least 167 acres of suitable habitat for the Alameda Whipsnake, consisting of at least 32 acres of core scrub habitat, over the course of the project’s 10 year life span (EBH EIS p. 5.1-21).

The EBH EIS also discusses potential impacts to water features, including Strawberry Creek.

Mitigation measures and best management practices identified in the EBH EIS address potential risk from herbicide application (see for example EBH EIS p. 5.1-11); risk to aquatic features (see for example EBH EIS p. 5.1-10); risk to wildlife (see for example EBH EIS p. 5.1-13); risk to wildlife movement and migration corridors (see for example EBH EIS p. 5.1-18). The EBH EIS concludes that the EBH EIS project, including the HCFRR project, would not result in significant impacts to biological resources (see EBH EIS pp. 5.1-1 through 5.1-35).

The proposed project, including implementation of measures established in the EBH EIS and post treatment measures established in consultation with USFWS, referenced in Section VI and VII, would not result in new or more severe impacts than analyzed in the 2020 LRDP FEIR, nor contribute to cumulatively significant adverse effects upon biological resources. The project would comply with all relevant biology mitigation measures from the 2020 LRDP EIR, as set forth in Section VI.

Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to biological resources that were not adequately analyzed and, as necessary, mitigated, and no new information is available.

Cumulatively, the 2020 LRDP EIR noted that projects implementing the 2020 LRDP, incorporating biology best practices and mitigation measures, in combination with other foreseeable projects, would not have a significant adverse effect on special-status species or sensitive natural communities, jurisdictional wetlands, wildlife corridors and movement opportunities, or wildlife nursery sites (2020 LRDP FEIR Vol 1 p. 4.3-35-4.3-37). The proposed project would not alter these conclusions.

In accordance with NEPA the EBH EIS concludes there is some potential for adverse effect to biological resources (see EBH EIS Section 5.15); because the project as defined herein incorporates all applicable mitigation measures presented in the Biological Opinion for the EBH EIS, and incorporates post treatment activities identified in the BOPTMP, a significant unavoidable impact under CEQA would not occur.

CLIMATE CHANGE

The 2020 LRDP was amended to reference the campus climate action plan, a stringent campus greenhouse gas reduction strategy, in July, 2009, and the 2020 LRDP EIR was amended to consider how implementation of the 2020 LRDP impacts climate change / greenhouse gas emissions. Implementation of the 2020 LRDP would not impede or conflict with the emissions reductions targets and strategies prescribed in or developed to implement AB 32, given the provisions of the 2020 LRDP and campus best practices (2020 LRDP EIR Addendum #5, page 45). As noted above, the key change to circumstances surrounding the 2020 LRDP with regard to greenhouse gases is a beneficial one: namely, in November 2013 UC Berkeley announced that it has met its carbon reduction targets (see <http://newscenter.berkeley.edu/2013/11/12/two-years-early-uc-berkeley-meets-its-carbon-reduction-target/>); and a new goal of carbon neutrality has been set (<http://www.ucop.edu/initiatives/carbon-neutrality-initiative.html>).

As part of the LRDP EIR Addendum #5 prepared in accordance with CEQA to consider the LRDP climate change amendment, construction period (including demolition) emissions for UC Berkeley were calculated, assuming 1 million gross square feet of new space under development, or 45.9 acres under construction at UC Berkeley over a twelve-month period. Modeling shows that annual CO₂ emissions of 1,264 metric tons results from construction activities of this scale. For comparison, emissions associated with campus water consumption were 1,955 metric tons of carbon dioxide equivalent in 2007. Construction at the project site would be well within the one million square feet of new space under development analyzed in the 2020 LRDP EIR and 2020 LRDP EIR Addendum #5.

UC Berkeley's Fire Fuel Management Program was also specifically considered; LRDP EIR Addendum #5 noted that the LRDP includes policies and practices that reduce the likelihood of pulse emission of GHGs from catastrophic wildfires. The Addendum noted that "UC Berkeley stewardship efforts will likely seek a balance, mixing native hardwood forests with grassland/chaparral communities, balancing the needs for GHG control with competing environmental imperatives, such as habitat protection" (LRDP Addendum #5 page 38).

As noted by the campus Office of Sustainability, (see <http://sustainability.berkeley.edu/calcap/calcap-ghg-inventory>) the campus greenhouse gas inventories are reported annually to both The Climate Registry (TCR) and the American College and University Presidents Climate Commitment (ACUPCC) and made available to the public. UC Berkeley reports on ten emission sources in three different categories. Third party verification of the inventory is completed as part of the reporting process; inventories for 2005 through 2012 have been successfully 3rd party verified. Scope 1 emissions are all direct emissions, i.e. from sources owned or controlled by UC Berkeley; Scope 2 emissions are indirect emissions from purchases of electricity, steam, heating, and cooling, and Scope 3 emissions are optional emissions to inventory, including all other indirect emissions upstream and downstream. Within the context of the campus climate action plan and greenhouse gas inventory, emissions associated with the HCFRR work and impacts from changes to carbon sequestration in the Hill Campus would be in "Scope 3", optional emission inventories.

The project implements the 2020 LRDP as amended and would not generate greenhouse gas emissions in a manner that significantly impacts the environment. Lead agencies, including municipalities, counties, and universities, have adopted climate action plans in an effort to meet state mandated greenhouse gas reduction targets through comprehensive efforts. Where the focus of CEQA is commonly on the physical impact of a single new development proposal, on-going pre-existing operations are often the greatest contributors of greenhouse gas emissions.

Cumulatively, the 2020 LRDP EIR determined that the impact of implementation of the 2020 LRDP, with incorporation of all best practices and implementation of UC Berkeley's Climate Action Plan, on cumulative climate

change would be less than significant. (2020 LRDP EIR Addendum #5, page 55). The proposed project would not alter these conclusions.

The state agency CAL FIRE (California Department of Forestry and Fire Protection) has been granted \$42 million in funding from the state Greenhouse Gas Reduction Fund (see http://calfire.ca.gov/resource_mgt/GGRF) for forestry projects which reduce or avoid GHG emissions. CAL FIRE notes:

Atmospheric carbon dioxide is absorbed by trees through photosynthesis and stored as carbon in trunks, branches, foliage, roots and soils. Decay and wildfire ultimately release the absorbed carbon under the natural cycle of forest growth, mortality and regeneration. The Forest Sector represents complex biological systems that are inherently highly variable and difficult to quantify and predict. Moreover, forests themselves will be influenced by climate change in complex and uncertain ways (see http://calfire.ca.gov/resource_mgt/climate-change-climate_change_board).

In March 2015, CAL FIRE published “Guidance on Methods for Evaluating GHG Emission Reductions for Programs in the CAL FIRE Greenhouse Gas Reduction Fund”. This report, at page 21, notes that “There is not an approved forest carbon protocol for fuel reduction projects.” The report goes on to suggest:

On an acre treated for fuels the carbon balance is the carbon emitted from the treatment subtracted from the carbon retained multiplied by its reduced probability of loss over the time the treatment is effective. The reduced probability of loss will shrink with time as fuels rebuild. Residual tree and regeneration growth also factor in to the equation.

In addition to the treated acres, there are nearby areas in the vicinity of the treatment that may receive a measure of decreased risk and/or a reduction in burn severity. This too, will decrease as time elapses after the treatment. The total GHG benefit is a sum of the average treated acres emission loss reduction from wildfire, the nearby areas emission loss reduction from wildfire, the emissions associated with fuel disposition, and any storage in wood products or landfill storage (Saah et al. 2012).

In April 2015 it published a procedural guide for fuels reduction grants, stating:

The objectives of the Fuels Reduction Grants Program include stabilizing or increasing carbon sequestration in trees retained on the project site, reduction of wildfire hazards to decrease wildfire emissions, utilization of biomass to offset use of fossil fuels, and use of solid wood materials to offset emissions resulting from removal of vegetation. To achieve these objectives, vegetation treatment forestry prescriptions will focus on selectively removing understory trees and brush to reduce fire hazards, improve tree growth, and increase forest health and resilience. Prudent management of forestlands can decrease the potential for large wildland fires that release greenhouse gases by creating forests that are less susceptible to ignition and that reduce the intensity of wildland fires, thereby allowing for more successful fire suppression efforts and greater survival of trees in the burned area (see http://calfire.ca.gov/Grants/downloads/Procedural_Guide_Fuels_Reduction.pdf)

The forest carbon calculator normally used for timber harvesting plans and reviewed by CAL FIRE accounts for hardwoods and commercial conifer species; no tool currently exists for non-commercial species such as those present in the EBH EIS project area (Buenavista Services, letter report, December 2015).

Section 5.6 of the EBH EIS discusses potential Greenhouse Gas (GHG) emissions generated by the proposed and connected actions on the three treatment units. These emissions are associated with equipment and vehicles doing the actual work. According to that analysis an estimated 863 metric tons carbon dioxide equivalent (hereafter, CO₂e) would likely be generated over the ten year operating period. That report states: “In conclusion, emissions of GHGs from the proposed and connected actions would be less than the draft quantification thresholds proposed by the CEC (California Energy Commission), and are considered less than significant from a global climate change standpoint.”

UC Berkeley further sought to assess the reduction in standing forest carbon following treatments, and the long-term impacts on CO₂ storage and sequestration on the project area. To do this, an estimate of current standing forest carbon was undertaken. A five-class map of the 284 acre project area was developed using existing vegetation maps and adjusted following field inspections by a Registered Professional Forester. Proposed treatments target dense eucalyptus and pine-dominated stands; 155 acres of these dense areas were randomly sampled. Additional areas with scattered eucalyptus and pine will also be treated, but volumes in those areas were visually estimated due to high variability and low stocking. Non-treatment areas which include riparian zones, bay, oaks, maples and developed areas were also not sampled as they are not designated for treatment. However, visual estimates of tree stocking were made to permit estimates of their contribution to forest carbon storage and capture following treatments. Carbon volumes were estimated using the Center for Urban Forest Research (CUFR) Tree Carbon Calculator (CTCC) developed by USFS-PSW.

The report concluded that the HCFRR project area currently stores an estimated 61,565 CO₂e tons, the majority of which will remain stored in the project area in the form of post-treatment chips. An estimated 2,630 CO₂e tons will remain in standing live tree cover. Remaining native trees will continue to grow and sequester carbon at a rate of ~530 ton equivalents per decade thereafter. Over time, this will increase to 10,560 in year 100. In contrast, emissions from a stand-destroying wildfire in the same area would exceed 50,000 CO₂e in a matter of hours (Buena Vista Services, 2016).

CULTURAL RESOURCES

In the 2020 LRDP EIR, the numerous historical resources located within the geographic scope of the 2020 LRDP were divided into two separate categories: Primary Historical Resources and Secondary Historical Resources. Primary Historical Resources include those listed on the California Register of Historical Resources. Secondary Historical Resources include resources listed on local registers, as well as resources listed on the state Inventory. Secondary Historical Resources are presumed significant unless a preponderance of evidence demonstrates otherwise. Historic resources covered here include buildings, sites (which include landscapes), structures (such as bridges), and objects (such as Founders' Rock). The 2020 LRDP EIR lists one secondary historical resource in the Hill Campus: Charter Hill and the Big C (LRDP EIR Vol 3A, see p 4.4-11). The site is outside the area of the proposed project and would not be negatively impacted by the proposed project.

In October of 2010, the HCFRR project was submitted as a component of the EBH EIS for consultation with the Native American Heritage Commission, including contact with listed tribes (EBH EIS Appendix N). On March 13, 2013, the project was submitted as a component of FEMA's environmental review process (see Final EIS Appendix N) to the State Historic Preservation Office (SHPO) for consideration and comment. A discussion of historic properties and archaeological and built environment resources appears in the EBH draft EIS beginning at page 4.8-

16. The SHPO concurred with the finding of no adverse effect to historic properties (EBH EIS p. 4.8-20; see also page 5.7-5). Operations would not involve subsurface work except for a limited area of roadway work (Rice, personal communication, January 2016).

The 2020 LRDP FEIR noted that under certain circumstances, projects developed under the 2020 LRDP could cause substantial adverse changes in the significance of historical resources, which would remain a significant and unavoidable impact despite recordation of the resource (2020 LRDP FEIR Vol. 1, 4.4-55).

Cumulatively, the 2020 LRDP EIR noted that projects implementing the 2020 LRDP, incorporating cultural resource best practices and mitigation measures, in combination with other foreseeable projects, could contribute to the cumulative reduction and/or degradation of the resource base of historical or archaeological resources, a significant and unavoidable impact (2020 LRDP FEIR Vol 1 p. 4.4-61). The proposed project would not contribute new significant impacts, or otherwise alter these conclusions.

GEOLOGY, SEISMICITY AND SOILS

The 2020 LRDP FEIR includes a discussion of geology, seismicity and soils, including the area of the Hill Campus: see 2020 LRDP FEIR Vol 1, pp 4.5-6 through 4.5-13. Mitigation measures are recommended to address potential for soil erosion, landslides, liquefaction, among other geological concerns of the hill campus.

Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to geology, seismicity and soils that were not adequately analyzed and, as necessary, mitigated, and no new information is available.

Cumulatively, the 2020 LRDP EIR noted that projects implementing the 2020 LRDP, incorporating geology, seismicity and soils best practices and mitigation measures, in combination with other foreseeable projects, would have less than significant impacts due to fault rupture, seismic ground shaking or ground failure, landslides, soil erosion, or risk due to expansive soils or unstable soils or geologic units (2020 LRDP FEIR Vol 1 p. 4.5-23-24). The proposed project would not alter these conclusions.

The EBH EIS concluded that implementation of the proposed and connected actions would have no effect on geology or seismicity (EBH EIS p. 5.3-1). The EBH EIS concluded that implementation of the proposed action would lower the risk of wildfire in the proposed and connected project areas, with the beneficial effect of reducing the risk of landslide and soil erosion related to wildfire (EBH EIS p. 5.3-7).

In accordance with NEPA the EBH EIS concludes there is some potential for adverse effect to soils from implementation of the connected projects, without assessing the degree of impact (see EBH EIS Section 5.15); with all appropriate measures incorporated, including best management practices outlined in Section 7.1 of the ROD and including development of an Erosion Control Plan in accordance with UC Berkeley LRDP Continuing Best Practice GEO-2 (see section VI), however, a significant unavoidable impact under CEQA would not be anticipated.

GREENHOUSE GASES

See discussion under Climate Change, above.

HAZARDOUS MATERIALS

The 2020 LRDP FEIR includes a discussion of hazardous materials, including materials used in grounds maintenance (2020 LRDP EIR Vol 1, chapter 4.6). The LRDP FEIR concludes that continued compliance with federal, state, and local regulations governing hazardous materials use, storage and waste minimize risk of hazards to workers, the public and the environment.

The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, incorporating existing best practices and 2020 LRDP FEIR mitigation measures, would not result in new significant hazardous materials-related impacts (2020 LRDP FEIR Vol. 1 p. 4.6-20 to 4.6-35).

The HCFRR work accomplishes activities anticipated in the 2020 LRDP, incorporating mitigation measures and best practices identified in the 2020 LRDP EIR, the BOPTMP, and the EBH EIS. The project therefore would not create a new significant hazard not analyzed in the 2020 LRDP FEIR, and would not result in more severe significant impacts than analyzed in the 2020 LRDP FEIR. Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to hazardous materials that were not adequately analyzed and, as necessary, mitigated, and no new information is available. No additional mitigation measures have been identified that would further lessen any previously identified impact, and no additional analysis is required.

Cumulatively, the 2020 LRDP EIR noted that projects implementing the 2020 LRDP, incorporating hazardous materials best practices and mitigation measures, in combination with other foreseeable projects, would not significantly increase hazards to the public or the environment associated with the use and transport of hazardous materials and the generation of hazardous waste (2020 LRDP FEIR Vol 1 p. 4.6-33). The proposed project would not alter these conclusions.

The EBH EIS defines hazardous materials as “any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released. Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that a handler or the administering regulatory agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment (California Health and Safety Code Section 25501[o])(see EBH EIS p. 4.11-12). Risk-related impacts associated with the application of herbicides was examined and impacts presented in EBH EIS Section 5.10, and within relevant topic areas of the EIS, such as under Biological Resources. Herbicide use in UC Berkeley’s vegetation management programs was presented beginning at page 4.11-29 of the EBH EIS. The EBH EIS establishes best management practices and mitigation measures for herbicide application at Section 5.4.4.2, beginning at page 5.4-9 of the EBH EIS. See also discussion at page 5.10-13 of the EBH EIS, noting that implementation of the project “would comply with state and federal OSHA standards for exposure to hazardous materials in the workplace.” In accordance with NEPA the EBH EIS concludes there is some potential for adverse effect to human health and safety from implementation of the connected projects, stating “No significant impact on human health is anticipated, but some impact is probably unavoidable in a series of projects employing many workers to manage vegetation in more than 2,000 acres” (see EBH EIS Section 5.15). However the project as proposed incorporates best practices and measures as indicated in Section VI, and the EBH EIS determination does not alter the conclusion of the 2020 LRDP EIR regarding hazardous materials; no significant unavoidable impact under CEQA would be expected to occur.

HYDROLOGY AND WATER QUALITY

In developing plans for implementation of the HCFRR work, all culverts in the project area were assessed, including assessment of capacity and sizing. Consultants concluded all were adequately sized to support completion of the project (personal conversation, Rice, December 2015).

The 2020 LRDP FEIR includes a discussion of hydrology in the Hill Campus (2020 LRDP EIR Vol 1, p 4.7-10) and of erosion and sedimentation (LRDP EIR Vol 1 p. 4.7-17). Some increase in development and impervious area was anticipated in the Hill Campus under the LRDP, with potential to impact drainage patterns. The HCFRR work would not implement any such changes. The LRDP EIR also acknowledged the potential for sedimentation and other pollutants in stormwater runoff, proposing mitigation measures to reduce potential impacts to less than significant levels (LRDP EIR Vol 1 p. 4.7-26).

The 2020 LRDP FEIR analysis of potential impacts related to hydrology and water quality concluded that projects implemented as part of the 2020 LRDP, incorporating existing best practices and 2020 LRDP FEIR mitigation measures, would not result in new significant impacts upon hydrology and water quality (2020 LRDP FEIR Vol. 1, 4.7-24 to 4.7-30). The proposed project would not change this conclusion. Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to hydrology and water quality that were not adequately analyzed and, as necessary, mitigated, and no new information is available.

Cumulatively, the 2020 LRDP EIR noted that projects implementing the 2020 LRDP, incorporating hydrology best practices and mitigation measures, in combination with other foreseeable projects, would not significantly increase surface runoff, wastewater discharge, would not substantially lower the groundwater table, would not violate existing surface water quality standards or wastewater discharge requirements, would not substantially contribute sediments or pollutants to storm water runoff, would not contribute a cumulatively considerable amount to exceedances of the capacity of storm- water drainage systems, and would not contribute a cumulatively considerable amount to impedances or redirection of flows within the 100 year flood hazard area (2020 LRDP FEIR Vol 1 p. 4.7-33-35). The proposed project would not alter these conclusions.

The EBH EIS discusses impacts to water resources at Section 5.4 of the document. The EBH EIS discusses surface water quality impacts associated with the HCFRR project, from herbicide application (see discussion beginning at page 5.4-2) and associated with erosion and sediment (see discussion beginning at page 5.4-3), concluding that the actions would benefit water quality by reducing the severity of wildfire and resulting erosion. Mitigation measures and best management practices would protect surface water and ground water (EBH EIS p. 5.4-6) and mitigate impacts to floodplains (EBH EIS p. 5.4-8).

No significant impact under CEQA upon hydrology and water quality would be expected to occur.

LAND USE

The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, incorporating existing best practices and 2020 LRDP FEIR mitigation measures, would not result in new significant land use impacts (2020 LRDP FEIR Vol. 1, 4.8-15 to 4.8-21). The project does not alter any land use identified in the 2020 LRDP.

Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to land use that were not adequately analyzed and, as necessary, mitigated, and no new information is available. No additional mitigation measures have been identified that would further lessen the previously identified impact, and no additional analysis is required.

Cumulatively, the 2020 LRDP EIR noted that projects implementing the 2020 LRDP would not conflict with local land use regulations such that a significant cumulative incompatibility is created with adjacent land uses, nor conflict with applicable policies adopted for the purpose of avoiding or mitigating an environmental impact (2020 LRDP FEIR Vol 1 p. 4.8-20). The project would not alter these conclusions.

The EBH EIS notes that the proposed and connected actions would not alter land use in the Hill Campus (EBH EIS p. 5.12-2); no significant impact under CEQA is anticipated.

NOISE

The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, even with incorporation of existing best practices and 2020 LRDP FEIR mitigation measures, could result in significant noise impacts resulting from demolition and construction activities (2020 LRDP FEIR Vol. 1, 4.9-16 to 4.9-25). Prior to commencement of noisy project work, UC Berkeley posts construction notices, and would contact project neighbors to provide them with project information prior to start of construction, implementing 2020 LRDP Continuing Best Practice NOI-4-b.

Project implementation is likely to occur at locations some distance from the nearest sensitive receptor; however it may intermittently result in noise levels exceeding limits set forth in the Berkeley Noise Ordinance. Implementation of Continuing Best Practices NOI-4-a, NOI-4-b, and LRDP Mitigation Measure NOI-4 would control construction-related noise to the extent that is reasonable and feasible. The schedule for construction and demolition activities generating noise in the community would, to the extent possible, reflect the Berkeley Noise Ordinance provisions. Truck traffic is assumed to use major roadways. The siting of staging and laydown areas would consider minimizing noise as stipulated in Continuing Best Practice NOI-4-b. Even after implementation of these continuing best practices and mitigation measures, the noise impact from implementation of the project is potentially significant and unavoidable, as noted in the 2020 LRDP FEIR.

Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to noise that were not adequately analyzed and, as necessary, mitigated, and no new information is available. No additional mitigation measures have been identified that would further lessen the previously identified impact, and no additional analysis is required.

Cumulatively, the 2020 LRDP EIR generally noted that projects implementing the 2020 LRDP, incorporating noise best practices and mitigation measures, in combination with other foreseeable projects, would not result in a substantial permanent, temporary or periodic increase in ambient noise levels, or expose people to or generate

excessive ground-borne vibration or ground borne noise levels (2020 LRDP FEIR Vol 1 p. 4.9-24). The 2020 LRDP EIR noted that implementation of the 2020 LRDP would expose people to noise levels in excess of established standards by way of construction noise, a significant and unavoidable impact (2020 LRDP FEIR Vol 1 p. 4.6-24). The project would not alter these conclusions.

The EBH EIS discusses potential noise impacts at Section 5.14, concluding that implementation would have a temporary adverse and unavoidable impact on noise (see page 5.14-5).

POPULATION AND HOUSING

The 2020 LRDP FEIR includes a discussion of population and housing in the Hill Campus (2020 LRDP EIR Vol 1, p xxx to xxx). The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, incorporating existing best practices and 2020 LRDP FEIR mitigation measures, would not result in new significant impacts related to population and housing (2020 LRDP FEIR Vol. 1 p. 4.10-10 to 4.10-19). The proposed project would not result in new or more severe impacts than analyzed in the 2020 LRDP FEIR. The proposal does not add population to the campus and does not involve construction of additional housing.

Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to population and housing that were not adequately analyzed and, as necessary, mitigated, and no new information is available. No additional mitigation measures have been identified that would further lessen the previously identified impacts, and no additional analysis is required.

The 2020 LRDP EIR concluded that implementation of the 2020 LRDP in combination with other reasonably foreseeable projects would induce population growth in the Bay Area, but the contribution of the 2020 LRDP would not be cumulatively considerable (2020 LRDP FEIR Vol 1 p. 4.10-19). The proposed project would not alter this conclusion.

The EBH EIS notes that the proposed and connected actions would not negatively impact the socioeconomics of the vicinity of the project areas, and would not be likely to induce growth. See Section 5.9 of the EBH EIS.

PUBLIC SERVICES

UC Berkeley's HCFRR project is intended to address risk of fire, reducing potential impact to public services, infrastructure, utilities and systems from catastrophic wildfire.

Police services for campus properties are primarily provided by the University of California Police Department (UCPD). In May of 2005 the Chancellor and the Mayor of the City of Berkeley signed an agreement earmarking \$600,000 annually in campus funds to the City of Berkeley to support emergency and fire protection. UC Berkeley directly employs fire marshals who are responsible for fire prevention activities, including fire and life safety inspections of campus buildings for code compliance, fire and evacuation drills, and development of self-help educational materials.

Fire roads and trails in the Hill Campus are often also used for recreational activities. Infrastructure of the Hill Campus also includes culverts, and electrical transmission lines.

The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, incorporating existing best practices and 2020 LRDP FEIR mitigation measures, would not result in new significant impacts upon public services (2020 LRDP FEIR Vol. 1, 4.11-11 to 4.11-15; 4.11-10; 4.11-26 to 4.11-28; 4.11-32 to 4.11-33). The proposed project does not alter assumptions of the 2020 LRDP with regard to recreational facilities, emergency access and emergency services demand, or schools. The proposed project would not result in new or more severe impacts than analyzed in the 2020 LRDP FEIR.

Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to public services that were not adequately analyzed and, as necessary, mitigated, and no new information is available. No additional mitigation measures have been identified that would further lessen the previously identified impacts, and no additional analysis is required.

The 2020 LRDP EIR concluded that implementation of the 2020 LRDP would not contribute to cumulatively significant adverse public services effects related to construction of public service facilities, deterioration of recreation facilities, exposure to risk of fires, interference with emergency response and evacuation, or emergency access constraints (2020 LRDP FEIR Vol 1 p. 4.11-32 to 33). The proposed project would not alter this conclusion.

As noted in the EBH EIS, during some work on UC Berkeley property some recreational trails may be temporarily closed. However, reduction in the occurrence and/or severity of wildfires would have beneficial impacts on recreational resources (see EBH EIS p. 5.11-4).

In accordance with NEPA the EBH EIS concludes there is some potential for short-term adverse effect to recreation from trail closure during implementation of the connected projects, without reference to a standard for assessing the degree of impact (see EBH EIS Section 5.15); temporary trail closure in the Hill Campus, however, does not merit a finding of significant unavoidable impact under CEQA due to its temporary nature.

TRAFFIC AND TRANSPORTATION

While some activities implementing the project may result in temporary traffic impacts, the proposed project would not permanently alter traffic or transportation at the site or vicinity.

The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, incorporating existing best practices and 2020 LRDP FEIR mitigation measures, would as a whole result in some significant impacts upon traffic and transportation, specifically upon indicated intersections and roadways, due to increases in population and parking supply (2020 LRDP FEIR Vol. 1, 4.12-48 to 4.12-54; Vol. 2 Section F). The proposed project does not result in a permanent increase in staff.

Consistent with the 2020 LRDP FEIR, the project would incorporate a number of mitigation measures to reduce the potential impacts of traffic during project implementation (See 2020 LRDP EIR Mitigation Measures TRA-3a to 3d).

No additional mitigation measures have been identified that would further lessen the previously identified impacts, and no additional analysis is required.

At this time, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to transportation that were not adequately analyzed and, as necessary, mitigated, and no other new information is available. No additional mitigation measures have been identified that would further lessen the previously identified impact, and no additional analysis is required.

The 2020 LRDP EIR concluded that cumulative construction-related traffic and parking may exacerbate parking capacity concerns, congestion conditions or create unsafe conditions for pedestrians or bicyclists, but with on-going implementation of best practices and mitigation measures by all agencies, construction-related traffic impacts would not be significant (2020 LRDP FEIR Vol 1 p. 4.12-59). The proposed project would not alter the cumulative impact conclusions of the 2020 LRDP FEIR.

The EBH EIS discusses traffic impacts of implementation, including initial work and maintenance work, in Section 5.13. Beginning at page 5.13-4 the EBH EIS includes a description of anticipated work flows for UC Berkeley activities.

The HCFRR would not result in new impacts not anticipated in the 2020 LRDP EIR, and no new analysis is required.

UTILITIES AND SERVICE SYSTEMS

In 1990 the City of Berkeley agreed to upgrade its sewer system as required to serve development proposed by the 1990 LRDP. UC Berkeley paid more than \$3 million to the city to support these improvements. As further support of this effort, in May of 2005 the UC Berkeley Chancellor and the mayor of the City of Berkeley signed an agreement earmarking \$200,000 annually in campus funds to the City of Berkeley to support sewer and storm drain infrastructure projects. The project does not add to the demand for sewer systems.

The 2020 LRDP FEIR concluded that projects implemented as part of the 2020 LRDP, incorporating existing best practices and 2020 LRDP FEIR mitigation measures, would not result in new significant utilities and service systems impacts (2020 LRDP FEIR Vol. 1, 4.13-5, 4.13-10 to 4.13-12, 4.13-15 to 4.13-16, 4.13-18, 4.13-21 to 4.13-22, 4.13-25 to 4.13-28).

Since certification of the 2020 LRDP FEIR, there have been no substantial changes to the 2020 LRDP or to the circumstances surrounding 2020 LRDP development with respect to utilities and service systems that were not adequately analyzed and, as necessary, mitigated, and no new information is available. No additional mitigation measures have been identified that would further lessen the previously identified impacts, and no additional analysis is required.

Based on the foregoing, the proposed project would not result in new or more severe significant impacts not previously addressed in the 2020 LRDP EIR; none of the circumstances that would require preparation of a subsequent or supplemental EIR under CEQA exists.

The 2020 LRDP EIR evaluated whether the 2020 LRDP, in combination with other University and non-University projects, would result in cumulative impacts on utilities and service systems, concluding that the potential need for new or altered conveyance systems for wastewater or stormwater would not have significant impacts (2020 LRDP

FEIR Vol 1 p. 4.13-28). The proposed project would not alter the cumulative impact conclusions of the 2020 LRDP FEIR.

Practices the University would implement, outlined in the EBH EIS, would help to reduce stormwater flows following implementation of the proposed project. See for example discussion of best management practices at page 5.1-10 and discussion of wood chips at page 5.2-2. See also Sections VI and VII, mitigation measures and best practices incorporated into the project.

CONCLUSION

As described, analyzed and set forth above, the proposed Hill Campus Fire Risk Reduction work, incorporating mitigation measures and best practices identified in Section VI and VII herein, does not entail significant new information nor potentially significant impacts not considered in the UC Berkeley 2020 Long Range Development Plan EIR; an Addendum is appropriate per the California Environmental Quality Act (Guidelines section 15164).