Ernest Orlando Lawrence
Berkeley National Laboratory

One Cyclotron Road, MS 90K
Berkeley, California 94720

October 28, 2003

State of California
Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814

REVISED NOTICE OF PREPARATION
DRAFT ENVIRONMENTAL IMPACT REPORT

Project Title:	LBNL 2004 Long Range Development Plan
Project Location:	Lawrence Berkeley National Laboratory
County:	Alameda County, California
SCH#:	2000102046

Project Description:
Lawrence Berkeley National Laboratory (LBNL or Berkeley Lab) proposes to prepare and adopt the 2004 Long Range Development Plan (LRDP). The 2004 LRDP will provide a physical development framework for implementing Berkeley Lab's mission through the year 2025.

Agency Review and Comments:
In compliance with the State and University of California Guidelines for implementation of the California Environmental Quality Act (CEQA), this Notice of Preparation is hereby sent to inform you that the Lawrence Berkeley National Laboratory is preparing a Draft Environmental Impact Report (EIR) on the 2004 LRDP.

As Lead Agency, we need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. (Anticipated areas of analysis are identified in the attached Initial Study). Please designate a contact person in your agency and send your response to the address below.

Environmental Review Process:
The University of California will be the Lead Agency and will prepare an EIR to evaluate the potential environmental effects of implementing the 2004 LRDP. This will include a programmatic level of environmental review of Berkeley Lab development through 2025.

The 2004 LRDP EIR will replace the 1987 LRDP EIR (as well as the 1992 Supplemental EIR and 1997 Addendum) when it has been certified and the proposed new LRDP has been approved by The UC Regents. The LRDP EIR will be designed to analyze a series of related actions at Lawrence Berkeley National Laboratory under the 2004 LRDP. It will contain a comprehensive and detailed analysis of environmental impacts of the 2004 LRDP. Subsequent activities within the scope of the 2004 LRDP will be analyzed to determine whether there are any impacts requiring further CEQA documentation or instead whether no documentation in addition to the LRDP EIR is required.

An Initial Study has been prepared pursuant to CEQA to identify the environmental issues that will be addressed in Berkeley Lab's 2004 LRDP EIR. The Initial Study is attached to this Notice of Preparation. Copies of the Initial Study are available for review at the main branch of the Berkeley Public Library, 2090 Kittredge Avenue, Berkeley, and on-line at http://www.lbl.gov/Community/env-rev-docs.html.lbl.gov.

Due to time limits mandated by State law, this NOP will include a 30-day comment period that extends from October 28, 2003 to November 26, 2003. Comments must be received before 5:00 pm on November 26, 2003 to be considered in the preparation of the LRDP EIR. They may be e-mailed to LRDP-EIR@lbl.gov or mailed to:

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 90K
Berkeley, CA 94720

A public scoping meeting for the 2004 LRDP and EIR will be held from 7:00 PM to 9:00 PM on November 17, 2003 at the North Berkeley Senior Center, 1901 Hearst Avenue, Berkeley.

Sincerely,

Laura Chen, Chief
LBNL Facilities Planning

Enclosure: Initial Study Checklist

CC: State Agencies

State Clearinghouse
CA Air Resources Board, Dr. Alan C. Lloyd
CA Department of Fish and Game, Robert C. Hight, Director
CA Department of Health Services, Mr. Edgar Bailey, Chief, Radiological Health Branch, et. al.
CA Department of Water Resources, David Kennedy, Director
CA Environmental Protection Agency, Winston Hickox, Secretary, et. al.
CA EPA, Department of Toxic Substances Control, Sal Ciriello et. al.,
CA Regional Water Quality Control Board, Mr. Lawrence Kolb, Executive, et. al.
CA State Resources Agency, Ms. Mary D. Nichols, Secretary
CA State Water Resources Control Board, Ms. Heidi Temko, et. al.
CalTrans, Gary Adams, Chief, et. al.

Federal Agencies
U.S. Environmental Protection Agency, Region 9, Mr. Michael Bandrowski, et. al.
U.S. Fish and Wildlife Service, Sacramento Field Office, Wayne White, Supervisor,
U.S. Department of Energy, Berkeley Site Office, Mr. Richard Nolan, et. al.
U.S. Department of Energy, NEPA Compliance Officer, Janet M. Neville
U.S. Department of Energy, Oakland Office, Mr. Roger Little, et. al.

Regional/County Agencies
Alameda County, Supervisor District 5, Keith Carson
Alameda County LAFCO, Lon Ann Texeira, Executive Officer
Alameda County, Susan Muranishi, County Administrator
Alameda County, Health Care Agency, Public Health Officer, Arthur Chen et. al.
Alameda County, Clerk, Crystal Hishida
Alameda County Planning Department, James Sorenson, Director, et. al.
Metropolitan Transportation Commission Steve Heminger, Executive Director
Association of Bay Area Governments, Eugene Leong, et. al.
Bay Area Air Quality Management District, Brian Bateman, et. al.
Contra Costa County Department of Health Services, Andy Parsons
East Bay Municipal Utilities District, Dennis Diemer, General Manager, et. al.
East Bay Regional Park District, Pat O'Brien, General Manager, et. al.
Regional Water Quality Control Board, San Francisco Division, Keith Lichten, et. al.

City of Berkeley
Berkeley City Clerk, Ms. Sherry M. Kelly
Berkeley City Manager's Office, Mr. Phil Kamlarz, et. al.
City of Berkeley, City Attorney's Office, Manuela Albuquerque
City of Berkeley, Mayor Tom Bates, et. al.
City of Berkeley, Council Members Breland, Hawley, Maio, Olds, Shirek, Spring, Worthington, Wozniak
City of Berkeley, Department of Planning, Dan Marks, et. al.
City of Berkeley, Toxics Management Division, Dr. Nabil Al-Hadithy
City of Berkeley, Energy Officer, Neal DeSnoo
City of Berkeley, Peace & Justice Commission Secretary, Hector Manual
City of Berkeley, Parks & Waterfront Commission Secretary, Jay Kelekian
City of Berkeley, Solid Waste Management Commission Secretary, Tania Levy
City of Berkeley, Police Chief Roy Meissner
City of Berkeley, Fire Department, Reg Garcia, Chief, et. al.
City of Berkeley, Peter Hilliard, Transportation Manager

City of Oakland
City of Oakland Mayor Jerry Brown
City of Oakland, District 1, Jane Brunner, Councilmember
City of Oakland, City Attorney John Russo
City of Oakland, Planning and Zoning Division, Leslie Gould, Director
Oakland City Clerk's Office, Ceda Floyd
City of Oakland, Deborah Edgerly, Interim City Manager
City of Oakland, Fire Department, Gerald Simon, Chief, et. al.

City of Albany
City of Albany City Clerk Jacqueline Bucholz
City of Albany Administrator, Beth Pollard

Kensington
Kensington Fire District, Paul Wilson

University of California Office of the President (UCOP)
UCOP, Budget and University Relations, Bruce Darling, Vice-President
UCOP, Laboratory Administration, Howard Hatayama, Sr. VP
UCOP Office of General Counsel, Alan Waltner
UCOP Office of Planning, Design, & Construction, John Zimmermann, et. al.
UCOP Facilities Administration, Michael Bocchichio, Assistant Vice President

UC Berkeley
UC Berkeley, Chancellor Robert Berdahl
UC Berkeley, Exec. Vice Chancellor, Paul Gray
UC Berkeley, Vice Chancellor for Research, Beth Burnside
UC Berkeley, Vice Chancellor Business and Administrative Services, Horace Mitchell, et. al.
UC Berkeley, Physical and Environmental Planning, Tom Lollini, Director, et. al.
UC Berkeley, Chancellor's Adv. Committee on Strawberry Creek, G. Mathias Kondolf
UC Berkeley, EH&S Division, Mark Frieberg, et. al.
UC Berkeley, Office of Radiation Safety, Paul Lavely, Director, et. al.
UC Berkeley, Community Relations, Irene Hegarty, Director
UC Berkeley, Lawrence Hall of Science, Elizabeth Stage, Director et. al.
UC Berkeley, Botanical Garden, Ellen Sims, Director, et. al.
UC Berkeley, Police Chief, Victoria Harrison
UC Berkeley, Campus Landscape Architect, James Horner
UC Berkeley, Emergency Services Manager, Tom Klatt

Organizations
Berkeley Association of Realtors, Donald Clark, Executive Director
Berkeley Chamber of Commerce, Rachel Rupert et. al.
Campus Parnassus Neighborhood Association, Eric Arens
Committee to Minimize Toxic Waste, Pam Sihvola, Co-Chair, et. al.
Community Environmental Advisory Commission, Sara MacKusick
Council of Neighborhood Associations, Marie Bowman, President
Euclid-LeConte Neighbors, Jim Sharp et. al.
League of Women Voters, Nancy Bickel, President, et. al.
Nyingma Institute, Abby Blum
Oakland Metropolitan Chamber of Commerce, Joseph Haraburda
Panoramic Neighborhood Association, Janice Thomas, President
Urban Creeks Council, Carol Schemmerling
Friends of Strawberry Creek, Janet Byron

Individuals and Neighbors
(Various)

Ernest Orlando Lawrence
Berkeley National Laboratory

One Cyclotron Road, MS 90K
Berkeley, California 94720

October 28, 2003

INITIAL STUDY
2004 LONG RANGE DEVELOPMENT PLAN
LAWRENCE BERKELEY NATIONAL LABORATORY

I. PROJECT INFORMATION

Project Title: 2004 Long Range Development Plan
Lead Agency: University of California
Contact Person: Jeff Philliber; (510) 486-5257
Project Location: One Cyclotron Road, Berkeley, California 94720
State Clearinghouse #: 2000102046

II. PROJECT DESCRIPTION

See Below.

III. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below may be potentially affected by this project and will be carried forward for full analysis in the LRDP EIR:

■ Aesthetics	☐ Agriculture Resources	■ Air Quality
■ Biological Resources	■ Cultural Resources	■ Geology/Soils
■ Hazards & Haz. Materials	■ Hydrology/Water Quality	■ Land Use/Planning
☐ Mineral Resources	■ Noise	■ Population/Housing
■ Public Services	■ Recreation	■ Transportation/Traffic
■ Utilities/Service Systems	■ Mandatory Findings of Significance	

IV. DETERMINATION: (To be completed by the Lead Agency)

On the basis of the initial evaluation that follows:

_____ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

_____ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

■ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

_____ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A TIERED ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

_____ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared.

Signature Date

Laura Chen

Printed Name Chief, LBNL Facilities Planning

LBNL 2004 LRDP
PROJECT DESCRIPTION

Introduction

Lawrence Berkeley National Laboratory (LBNL or Berkeley Lab) is a multi-program national research facility operated by the University of California (UC) for the Department of Energy (DOE)'s missions in fundamental science, energy resources and environmental quality. LBNL's programs advance four distinct goals for DOE and the nation:

- To perform leading multidisciplinary research in the computing sciences, physical sciences, energy sciences, biosciences, and general sciences in a manner that ensures employee and public safety and protection of the environment.
- To develop and operate unique national experimental facilities for qualified investigators.
- To educate and train future generations of scientists and engineers to promote national science and education.
- To transfer knowledge and technological innovations and to foster productive relationships among the Lab's research programs, universities, and industry in order to promote national economic competitiveness.

Classified research is not conducted at LBNL.

Background

University of California campuses, including LBNL, are required to maintain and periodically update Long Range Development Plans (LRDPs). An LRDP is a planning document that establishes a general framework and direction for the physical development of an institution over a span of several years. The University of California further mandates that any new LRDP be accompanied by an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA). An EIR provides a comprehensive review and analysis of a proposed project and of its potential effects on the environment. An EIR analysis is presented for review and comment to the public, to relevant government agencies, and to the Lead Agency (in this case, UC) decision-makers. Any new LBNL LRDP and EIR must be approved by The Regents of the University of California before the EIR can be adopted and the LRDP can be implemented.

LBNL's existing LRDP and EIR were approved in 1987. The EIR was later updated by a Supplemental EIR in 1992 and an Addendum in 1997. Sufficient time has passed that a renewed statement of planning vision is appropriate for Berkeley Lab as it works to address the national scientific challenges and research opportunities at the beginning of this new century.

LBNL had begun the long range planning process with a previous LRDP EIR Notice of Preparation in the fall of 2000. Because the schedule for completion and circulation of the LRDP and EIR was delayed, this revised Notice of Preparation has been issued. With this revised Notice of Preparation, the LRDP and CEQA process recommences. Berkeley Lab expects to complete and circulate the Draft LRDP and Draft EIR for public review in Spring 2004. Berkeley Lab plans to submit the proposed Final LRDP and EIR documents for The UC Regents' consideration during Fall 2004.

Setting

The main LBNL site straddles the border between the cities of Berkeley and Oakland in Alameda County adjacent to the UC Berkeley campus (see Figures 1 and 2). The site is situated on the ridges and in the draws of Blackberry and Strawberry Canyons in the East Bay Hills. To the west are UC Berkeley student and general residential neighborhoods; to the north are single-family residential neighborhoods, the Lawrence Hall of Science, and other rurally set recreational and cultural facilities and parking uses; to the east and southeast are University-owned rural lands including designated ecological study area and botanical gardens; and to the south and southwest are the University of California, Berkeley, recreational facilities, and single-family residential neighborhoods (see Figure 3).

The approximately 200-acre main LBNL site (or "Hill site," see figure 2) includes approximately 1.76 million gross square feet (gsf) of building space consisting mainly of office, laboratory, shop, and storage areas. Additional development includes roads, parking lots, utilities, and infrastructure. Approximately 25 percent of the site is developed (impermeable surface area) while the remaining approximately 75 percent is generally permeable and/or undeveloped, although historically agriculturally-used or otherwise managed areas. The latter areas are hosts to a variety of mostly non-native grasses, brush, and woodlands. LBNL's undeveloped areas are subject to on-going vegetation management for fire control purposes.

LBNL occupies approximately 400,000 gsf of office, laboratory, and storage space off of the LBNL Hill site. This includes approximately 100,000 gsf on UC-owned land on the UC Berkeley Campus, and approximately 295,000 gsf of commercial/industrial lease space primarily in the

cities of Berkeley, Oakland, Walnut Creek, and Washington, D.C. The amount of off-site space occupied and the location of this space changes as needs and market conditions change.

The LBNL Hill site includes three vehicular entry gates and generates several thousand one-way (access and egress) vehicle trips on a typical workday. The site currently contains approximately 2,200 employee parking spaces, and the current objective for Berkeley Lab's parking-to-employee ratio is 1.7 employees for every parking space for the Lab's current adjusted daily population of about 4,300. The Lab offers free employee and guest shuttle service throughout the workday, both on- and off-site, and maintains incentives for carpooling and alternative forms of transportation.

LBNL's landscape management areas include stands of eucalyptus, bay, oak, redwoods, and Monterey pine; scrub and brush; and grasslands. No rare, endangered, threatened, or otherwise listed plant or animal species have been sighted at LBNL. The Berkeley Lab site contains several mostly seasonal and intermittent waterways and drainages and is part of the Strawberry Creek watershed. No jurisdictional wetlands or blue-line streams exist on the site. An on-going vegetation management program for wildland fire control consists of periodic tree-thinning and pruning and regular brush and grass maintenance activities.

The Cooper's hawk, a California species of concern, and the Red-tailed hawk, which is protected under California Fish and Game Code Section 3505.5, have been observed within the Lab environs. In addition, in 2000, the US Fish and Wildlife Service (USFWS) designated a large portion of Alameda and Contra Costa Counties as habitat for the Alameda whipsnake—a species previously listed as "threatened." This critical habitat listing included areas within the LBNL Hill site. No Alameda whipsnake has been reported at the LBNL site, and a 1996 survey conducted by a whipsnake expert reported that only a small portion of the LBNL site (less than five acres) actually contains any viable or colonizable Alameda whipsnake habitat. The USFWS critical habitat listing for the Alameda whipsnake was vacated by a Federal district court in 2003.

While some LBNL buildings are over fifty years old, virtually all of these have been substantially modified over the years. LBNL is conducting a sitewide review of historic resources in coordination with the Department of Energy and the State Historic Preservation Office. Based on archaeological surveys of the Hill site, as well as on decades of construction-related excavation, no archaeological or Native American sites are thought to exist on the LBNL site.

1987 LRDP and EIR

At present, Berkeley Lab's on- and off-hill site facilities are host to an average daily population of approximately 4,300 staff and guests. Under the current, approved LRDP and LRDP EIR, as amended, Berkeley Lab may grow by approximately 450 staff and guests above current levels to a total of 4,750 staff and guests, and may develop or occupy an additional 238,000 gsf on site to a total of 2 million gsf (see Table I). In addition, the 1987 LRDP and EIR, as amended, project that LBNL off-hill (non-UC-owned land) space use will be 100,000 gsf by an unspecified date within the 21st Century ("20XX").

2004 LRDP

Project Description

The project under consideration in this EIR will be LBNL's proposed new LRDP. The LRDP will be a planning document that will address continuing and future uses and activities at Berkeley Lab. The LRDP planning period will extend through 2025, although the actual pace and nature of projected development will depend on a number of factors that cannot all be predicted at this time; these include future funding levels and the future direction of national research. For the purposes of environmental analysis, an approximately twenty-year timeframe will be used.

While the LRDP planning process is not complete, LBNL has developed some general parameters for the Plan. These parameters, discussed below, are the result of preliminary planning and may be refined or adjusted as a result of the on-going planning process.

The objectives of this proposed LRDP reflect the evolution of the Lab, its mission, and the climate of scientific research since the issuance of the 1987 LRDP. The anticipated primary LRDP objectives are:

- Provide research and support facilities to accommodate research program and associated population growth.
- Secure and sustain investment in research facilities.
- Improve overall operational and scientific efficiencies.
- Strengthen the core site plan concept of multiple, consolidated functional areas.
- Improve research and support operations through proper siting and consolidation of functions, including the relocation of off-site and UCB research activities to the main Hill site.

- Develop facilities that foster innovation and collaboration.
- Protect the environment through exemplary sustainable design and operational practices.
- Plan for site amenities and constraints.
- Provide a setting that attracts and retains leading research talent in a safe, healthful, and attractive work environment.
- Provide a flexible land use policy that accommodates the rapidly changing nature of scientific research.

LRDP Scope

The 2004 LRDP will guide the physical development of Berkeley Lab to achieve the best possible balance among the Lab's mission; staff, user, and visitor needs for state of the art research and support facilities and services; the environmental character of the site; and a harmonious integration with the surrounding community. The LRDP will not be per se an implementation plan; rather, it will be a guide to implementation. Adoption of the LRDP will not constitute a commitment to any specific development projects, construction schedules, or funding priorities. Specifically, this LRDP will:

- Summarize the Laboratory's setting, planning processes, planning concepts and design objectives.
- Identify population growth and space needs projections to the twenty-year horizon year.
- Define the physical context for facilities development on the main Hill site.
- Indicate redevelopment needs for existing buildings and utility systems.
- Summarize site amenities and constraints to protect the environment and natural setting.
- Provide a land use plan and accompanying design principles and themes as a guide for the location and qualitative aspects of new development.

Population Growth Projections

Over the next twenty years, the "adjusted daily population" (ADP) at the Hill site is expected to grow from the current 4,300 to 5,500. The ADP counts both staff and guests and is adjusted to account for the normal fluctuations in guest attendance. This average growth rate of approximately 1.1% per year would be less than LBNL's annual population growth rate of about 1.3% per year since adoption of the 1987 LRDP. This forecasted population would represent an

increase of approximately 28% over the current LBNL population and approximately 16% over the 1987 LRDP population projection of 4,750.[1]

Space Needs Projections

Currently, LBNL occupies 2,180,000 gsf, including a combined total of about 1,760,000 gsf at the main Hill site, about 99,000 gsf at the UCB campus, and approximately 295,000 gsf of leased space distributed over multiple sites, for a combined total of 2,155,501 gsf. Implementation of the 2004 LRDP would increase the Lab's main Hill site total building area to approximately 2,560,000 gsf.[1]

Table 1

	Current Level	Current Projection (1987 LRDP/EIR)	Projected Future (2025) Level
Population (ADP)	4,300	4,750	5,500
Space[1]			
On-Hill space	1.76 M	2.00 M	2.56 M
Off-Hill space at UCB[2]	0.10 M	0.30 M	0.10 M

[1] – in Millions square feet
[2] – Does not include off-site lease space, which will change as needs and/or market conditions allow.

Off-Hill functions may continue to operate at their current locations or at the other sites as conditions warrant. LBNL does not expect to increase space occupied on the UC Berkeley campus park, but the mix of office and laboratory space may change over time. It is anticipated that LBNL's special status space in Calvin and Donner laboratory buildings on the UC Berkeley campus will continue in these or other negotiated buildings on the UC Berkeley campus. LBNL's off-Hill Commercial lease space will fluxuate as needs and market conditions allow.

Land Use

The Land Use Plan will identify general zones of development intensity rather than areas of specific use types. The three development zones that will comprise the plan are expected to be:

- **Facilities Development Area –** research and support activities. Would encompass primarily the already developed central portion of the Lab. New development of

[1] Revisions to text were made to correct overstatements in NOP, per errata sheet issued to the State Clearinghouse on October 31, 2003.

laboratory, office, and support structures would be allowed throughout this zone. Final building locations and massing would not be dictated by the land use plan but would be the result of a comprehensive planning process. The LRDP would promote development on infill and existing building sites and would look to consolidating research activities.

- **Vegetation Management Areas –** managed landscape, wildland fire and natural areas. Would be located entirely along the perimeter of the LBNL site and would provide an open space buffer to neighboring land uses. Vegetation in these areas would continue to be managed to reduce wildland fire risks. Environmental monitoring structures and access roadways would be allowed in these areas.

- **Special Habitat Protection Areas –** no regular vegetation management or development is anticipated. Would provide for protection of identified special status species habitats and riparian zones.

Since the 1987 LRDP, approximately 66 acres of Regents'-owned land formerly managed by UC Berkeley have been added to LBNL's management area. These acres are currently managed under existing land use designations provided under the current UC Berkeley LRDP until LBNL's new LRDP is adopted by The Regents. At such time, these acres will be assigned new land use designations by the Berkeley Lab LRDP. This land currently includes "Ecological Study Area" zone and "Natural" area designations under the UC Berkeley LRDP, and it is actively managed by LBNL for vegetation and fire management purposes. The lands currently designated as Ecological Study Area zones under the 1990 UC Berkeley LRDP are anticipated to be designated "managed areas" under the new Berkeley Lab LRDP.

Proposed Major Planning Policies

Based upon the Lab's mission, population growth projections, and space needs forecast, policies are being formulated to serve as a guide to the continuing development of the LBNL main site. These draft policies include the following:

Facilities

- Develop flexible facilities that meet changing needs of research programs
- Design buildings to work with hillside topography
- Design buildings as leading examples of sustainable design principles
- Develop and maintain flexible and accessible utility infrastructure

Environmental Character

- Establish the built form as a strong sense of place to facilitate interactive work and social life that will help to attract and retain top researchers
- Commit to integrate natural and man-made environments

- Optimize the potential of open space, views, and landscape as valuable, distinguishing amenities
- Continue vegetation management to minimize wildland fire risk

Growth & Development

- Accommodate changing space and support needs of scientific research
- Accommodate program population and space growth
- Balance approach to new development
- Replace old low density with new space efficient facilities
- Promote sustainable development
- Promote opportunities for third-party development

Land Use

- Co-locate interdependent research programs in clusters
- Promote infill development sites reinforcing the cluster concept
- Assign land use in accordance with sustainable guidelines
- Site development adjacent to existing development and utilities

Circulation and Transportation

- Promote alternative forms of transportation
- Provide parking to support a campus like setting and increased population
- When possible, segregate service and employee/visitor traffic

Plan Concept: Hill Town Research Clusters

The 2004 LRDP will advance the concept of development in research clusters defined by the hillside topography, natural features, and the character of the built environment. These clusters will be known as individual "hill towns" with their own unique character and themes. The Lab campus as a whole will maintain a cohesive sense of place primarily from the unifying force of the natural setting. Further development of common elements such as pedestrian walkways, site structures, landscaping and signage will further bind the unique hill town settings into a unified whole.

These hill towns provide a place to concentrate research activities either by research Division or by project into "research clusters." The hill town analogy provides a framework to guide the site planning strategies, development principles, and design themes unique to each hill town. Further, as hill towns, by necessity, tend to concentrate activities and space, these development

principles and themes reinforce a primary LRDP objective to provide higher density facilities that foster opportunities for collaboration.

Construction Program

The 2004 LRDP will envision project construction as a series of activities that takes place sequentially and, at times, simultaneously at the Lab site. Consequently, the 2004 LRDP EIR will analyze construction as an on-going activity based upon expected annual averages as opposed to as a series of discrete, temporary, and unrelated actions that are deferred to future, segregated analyses.

Environmental Impact Report

The 2004 LRDP EIR will replace the 1987 LRDP EIR (as well as the 1992 Supplemental EIR and 1997 Addendum) when it has been certified and the proposed new LRDP has been approved by The UC Regents. The 2004 LRDP EIR will be designed to analyze a series of related actions at Lawrence Berkeley National Laboratory under the 2004 LRDP. It will contain a comprehensive and detailed analysis of environmental impacts of the 2004 LRDP. Subsequent activities within the scope of the 2004 LRDP will be analyzed to determine whether there are any impacts requiring further CEQA documentation or instead whether no documentation in addition to the LRDP EIR is required.

The EIR analyses of potential LRDP effects on environmental resources shall include the following areas: Aesthetics; Air Quality; Biological Resources; Cultural Resources; Geology, Seismicity, and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise; Population and Housing; Public Services; Recreation; Transportation; and, Utilities and Service Systems. The EIR will include analysis of other considerations required by CEQA.

The LRDP EIR will also consider the combined effects of the proposed LRDP program in concert with past, present, and probable future projects producing related or cumulative impacts. Among these are LBNL's on-going activities, UC Berkeley's projected new Long Range Development Plan, and the City of Berkeley's recently-approved General Plan update.

Alternatives

The LRDP EIR will include an examination of alternatives to the project, including the "no project" alternative required by CEQA. While the final list of alternatives will be developed in conjunction with the environmental analyses, likely alternatives to be included are:

- **Reduced On-Site Population Growth:** Under this alternative, space growth would be similar to that of the proposed project, but population growth would be limited.
- **Reduced On-site Space Growth:** Under this alternative, population growth would be similar to that of the proposed project, but space growth would be limited. Staff compression and/or off-site leases of space would be emphasized under this alternative.
- **Reduced or No New On-site parking growth**: Under this alternative, growth of population and space would continue as projected, but fewer or no new parking spaces would be provided. Alternative modes of transportation would be emphasized to a greater degree under this alternative than under the proposed LRDP.
- **Satellite or Second Campus Development Off-site:** Under this alternative, LBNL would concentrate new facilities and population growth in an off-site area such as in an industrial park.
- **No Project :** Under this alternative, LBNL would not develop beyond the parameters described in the 1987 LRDP.

Cortese List

As required by Public Resources Code Section 21092.6, information regarding LBNL locations on the CAL/EPA Hazardous Waste and Substances Sites List, or "Cortese List," are provided at the following URL: http://www.lbl.gov/Community/env-rev-docs.html

Potential Effects

The following is a preliminary assessment of potential environmental impacts that may be analyzed in the LRDP EIR. This assessment will be used as part of the information considered in determining the scope of environmental issues to be evaluated in preparing the EIR.[1] The EIR will consider all areas below. Topic areas that are expected to be impacted by the proposed project will be fully analyzed. Topic areas not expected to be impacted will be addressed briefly or in depth as appropriate.

	Will be Analyzed in EIR	No Additional Analysis Required
1. AESTHETICS -- Would the project:		
a) Have a substantial adverse effect on a scenic vista?	■	☐
Project-related development on-site may be noticeable from numerous off-site viewpoints, including University Avenue in Berkeley, the Campanile on the UC Berkeley Campus, the Lawrence Hall of Science, and segments of Grizzly Peak Boulevard. Development would likely include the addition of new visual elements, such as buildings, and by the removal of natural or screening elements, like key screening trees. One likely measure of effect from viewpoints downhill would be whether such visual changes would substantially alter the existing visual character of the LBNL portion of the Berkeley hills, which are characterized by a mix of buildings surrounded by trees, foliage, and natural-appearing topography. A measure of effect from viewpoints uphill would be whether such visual changes would block or substantially detract from panoramic, long-range views of the San Francisco Bay and distant skyline. The LRDP likely would include LBNL aesthetic design guidelines to be incorporated into any development projects.		
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	■
No LBNL on-site resources are within or in the vicinity of a state scenic highway. Regional access to the LBNL hill site is provided by Interstate Highways 80 and 580, and State Routes 24 and 13. None of these are designated or presently eligible as scenic routes. Therefore, no impact would occur to a state scenic highway and additional analysis is not required.		
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	■	☐
LRDP-related on-site development would likely occur on both currently developed and undeveloped areas. Over the planning period, the project could introduce new buildings and structures to the site, remove existing buildings, alter the terrain and landscape, and remove and/or add key screening trees. It could change existing land uses and intensify development in some areas. Due to distance, elevation, and intervening terrain and vegetation, new development would not be expected to appear highly visible from most off-site viewpoints. One likely measure of effect from viewpoints downhill would be whether such visual changes would substantially alter the existing visual character of the LBNL portion of the Berkeley hills, which are characterized by a mix of buildings surrounded by trees, foliage, and natural-appearing topography. LRDP would be expected to include LBNL aesthetic design guidelines to be incorporated into any development projects.		

[1] Brief explanations are provided in shaded boxes. These explanations represent a best estimate based on the current preliminary understanding of the proposed LRDP and its likely effects.

	Will be Analyzed in EIR	No Additional Analysis Required
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	■	☐
With the potential inclusion of new buildings, intensification or change of land uses, and removal of screening trees, LRDP-related on-site development could create new sources of light and glare visible from off-site viewpoints. The LRDP would be expected to include LBNL aesthetic design guidelines to be incorporated into any development projects.		
2. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:		
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	■
No active agriculturally-used lands occur on the LBNL site.		
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	■
No active agriculturally-used lands occur on the LBNL site.		
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	■
No active agriculturally-used lands occur on the LBNL site.		
3. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:		
a) Conflict with or obstruct implementation of the applicable air quality plan?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
The LBNL site is located in the Bay Area Air Quality Management District (BAAQMD), an area that is currently designated a non-attainment zone for PM_{10} (particulate matter with a nominal diameter of 10 microns or less) and ozone levels. LRDP-related increases in LBNL staff, laboratory space, equipment, and construction activities would be likely to add incrementally to regional ambient air pollutant emissions, including short- and long-term emissions of criteria air pollutants from mobile and stationary sources, including PM_{10} and ozone. This would not advance the goals of the relevant air quality implementation plan for PM_{10} and ozone, although LRDP-related emissions increases would likely be very minor on a regional level. Standard emission control and reduction measures, such as dust control for excavation, use of alternative fuel vehicles on-site, free shuttle service to public transportation, filtration on exhaust systems, etc., are likely to be identified in the LRDP where appropriate.		
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	■	☐
The LRDP EIR will examine the potential for vehicle and stationary source emissions under the project to violate state and federal air quality standards or contribute to existing air quality violations. The potential for mobile source, construction and operational emissions associated with 2004 LRDP implementation to influence air quality would be examined. The analysis will include examination of criteria pollutants, toxic air contaminants, and airborne radionuclides that might potentially result from project implementation.		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	■	☐
The BAAQMD is designated as a non-attainment area for ozone and PM_{10} standards, so any increased LBNL contribution of these emissions to the region would likely constitute an adverse cumulative impact. The LRDP EIR will examine the cumulative projection of total emissions through 2025 — including those of the proposed project, the UC Berkeley 2020 LRDP, and the City of Berkeley General Plan — to determine whether increases in non-attainment criteria pollutants would be cumulatively considerable.		
d) Expose sensitive receptors to substantial pollutant concentrations?	■	☐
The LRDP EIR will evaluate whether construction and development activities under the 2004 LRDP would expose sensitive receptors, including nearby schools, to substantial pollutant concentrations.		
e) Create objectionable odors affecting a substantial number of people?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
Ongoing activities from the proposed project are not expected to create nuisance or objectionable odors affecting substantial numbers of people, particularly people off-site. Actions that might create objectionable odors include asphalt-laying during construction activities. Such odors would be temporary and likely noticeable to a small number of off-site people, and then only under limited meteorological conditions. The prevailing wind directions measured on site typically do not blow in the direction of nearby populated areas during normal LBNL operating hours. Nevertheless, the LRDP EIR will examine the potential for objectionable odors resulting from implementation of the 2004 LRDP.		
f) Expose people to substantial levels of toxic air contaminants (TACs), such that the exposure could cause an incremental human cancer risk greater than 10 in one million or exceed a hazard index of one for the maximally exposed individual?	■	☐
Development under the 2004 LRDP could add research facilities or expand existing campus uses that are potential sources of toxic air contaminants (TACs). The 2004 LRDP EIR will include estimates for emissions from development under the 2004 LRDP. If the 2004 LRDP would result in an excess cancer risk greater than 10 in one million or exceed a hazard index of one, a significant impact would be assumed to result and be addressed in the EIR. Calculated cancer risks assume a continuous exposure time of 70 years, which provides a conservative analysis because most exposures are of much shorter duration. The hazard index assumes a one-hour exposure to maximum hourly emissions from all LBNL site sources, which provides a conservative analysis because maximum hourly emissions from all sources are not expected to simultaneously occur within one hour.		
4. BIOLOGICAL RESOURCES – Would the project:		
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	■	☐
In 2000, the US Fish and Wildlife Service (USFWS) designated a substantial portion of the eastern LBNL site as critical habitat for the "threatened" Alameda whipsnake. There have never been reported sitings of the Alameda whipsnake species at LBNL, and most of the habitat so designated by the USFWS had been earlier reported as not "colonizable" in a sitewide survey prepared by a leading whipsnake expert for LBNL (McGinnis, 1996). In 2003, a Federal district court vacated the 2000 USFWS critical habitat listing for the Alameda whipsnake. Nevertheless, LBNL continues to operate with a heightened degree of sensitivity towards potential whipsnake presence on all undeveloped areas of its site. Similarly, LBNL recognizes that habitat for or members of various special status birds, bats, reptiles, amphibians, and other species of concern may exist in the area and must be accounted for in Berkeley Lab's planning. In addition, Cooper's hawk and Red-tailed hawk, both special status species, have been observed at LBNL. The 2004 LRDP EIR will examine the potential for development under the LRDP to adversely affect candidate, sensitive, or special status species or their habitat.		

	Will be Analyzed in EIR	No Additional Analysis Required
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	■	☐
LBNL contains several drainages and a wide range of both native and non-native plant species on-site. The 2004 LRDP EIR will include a sitewide survey to identify any riparian or sensitive natural communities on the LBNL hill site. Any such areas will be considered in the analysis of LRDP implementation.		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	■	☐
The LRDP EIR will include a sitewide survey to identify any jurisdictional wetlands as defined under Section 404 of the Clean Water Act. Although jurisdictional waters of the United States exist on the Berkeley Lab site, no known federally protected wetlands are thought to exist on-site.		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	■	☐
The LBNL site is not known to serve as a migratory corridor or nursery site to any native resident or migratory species. Site surveys will be conducted to confirm this.		
e) Conflict with any local applicable policies protecting biological resources?	■	☐
The LRDP EIR will evaluate the consistency of the 2004 LRDP with federal and state plans, policies, laws and regulations, such as the Migratory Bird Treaty Act, that are relevant to potentially occurring biological resources. Local ordinances do not apply to Lab projects, because the University is a state agency exempted from local controls in accordance with the state constitution.		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?	■	☐
The LBNL site is not known to be subject to or designated for any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan. The LRDP EIR will investigate and confirm this.		
5. CULTURAL RESOURCES -- Would the project:		

	Will be Analyzed in EIR	No Additional Analysis Required
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	■	☐
The LRDP likely would encourage reuse or redevelopment of functionally obsolete buildings when opportunities for new development arise. Several LBNL buildings are or are approaching 50 years of age and have been associated with LBNL's scientific work. A historic survey is being conducted to assist in determining which structures at Berkeley Lab may be historical resources as defined in CEQA Section 15064.5, and how many among them might be eligible for the National Register of Historic Places pursuant to the National Historic Preservation Act. The results of this survey, as available, will be included in the EIR analysis.		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	■	☐
There are no known archaeological resources on the LBNL site. No archaeological artifacts have been discovered during Lab development and excavation, and archaeological field surveys of the site have uncovered no evidence of prehistoric inhabitation or the presence of archaeological resources. Nevertheless, potential for discovery of unexpected archaeological resources during project development and excavation under the 2004 LRDP program will be examined in the LRDP EIR.		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■
The LBNL site does not contain any known unique paleontological resources or unique geologic features. During the course of development at Berkeley Lab, extensive excavation for buildings and infrastructure have not revealed the presence of unique paleontological or geologic resources. No impact would occur, and no additional analysis is required.		
d) Disturb any human remains, including those interred outside of formal cemeteries?	■	☐
See response to 5b, above. There is no known evidence of prehistoric habitation of the LBNL site, nor any indication that the site has been used for burial purposes either in the recent or distant past. The LRDP EIR will identify actions to be taken to mitigate any impacts that might occur in the unlikely event that human remains were disturbed by implementation of the 2004 LRDP.		
6. GEOLOGY AND SOILS -- Would the project:		
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:		

	Will be Analyzed in EIR	No Additional Analysis Required
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	■	☐
The LBNL site is near the Hayward Fault, and some portions of Berkeley Lab fall within the Alquist-Priolo Earthquake Fault Zone. LRDP-related increases in on-site personnel and building space would create additional exposure to earthquake risk. LBNL observes all applicable earthquake and safety codes in its construction and has evaluated and rated all structures in accordance with the University Seismic Safety Policy. The LRDP EIR shall examine the relationships between LBNL future development and known faults, and will analyze potential risk due to seismic shaking, ground failure, and landslides.		
ii) Strong seismic ground shaking?	■	☐
See response to 6a-i, above. The LRDP EIR will analyze the potential increased seismic shaking-related risk from increased population and built space on the LBNL site due to implementation of the 2004 LRDP.		
iii) Seismic-related ground failure, including liquefaction?	■	☐
See response to 6a-i, above. The LRDP EIR will analyze the potential increased ground failure-related risk from increased population and built space on the LBNL site due to implementation of the 2004 LRDP.		
iv) Landslides?	■	☐
The LBNL site includes steep slopes and retained areas. LRDP-related increases in on-site personnel and building space would create additional exposure to landslide risk, especially during seismic events. See response to 6a-I, above. The LRDP EIR will analyze the potential increased landslide-related risk from increased population and built space on the LBNL site due to implementation of the 2004 LRDP.		
b) Result in substantial soil erosion or the loss of topsoil?	■	☐
Erosion could occur during construction and excavation projects on the LBNL site. LBNL undertakes appropriate construction management practices to minimize the extent of such effects. The LRDP EIR will examine the potential loss of topsoil and potential for substantial soil erosion under the 2004 LRDP development program.		

	Will be Analyzed in EIR	No Additional Analysis Required
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	■	☐
Implementation of the LRDP EIR is not likely to include development on areas of unstable or unsuitable soils. Future development under the LRDP would be required to meet all building standards and codes for structural integrity and personnel safety. As described in 6.a., above, the potential for development under the 2004 LRDP to occur on lands that expose people or properties to risk due to landslide, liquefaction, or other soils-related condition will be examined in the LRDP EIR;		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	■	☐
As described above, the potential for 2004 LRDP development to expose people or property to increased risk due to landslide, liquefaction, or other soils-related condition such as expansive soils, will be examined in the LRDP EIR.		
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	■	☐
The LBNL site is served by sanitary sewer systems; thus, this topic does not need to be further analyzed in the LRDP EIR.		
7. HAZARDS AND HAZARDOUS MATERIALS – Would the project:		
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
The presence and use of hazardous materials, and the presence of hazardous waste, provides potential exposure risks to workers, the public, and the environment. These risks during routine transport, use, and disposal are reduced to less than significant levels by a wide variety of measures undertaken by the Laboratory, including compliance with applicable laws and regulations governing hazardous materials and hazardous waste management activities, and the use of Berkeley Lab's Hazardous Waste Handling Facility meeting all applicable regulatory requirements. Hazardous waste is sent to authorized treatment and disposal facilities using licensed transporters. The Laboratory also has an extensive hazardous waste minimization program. Like many older facilities at which hazardous materials have been handled, the Laboratory site includes some areas of contaminated soil and groundwater. The Laboratory undertakes detection, investigation, and remediation activities in accordance with regulatory requirements. In the judgment of regulatory agencies, past releases of hazardous materials at the Laboratory have not created significant hazards to the public or environment. LRDP-related development would not be expected to create any significant new hazardous materials issues at LBNL. Implementation of the 2004 LRDP could result in the development of additional research laboratories and other research facilities that would use, store, and require the transportation of hazardous materials and disposal of hazardous waste. Also, solvents, adhesives, cements, paints, cleaning agents, degreasers, and fuels in construction and other vehicles are among the types of existing hazardous materials used at Berkeley Lab that could increase if the 2004 LRDP is implemented. The LRDP EIR will characterize on-site hazardous materials use, transport and disposal, will identify projected increases in these activities that could occur under the LRDP program, and will evaluate potential impacts associated with these increased activities.		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	■	☐
Upset and accident conditions could expose workers, the public, and the environment to risks from releases of hazardous materials and hazardous waste. The risk of releases currently is reduced to less than significant levels by such measures as complying with Building and Fire Code provisions governing the design of earthquake- and fire-resistant structures, implementing a fuel reduction/vegetation management program that reduces fire hazards from surrounding vegetation, and maintaining necessary emergency preparedness and response capabilities. The LRDP EIR will characterize hazardous waste handling and hazardous materials use in research, operations, maintenance, and construction, along with their transport, handling and disposal. It will identify projected increases in these activities that could occur under the 2004 LRDP and will evaluate associated potential impacts, including potential risks from upset or accident conditions.		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
Although it is adjacent to the UC Berkeley campus, LBNL is not located within one-quarter mile of an existing or proposed school per CEQA Guideline 15186. The Lawrence Hall of Science, which is not a school but an educational institution (science museum) serving many school-aged visitors, is approximately 350 feet from Berkeley Lab's northern property line. In addition, LBNL-used space on the UC Berkeley campus may include some laboratory use of hazardous materials within one-quarter mile of schools or day care centers. While LBNL does handle certain hazardous materials in its capacity as a scientific laboratory, these materials and their handling protocols are subject to extensive regulations and procedures and oversight; they are also on-going activities that are described and approved under the 1987 LRDP and LRDP EIR. Beyond allowing for growth of normal LBNL operations and activities, the proposed LRDP is not anticipated to result in major new sources of on-site hazardous materials or handling. Nevertheless, the EIR shall include analysis of any project-related hazards that could affect the Lawrence Hall of Science and other neighbors.		
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	■	☐
Five LBNL locations are listed on the current CAL/EPA Hazardous Waste and Substances Sites List, also known as the "Cortese list." These sites may be found at: http://www.lbl.gov/Community/env-rev-docs.html . All are listed due to past leaks from underground fuel storage tanks. Corrective action was implemented by the Laboratory, and the local regulatory agency responsible for oversight (City of Berkeley, Toxics Management Division) has approved No Further Action status for four out of the five sites. Interim corrective measures are in place at the remaining site. The sites do not create a significant hazard to the public or the environment. Contamination from the sites has not gone beyond Laboratory boundaries, and has not created any known adverse impacts to on- or off-site personnel, wildlife, or vegetation. (The presence of a site on the hazardous materials sites list does not necessarily indicate a significant hazard. Once a location has been listed, it remains on the list even after all contamination has been removed. This policy enables parties to discover whether tanks or contamination exist or formerly existed on properties where ownership may be transferred.) These sites will be briefly identified and discussed in the LRDP EIR.		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	■
The LBNL site is neither within an airport land use plan nor within the vicinity of an airport.		
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	■
The LBNL site is not within the vicinity of a private airstrip.		
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
The LRDP likely would require that all operations and development conform or be compatible with all elements of LBNL's site emergency response and evacuation plans.		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	■	☐
The LRDP EIR will analyze the LRDP-related risks involved with wildland fires. LRDP-related increases in on-site personnel and development would result in increased exposure of persons to potential wildland fire conditions. LBNL is on sloped terrain and adjacent to both urban areas and wildlands and is subject to dry, warm conditions and occasional high winds during the fire season. LBNL has considerable on-site fire suppression capabilities and its on-site fire department, which is maintained under contract with Alameda County, maintains mutual assistance arrangements with neighboring fire districts, and has implemented a fuel reduction/vegetation management program that has greatly reduced the risk of wildland fire in the vicinity of the Lab. All buildings are code compliant and are protected by sprinkler systems or other appropriate measures. LBNL maintains two 200,000-gallon emergency water tanks on site (with a third 200,000-gallon tank under construction) to ensure adequate emergency water supply and pressure, and construction of a third will soon be underway. Any LRDP-related new structures would be constructed under similar conditions and to applicable fire and safety codes.		
8. HYDROLOGY AND WATER QUALITY – Would the project:		
a) Violate any water quality standards or waste discharge requirements?	■	☐
Development under the 2004 LRDP could result in an increase of impermeable surface area, which could produce additional volume and pollutant loading of urban runoff. The Regional Water Quality Control Board has expressed water quality concerns for Strawberry Creek and its receiving waters (the San Francisco Bay) based on releases of sediment, bacteria, nutrients, metals and hydrocarbons. Additionally, increased water usage that could result from implementation of the 2004 LRDP could cause increases in wastewater discharges that could exceed waste discharge requirements for water quality or quantity. The LRDP EIR will evaluate impacts to water quality from runoff and characterize current waste discharge volumes of the LBNL and wastewater treatment capacity at the East Bay Municipal Utility District's (EBMUD's) wastewater treatment plant, and evaluate whether the implementation of the 2004 LRDP would result in a violation of applicable standards or waste discharge requirements.		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
LBNL does not use on-site groundwater nor does its steep terrain allow it to be an important site for groundwater recharge. Except for monitoring wells, there are no groundwater wells on-site or nearby that support existing or planned land uses. Groundwater is not a local supply source for Berkeley. Therefore, this topic will be briefly discussed in the LRDP EIR.		
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	■	☐
Because Berkeley Lab is situated in an area of hills and canyons with multiple drainages, drainage control and maintenance has historically been an essential component of the Lab's existence. The 2004 LRDP likely would encourage siting of future projects in areas not affecting the major drainage patterns of the site. In cases where such siting is unavoidable, proper engineering would be employed to protect against erosion and siltation. Development under the 2004 LRDP could increase impervious surfaces and alter drainage patterns of building sites, which could result in increased runoff. The LRDP EIR will characterize site-wide drainage patterns and will evaluate the potential for flooding as a result of increased runoff under the proposed LRDP program		
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	■	☐
LBNL's original stormwater drainage system was not initially designed for 100-year storm conditions, although subsequent improvements and expansion have been designed to that standard. Under extremely heavy rainfall, LBNL may contribute to off-site overloading downstream along Strawberry Creek. An LRDP-related increase of impervious surface area could add incrementally to this condition. Such an increase in impervious surface could increase the volume of surface water runoff and increase levels of urban contaminants in stormwater. The LRDP EIR will evaluate if the existing/planned drainage system could accommodate increased runoff generated as a result of development under the 2004 LRDP. The LRDP EIR will also evaluate potential impacts associated with stormwater pollution under the 2004 LRDP.		
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	■	☐
See above. Such an increase in impervious surface could increase the volume of surface water. The LRDP EIR will evaluate if the existing/planned drainage system could accommodate increased runoff generated as a result of development under the 2004 LRDP. The LRDP EIR will also evaluate potential impacts associated with stormwater pollution under the 2004 LRDP. The proposed LRDP likely would encourage new on-site development for existing developed areas such that the need for new impervious surfaces would be minimized. Nonetheless, an increase of new impervious surface is expected to result from the proposed LRDP.		

	Will be Analyzed in EIR	No Additional Analysis Required
f) Otherwise substantially degrade water quality?	■	☐
Various ways in which the 2004 LRDP could potentially affect water quality are discussed above. An additional mode of potential surface water quality degradation from LBNL is airborne deposition of radionuclides. Currently, Berkeley Lab emits very small quantities of various radionuclides resulting from laboratory use of these chemicals. Because they are airborne, these radionuclides can disperse and become deposited upon surface waters in the area. Extensive monitoring of LBNL radionuclides emission to date indicates that such deposition on surface waters is generally of such low levels as to be undetectable; this has resulted in a negligible effect to area water quality. Expansion of research activities under the LRDP could result in some increase of radionuclide use and resulting emissions. These potential emissions too are expected to have negligible effect on area water quality.		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	■
The LBNL site is not within a 100-year flood hazard area nor would the proposed LRDP be directly involved in residential siting.		
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	■
See response to 8g, above.		
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	■	☐
See response to 8g, above.		
j) Inundation by seiche, tsunami, or mudflow?	■	☐
Neither seiche, tsunami, or mudflow are considered realistic risks to the LBNL site due to its elevation and proximity to surrounding geographic features.		
9. LAND USE AND PLANNING - Would the project:		
a) Physically divide an established community?	■	☐
The LRDP would not expand or substantially change the LBNL site's borders. Surrounding communities would not be subject to physical division by potential LRDP projects.		

	Will be Analyzed in EIR	No Additional Analysis Required
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	■	☐
The LBNL site is not subject to local or agency land use planning besides the University of California's approved LBNL LRDP.		
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	■	☐
The LRDP would not affect any applicable habitat conservation plan or natural community conservation plans.		
10. MINERAL RESOURCES -- Would the project:		
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	■
The LBNL site does not include known mineral resources of regional value.		
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	■
The LBNL site does not include any locally-important mineral resource recovery sites.		
11. NOISE – Would the project result in:		
a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?	■	☐
Increases in traffic, mechanical equipment associated with new structures, and increases in LBNL Hill site population could result in potential long-term increases in noise levels. Additionally, operation of construction equipment could result in substantial short-term noise increases that might include short-term, temporary exceedances of noise ordinances in nearby areas. The LRDP EIR will analyze the magnitude of these noise increases, and will evaluate whether the increased noise levels associated with implementation of the 2004 LRDP would exceed applicable standards.		

	Will be Analyzed in EIR	No Additional Analysis Required
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	■	☐
Because construction at LBNL generally does not include pile driving, LBNL activities do not generate excessive groundborne vibration or groundborne noise levels, particularly to off-site receptors. The LRDP EIR will address vibration and groundborne noise issues, as appropriate.		
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐
See above. Increases in on-site population and general operations under the 2004 LRDP could result in ambient noise-level increases. The LRDP EIR will evaluate whether the increased permanent noise levels would exceed applicable standards.		
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐
See above. Operation of construction or other equipment could result in substantial temporary or short-term noise increases. The LRDP EIR will use current noise modeling methods to predict the magnitude of these temporary noise increases, and will evaluate whether the increased temporary noise levels associated with implementation of the 2004 LRDP would exceed applicable standards.		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	■
The LBNL site is neither within an airport land use plan nor within two miles of a public airport.		
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	■
The LBNL site is not within the vicinity of a private airstrip.		
12. POPULATION AND HOUSING -- Would the project:		
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
By raising the LBNL population ceiling by approximately 750, the proposed LRDP could increase the demand for housing near the Lab area. This demand would be dispersed over 20 years and, based on current commute patterns of Lab employees, over a broad area of the East Bay and beyond. While this would be an insignificant increase in demand relative to the overall number of houses in the region, cumulative growth over 20 years could cause an aggregate increase in demand versus a dwindling supply of available residences. Hence, the LRDP could contribute slightly to a cumulative housing impact. This will be analyzed in the LRDP EIR.		
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	■
The LBNL site does not include housing or long-term residential uses, and no housing would be displaced.		
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	■
The LBNL site does not include housing or long-term residential uses, and no housing would be displaced.		
13. PUBLIC SERVICES		
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:		
Fire protection?	■	☐
2004 LRDP-related increases in development and on-site personnel would increase the potential need for emergency fire services. LBNL's on-site fire response equipment, water storage or distribution, and fire department may be expanded as needed to address any increases in demand. The LRPD EIR will analyze impacts to both on- and off-site fire protection providers.		
Police protection?	■	☐
LRDP-related increases in development and on-site personnel would increase the potential need for police protection services. LBNL's on-site security forces likely would be expanded as needed to accommodate any increases in demand. The LRPD EIR will analyze impacts to both on- and off-site security and police protection providers.		
Schools?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
LRDP-related increases in LBNL personnel could draw more families with school-aged children to the LBNL commute area. This would be a relatively small increase in demand for schools when dispersed over 20 years and a relatively wide geographic area. The LRPD EIR will analyze impacts to both on- and off-site security and police protection providers.		
Parks?	■	☐
LRDP-related increases in LBNL personnel could draw more families into the area and thus increase demand for parks and recreational facilities. The LRPD EIR will analyze impacts to parks and recreational facilities, as appropriate.		
Other public facilities?	■	☐
See response to 13a "Parks," above.		
14. RECREATION --		
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	■	☐
2004 LRDP-related growth in on-site personnel might slightly increase demand for parks and recreational facilities throughout the region, but this increase would be imperceptible and would not be anticipated to substantially contribute to physical deterioration of facilities. The LRDP EIR will address this issue as appropriate.		
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	■
New or expanded recreational facilities are not expected to be a result, either direct or indirect, of the proposed project. The LRDP EIR will address this issue as appropriate.		
15. TRANSPORTATION/TRAFFIC -- Would the project:		
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
Implementation of the proposed 2004 LRDP would increase the LBNL population and the number of on-site parking spaces, which could result in increased vehicular traffic on local streets and the adjacent regional highway system. The LRDP EIR will analyze the impact of additional LRDP-related and cumulative traffic on the local street networks, including intersection capacity, and the regional highway network, including the impact on the capacity of Congestion Management Program designated roadways and freeway ramps and adjacent segments.		
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	■	☐
The EIR will analyze the impact of additional 2004 LRDP-related and cumulative traffic on the local street networks, including intersection capacity, the regional highway network, and including roads and highways designated by the Alameda County Congestion Management Agency.		
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	■	☐
Implementation of the 2004 LRDP would not alter existing air traffic patterns.		
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? Create unsafe conditions for pedestrians or bicycles?	■	☐
The 2004 LRDP is a general land use plan intended to guide the pattern of campus development and does not articulate specific projects or structures. The LRDP EIR will evaluate the potential for future changes to the campus circulation system or development of incompatible uses to increase hazards to traffic, pedestrians or bicyclists. It is expected that any design of new roads under the proposed LRDP would feature safety and compatibility with expected uses. All appropriate design guidelines, regulations and safety plans would be followed.		
e) Result in inadequate emergency access?	■	☐
See response to 15d, above. The LRDP EIR will analyze impacts to emergency access and egress resulting from implementation of the 2004 LRDP.		
f) Result in inadequate parking capacity?	■	☐
The 2004 LRDP will include parking policies and projections to be carried out under project implementation. The LRDP EIR will evaluate the adequacy of existing and proposed parking at Berkeley Lab. Where parking demand may not be met, measures will be identified to encourage or enhance use of alternative means or transportation, including car and van-pooling, and public transportation.		

	Will be Analyzed in EIR	No Additional Analysis Required
g) Conflict with applicable policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	■	☐
See above. It is expected that the proposed LRDP would continue LBNL's policies of encouraging and accommodating alternative transportation. The proposed 2004 LRDP will describe alternative transportation modes and include policies to promote and expand their use; the LRDP EIR will analyze whether the implementation of the 2004 LRDP would conflict with applicable LRDP policies supporting alternative transportation.		
16. UTILITIES AND SERVICE SYSTEMS – Would the project:		
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	■	☐
The East Bay Municipal Utility District operates a wastewater treatment plant that serves the Berkeley area. The 2004 LRDP EIR will characterize the capacity of the EBMUD plant and analyze the impact of projected increases due to development under the 2004 LRDP.		
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	■	☐
With the exception of some process water treatment, water and wastewater treatment is conducted off-site by water and wastewater service providers. Growth under the 2004 LRDP could increase the quantity of wastewater discharged to wastewater treatment facilities. The LRDP EIR will evaluate the increased demand on wastewater treatment and conveyance facilities under the LRDP, and evaluate potential impacts associated with any new or expanded facilities, if any would be required to meet this demand.		
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	■	☐
Development under the 2004 LRDP could increase impervious surfaces, which could increase the volume of stormwater drainage. The LRDP EIR will characterize sitewide drainage, will evaluate the increased demand for stormwater drainage facilities under the 2004 LRDP, and will evaluate potential impacts associated with any new or altered drainage facilities, if any would be required to meet this demand.		
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
Implementation of the proposed 2004 LRDP would increase the amount of LBNL building space and population, which could result in an increase in water usage. The LRDP EIR will evaluate whether possible water demand increases would exceed available or planned entitlements or capacity; the environmental impacts of new, expanded, or altered facilities, if any are required to meet the increased demand, would also be evaluated in the EIR.		
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	■	☐
See above. The LRDP EIR will evaluate whether projected water demand increases associated with increased population would exceed available or planned entitlements or capacity. The LRDP EIR will also examine the environmental impacts of new, expanded, or altered facilities, if any are required to meet this increased demand.		
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	■	☐
LRDP-related on-site construction and personnel increases would be encouraged within existing developed areas, which may entail demolition of obsolete structures. This increased waste stream—from both increased operations and construction/demolition—would be partially offset by LBNL's aggressive approach to integrated recycling and reuse and overall solid waste stream reduction. Implementation of the proposed 2004 LRDP could result in an increase in LBNL's solid waste generation, including debris from construction activities. The LRDP EIR will evaluate whether existing landfill capacity is sufficient to accommodate growth under the 2004 LRDP.		
g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?	■	☐
The LRDP EIR will evaluate the impact of implementation of the 2004 LRDP on Berkeley Lab compliance with applicable statutes and regulations related to solid waste.		
17. MANDATORY FINDINGS OF SIGNIFICANCE --		
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
As indicated above, implementation of the 2004 LRDP has the potential to result in significant impacts that could degrade the quality of the environment. The LRDP EIR will evaluate the potential for the 2004 LRDP to result in significant impacts that could degrade the quality of the environment, reduce habitat for a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	■	☐
UC Berkeley is preparing a new LRDP to accommodate a projected enrollment increase. The City of Berkeley has updated its general plan and anticipates new growth and development. Those programs, among other programs and projects, and the proposed growth under a new 2004 LRDP could contribute to a range of cumulative impacts in the area. The LRDP EIR will evaluate whether impacts associated with growth under the 2004 LRDP, in combination with past, current, and reasonably foreseeable future projects, have the potential to be cumulatively considerable.		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	■	☐
As discussed in the checklist sections above, the proposed 2004 LRDP will have the potential to result in significant impacts. The LRDP EIR will evaluate if these impacts have the potential to result in substantial adverse effects on human beings, either directly or indirectly.		

18. Fish and Game Determination

Based on the information above, there is no evidence that the Project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends. The presumption of adverse effect set forth in 14 CCR 753.5 (d) has been rebutted by substantial evidence.

☐ Yes (Certificate of Fee Exemption)

■ No (Pay fee)

Ernest Orlando Lawrence
Berkeley National Laboratory

One Cyclotron Road, MS 90K
Berkeley, California 94720

October 31, 2003

State of California
Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814

ERRATA SHEET

For:

REVISED NOTICE OF PREPARATION
DRAFT ENVIRONMENTAL IMPACT REPORT

Project Title:	LBNL 2004 Long Range Development Plan
Project Location:	Lawrence Berkeley National Laboratory
County:	Alameda County, California
SCH#:	2000102046

On October 28, 2003, Lawrence Berkeley National Laboratory (LBNL) submitted to the State Clearinghouse a revised Notice of Preparation (NOP) for the above project. The NOP includes two numerical errors that overstate elements of the projected growth of LBNL under the proposed project. The following replacement text is provided to correct those errors or to otherwise clarify the text (text to be changed is underlined):

1. On Revised NOP page 7, the text currently reads:

This forecasted population would represent an increase of approximately 30% over the current LBNL population and approximately 25% over the 1987 LRDP population projection of 4,750.

This text is hereby amended to read:

This forecasted population would represent an increase of approximately 28% over the current LBNL population and approximately 16% over the 1987 LRDP population projection of 4,750.

2. On Revised NOP page 8, the text currently reads:

Implementation of the 2004 LRDP would increase the Lab's main Hill site total building area to 2,980,000 gsf.

This text is hereby amended to read:

Implementation of the 2004 LRDP would increase the Lab's main Hill site total building area to approximately 2,560,000 gsf.

LBNL appreciates your interest in this project and welcomes your comments on the NOP by November 26, 2003 to:

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 90K
Berkeley, CA 94720

Or by e-mail to: LRDP-EIR@lbl.gov

Sincerely,

Laura Chen, Chief
LBNL Facilities Planning