CHAPTER IV
Responses to Comments on the Draft EIR

This chapter presents LBNL responses to the comments reproduced in Chapter III. Unless otherwise specified, all references to chapters and page numbers pertain to the Draft EIR.

Public Hearing, North Berkeley Senior Center, November 16, 2005, Comments from various speakers (Comments Identified "H-1 through H-22")

Response H-1

The 1987 LRDP EIR, as amended, remains Berkeley Lab's programmatic EIR until it is superseded. As detailed in Chapter I, Introduction, pages I-2 - 4, it consists of three documents. While the original LRDP EIR was certified in 1987, that EIR has been revisited, revised, and updated twice: first, in 1992, when a Supplemental EIR was prepared, and again in 1997, when a Supplemental EIR Addendum was prepared. For this reason, the LRDP EIR is referred to as "the 1987 LRDP EIR, as amended," and while the 1987 date remains, the analysis has been reviewed and updated since that time. As stated in the pages referenced above, the analysis in the Draft EIR for the proposed project included consideration of whether there were any changes in circumstances or new information since the last update to the LRDP EIR that required further analysis, in accordance with CEQA Guidelines Section 15168 and 15152.

As stated in the DEIR on page I-3, "The 1987 LRDP EIR, as amended, analyzed full implementation of uses and physical development proposed under the 1987 LRDP through the year "20XX," which is an indeterminate horizon year flexibly projected to occur sometime after the year 2000." LBNL believes that the currently applicable 1987 LRDP provides sufficient guidance for the proposed project, and that with the exception of cultural resources, the mitigation measures of the 1987 LRDP EIR, as amended and as supplemented in the DEIR by additional measures, mitigate impacts to a less than significant level.

For general information, the LBNL Draft 2006 LRDP EIR was made available for public review and comment in from January 22 through March 23, 2007. LBNL is preparing responses to those comments received; these will be included with the LRDP and Final LRDP EIR that are expected to be presented to The Regents of the University of California for approval in July 2007. The action of the proposed demolition of the Bevatron and Building 51 is considered and analyzed in the Draft LRDP EIR.

Response H-2

The comment appears to concern the possibility of project trucks colliding with people crossing city streets. Accident data for trucks are presented in Chapter IV.K, Transportation/Traffic; see page IV.K-15.

Response H-3

As stated by the commenter, the historical and cultural significance of the facility is discussed in DEIR Chapter IV.D, Cultural Resources. The issue of "unavoidability" arises from the fact that no mitigation measure could reduce the significant adverse impact under CEQA of demolishing the building to become less-than-significant. Alternatives that would avoid significant impacts to cultural resources are presented in Chapter V, Alternatives. As discussed in that chapter, these alternatives would not achieve the objectives of the project.

Response H-4

Risks from the transport of waste materials that would be generated by the project are addressed in Chapter IV.F, Hazards and Hazardous Materials (see pages IV.F-22 - 24), and Chapter IV.K, Transportation/Traffic (see pages IV.K-13 - 16).

Response H-5

The commenter is correct regarding the Building 49 project; see DEIR Chapter VI, CEQA Considerations, at page VI-7. The purpose and need for the Bevatron and Building 51 Demolition project are described in Chapter III, Project Description.

Response H-6

Comment noted. Health and safety issues, and the measures to control their risks, are discussed at many places in the DEIR; see response H-4; see also, e.g., Chapter IV.B, Air Quality, pages IV.B-11 - 15.

Response H-7

There are numerous U.S. Department of Transportation (DOT) regulations concerning the dispersion of hazardous and radioactive constituents during transportation, including requirements to verify that removable radioactive contamination is below specified limits. In addition, DOE Orders specify requirements which govern the release of materials with DOE-added radioactivity; these orders are generally much more stringent than DOT requirements for both surface and volumetric radioactive contamination. As with all aspects of transportation, LBNL will comply with all applicable regulatory requirements.

The plastic tarps that would cover many truck loads are not intended to provide the primary protection against fugitive dust emissions. As stated on page IV.K-15, "In general, due to the absence of hazardous characteristics, the DOT non-regulated materials that would be shipped off-

site as a result of the project would not require sealed containers. Items would have been vacuumed or otherwise cleaned prior to shipment, and the trucks would not release radioactive or hazardous dust products. However, some items likely would be shipped in sealed containers because of certain physical characteristics (e.g., small items that otherwise would be difficult to hold down or surface contaminated objects that may contain dispersible radioactivity)."

Response H-8

Comments noted.

Response H-9

See response H-7. Regarding demolition operations at the project site, dust control measures there are discussed in Chapter IV.B, Air Quality, at pages IV.B-9 - 12. Regarding distance from the nearest house, as stated in several places in the DEIR, (e.g., Chapter III, Project Description, at page III-3) Building 51 is approximately 1,100 feet from the nearest residences to the west and north. Regarding the potential for dust emissions during transit, see Response H-7, above.

Response H-10

Major and costly modifications to Building 51 would be necessary in order for it to be used for the educational purposes suggested by the commenter. As described in Chapter III, Project Description, the facility does not meet current building codes, the roof leaks in several locations, and portions of the structure do not comply with current seismic design standards. In addition, as described in Chapter IV.F, Hazards and Hazardous Materials, various types of hazardous materials are present at Building 51. In particular, portions of the facility are radiation controlled areas, and are inaccessible to the general public.

Response H-11

See responses H-4, H-6, and H-7.

Response H-12

Disposal of the materials that would be generated by the proposed project is discussed at various places in the DEIR, including Chapters IV.F, Hazards and Hazardous Materials (e.g., pages IV.F-22 - 24), IV.K, Transportation/Traffic (e.g., pages IV.K-13 - 16), and IV.L, Utilities, Service Systems, and Energy (e.g., pages IV.L-10 - 12).

Response H-13

Comment noted. As stated in Chapter III, Project Description, while development of the Building 51 site is likely at some point in the future, at this time, there are no firm plans for future development that have reached the level of a proposed or reasonably foreseeable action. Due to the speculative nature of a future project, CEQA review of such development would be premature at this time. Separate CEQA documentation would be prepared if and when necessary for any

future project. Future development at the site would be consistent with the 1987 Long Range Development Plan (LRDP) and 1987 LRDP EIR, as amended, or with the 2006 LBNL Long Range Development Plan and its accompanying LRDP EIR, which have been circulated for public comment and are scheduled to be presented to the Regents of the University of California for approval in July 2007.

Response H-14

Comment noted. Cultural resources impacts are analyzed in Chapter IV.D, Cultural Resources. Regarding the statement "[I] don't think it would ever fall down," as stated in Chapter III, Project Description, portions of the structure do not comply with current seismic design standards, and would pose substantial risks to building occupants in the event of a 6.7 earthquake (see Section IV.E, Geology, at page IV.E-3).

Response H-15

Comment noted. See response H-4 regarding transportation risks.

Response H-16

Comment noted. See response H-10 regarding the use of the building for educational purposes, and response H-3 regarding preserving the building.

Response H-17

Comment noted. See responses H-4 and H-6.

Response H-18

Comment noted. As described in Chapter III, Project Description, without extensive and costly modifications, the building would not be suitable for reuse in the manner suggested. Furthermore, such reuse would not meet the objectives of the project. See also responses H-10 and H-16.

Response H-19

Comment noted. See response H-10 regarding the use of the facility for education purposes.

Response H-20

Radiological decay-in-place programs are designed for short-lived isotopes and allow the generator to hold these materials in storage until they have decayed to levels below detection limits, at which point they are managed as non-radioactive wastes. This is done for materials with isotopes that have much shorter half-lives than those present in the Bevatron. For example, regarding medical isotopes, the Nuclear Regulatory Commission authorizes "decay-in-storage" only for those isotopes that have half-lives shorter than 120 days (10 CFR 35.92). The

predominant isotope in the Bevatron materials is Cobalt-60, which has a half-life of 5 years. It would be inappropriate to apply a program designed for short-lived isotopes to these materials.

In addition, radioactive materials typically are stored for 10 half-lives before they are released. This would result in storage times of 50 years or more for isotopes such as Cobalt -60. In effect, this would mean the postponement of the project in favor of one of the alternatives examined in Chapter V, Alternatives, e.g., the No Project alternative. The DEIR concluded that this would not attain the goals of the project.

Lastly, decay in place would apply only to radioactive materials. Other hazardous materials that are or may be present at the facility, such as asbestos, lead, and chromium, are stable and do not decay.

Response H-21

Comment noted. See response H-4 regarding transportation risks and response H-20 regarding leaving the materials in place.

Response H-22

Comment noted. Courts have determined that local or state governmental legislation to restrict the shipment of nuclear materials through particular areas is pre-empted by Federal law because such legislation would impose an unconstitutional burden on the congressional power to regulate interstate commerce. Thus, the ordinances referred to by the commenter are not binding on LBNL. However, as stated on page IV.K-14, prior to beginning shipments of items determined to be radioactive waste, LBNL would make a voluntary annual advance notification to designated City of Berkeley agencies.

Truck hauling routes for project demolition activities are described on Draft EIR pages IV.K-9 through IV.K-10. Trucks entering or leaving I-80 go in either direction (i.e., north or south), depending on the destination of the receiving landfill and whether trucks were departing with loads or returning.

Gene Bernardi, April 15, 2005 (Comments Identified "GB-1 through GB-4")

Comments were received from Gene Bernardi after the Notice of Preparation of the Draft Environmental Impact Report for the Demolition of Building 51 and Bevatron was published, and before the Draft EIR was published and the public comment period on the Draft EIR began. LBNL has chosen to include responses to these comments in the Final EIR.

Response GB-1

Comment noted. See Response H-1.

Response GB-2

Cumulative impacts are discussed in Draft EIR Chapter VI.E, Cumulative Impacts pages 2-7, as modified by the text changes in Final EIR Chapter II, Revisions to the Draft EIR. The Molecular Foundry Building was not included in the Cumulative Impact Analysis because construction operations and attendant impacts were completed before any physical impacts from the Building 51 and Bevatron demolition project would occur.

Although the 1987 LRDP EIR, as amended, does not specifically identify future projects (such as the Animal Care Facility, Molecular Foundry, or National Tritium Labeling Facility [NTLF] Decommissioning), it is a program document that analyzes cumulative impacts based on aggregate planning factors (e.g., population, space, parking, air emissions, utilities usage, etc.) to which future tiered projects are individually in conformance. Therefore, the 1987 LRDP EIR, as amended, does provide a general cumulative framework and analysis of all future projects that are successfully tiered from it, including the Bevatron project and those identified by the commenter. Furthermore, the Bevatron Draft EIR provides a specific cumulative impacts analysis in Chapter VI.E, Cumulative Impacts pages 2-7, as modified by the text changes in Final EIR Chapter II, Revisions to the Draft EIR. Any planned, pending, and/or reasonably foreseeable projects in the area of Building 51 and the Bevatron were included in the Cumulative Impact Analysis.

LBNL is unsure what project the "new office building at westgate" is, but assumes it to be the formerly proposed Building 49 project near the Blackberry Gate entrance. This project, though approved by the Regents in December 2003, has subsequently been withdrawn from further consideration and its construction is no longer foreseeable. Therefore, no further cumulative impacts analysis is warranted.

The decontamination and disposal activities for the NTLF generally will not overlap in time with the demolition of the Bevatron, so that the two activities will not combine to create a greater cumulative impact. The NTLF has been closed and, as the subject of prior NEPA and CEQA analysis and decisions, has largely undergone decontamination and disposal. The relatively minor NTLF decontamination and disposal remaining will be conducted as part of the more routine work of that nature that is normally conducted at the Lab. That sort of decontamination and

disposal activity is covered under the 1987 LRDP EIR, as amended, and under the 2006 LRDP Draft EIR.

The Molecular Foundry project was considered but not included in the Bevatron EIR cumulative impact analysis because construction has been completed prior to the Bevatron Demolition project commencement (Draft EIR p. VI-7). As an operational building conforming to the 1987 LRDP EIR, as amended, the Molecular Foundry falls within the general planning framework and envelopes identified and analyzed in the 1987 LRDP EIR, as amended, and are thus factored into both the 1987 LRDP cumulative analysis framework and in the Bevatron EIR analysis baseline (like all other operational LBNL buildings). Furthermore, on the particular issue of toxic air contaminants raised by the commenter, the Molecular Foundry Final Mitigated Negative Declaration (SCH 2002122051, adopted by The Regents in April 2003) included a screening-level analysis of potential Molecular Foundry toxic air contaminants and found that, even under the most conservative scenarios, potential toxic air emissions would be far below significance thresholds. Given that the two projects are almost a half-mile distant from one another, considerable dispersion would occur before any local emissions could be cumulatively combined. No significant cumulative air other environmental are likely to occur.

Response GB-3

The radiation exposure from Cobalt -60 and other radioactive contamination would be very low. The worst-case radiation exposure scenario was presented in the DEIR, Section F. Hazards and Hazardous Materials, page IV.F-23. See also Response H-4.

Response GB-4

The Bevatron's eligibility for listing in the National Register of Historic Places is discussed in Chapter IV.D, Cultural Resources (see pages IV.D-4 through IV.D-6).

See Response H-20 regarding radiological decay in place programs.

James Sharp, April 15, 2005 (Comments Identified "JMS-1 through JMS-9")

Comments were received from James Sharp after the Notice of Preparation of the Draft Environmental Impact Report for the Demolition of Building 51 and the Bevatron was published, and before the Draft EIR was published and the public comment period on the Draft EIR began. LBNL has chosen to include responses to these comments in the Final EIR.

Response JMS-1

This comment was received during the comment period specified for the Notice of Preparation of the Draft EIR for the Demolition of Building 51 and the Bevatron, which occurred from March 16, 2005 to April 16, 2005, in accordance with CEQA guidelines, which requires a review period of 30 days. After the Draft EIR was published on October 21, 2005, there was another public review and comment period, which occurred from October 21, 2005 to December 7, 2005.

Response JMS-2

Comment noted. See response H-1.

Response JMS-3

It is estimated that the highest number of daily truck trips would be approximately up to 34 one-way trips, with no more than about 10 one-way trips per day during other periods of demolition activity. A detailed discussion regarding the number and timing of truck trips can be found in the DEIR, Chapter IV.K, Transportation/Traffic, at pages IV.K-10 - 11.

Response JMS-4

As stated in DEIR Chapter VI, CEQA Considerations, at page VI-7, no decision to initiate the Building 49 project has been made, and at the present time there are no plans for it to move forward. As noted in response GB-2, above, the cumulative projects and impacts are discussed in DEIR Chapter VI.E, Cumulative Impacts, pages 2-7 (as revised in Chapter II of this FEIR). Also, see response GB-2.

Response JMS-5

Traffic impacts at key intersections are discussed in Chapter IV.K, Transportation/Traffic, pages IV.K-11 – IV.K-13. The DEIR states that demolition-generated traffic would be temporary and therefore would not result in long-term degradation in operating conditions on area roadways or at area intersections (see page IV.K-11).

The DEIR's cumulative impacts analysis considers the whole period when LBNL would carry out the Bevatron demolition, but as described on page IV.K-10 and pages IV.K-16 - 17 (as revised in Chapter II of this FEIR) focuses on the worst case – the haul truck traffic that would occur during

the backfilling of the project site; as well as the adoption of mitigation measures that would ensure that traffic-generating activities associated with concurrent projects would not have a significant effect on cumulative traffic conditions.

Response JMS-6

As stated on page IV.K-16 of the DEIR, it would be unlikely that the rate of motor vehicle accidents would increase as a result of the project. Accident data for trucks is presented in DEIR Chapter IV.K, Transportation/Traffic; see page IV.K-15.

In regard to deposition of toxic or radioactive materials, risks from the transport of waste materials that would be generated by the project are addressed in DEIR Chapter IV.F, Hazards and Hazardous Materials (see pages IV.F-22 - 24), and Chapter IV.K, Transportation/Traffic (see pages IV.K-13 - 16).

Response JMS-7

Diesel particulates and associated health risks are discussed in DEIR Chapter IV.B, Air Quality, pages IV.B-13 – 14. The CEQA checklist does not inquire about prevailing winds along public roadways for mobile emissions, but only for the project site, where prevailing wind measurements can be made accurately and emissions points are fixed.

Response JMS-8

The DEIR states that truck traffic associated with the hauling of materials to and from the site could potentially elevate noise levels along haul routes for the duration of demolition activities (see Chapter IV.I, Noise, at page IV.I-14). However, as described in Section IV.K, Transportation/Traffic, trucks would be directed to routes on roads and freeways that are already heavily traveled. Therefore, given the limited number of project trips and the volume of existing traffic on the affected roadways, the general increases in noise levels along haul routes would not be perceptible.

Response JMS-9

Comment noted.

Senta Pugh Chamberlain, on behalf of Owen Chamberlain, October 24, 2005 (Comment Identified "SPC-1")

Response SPC-1

Comment noted. See also responses H-3 and H-10 above.

William R. Kirkpatrick, Manager of Water Distribution Planning, East Bay Municipal Utility District, November 22, 2005 [EBMUD]

EBMUD had no comments on the DEIR.

Eric Lai, December 6, 2005 (Comment Identified " LAI-1")

Response LAI-1

Comments noted. LBNL believes that it has seriously examined the merits and practicality of various historical preservation measures, including an alternative of preserving the site. However, as detailed in Chapter V, Alternatives, site preservation would not accomplish the objectives of the project. As stated in Chapter IV.D, Cultural Resources, project impacts under CEQA would be reduced by Historic American Engineering Record (HAER) and Historic American Building Survey (HABS) documentation. In addition, LBNL plans to commemorate the scientific achievements attributed to the Bevatron with a monument and/or a display listing the historic discoveries that occurred there.

Phil Kamlarz, City Manager, City of Berkeley, December 7, 2005 (Comments Identified " COB-1 through COB-13")

Response COB-1

The cumulative impacts analysis of the DEIR has been updated to include the Southeast Campus Integrated Projects (SCIP), including the Memorial Stadium renovation, based on the information given in the October 31, 2006 SCIP Final EIR. See Chapter II of this FEIR, e.g., revisions to pages IV.D-11, IV.K-16 - 17, and VI-6. This new information, and the other revisions presented in Chapter II, do not constitute "significant new information" requiring recirculation of the EIR as per CEQA Guidelines section 15088.5(a). The new information does not provide substantial evidence that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Response COB-2

The Director of LBNL can approve the project before the NEPA Environmental Assessment (EA) is completed and approved by the Department of Energy. However, the project cannot proceed until approvals are issued under both CEQA and NEPA. A single, joint NEPA/CEQA document was considered but decided against because of the different levels of documentation required between a CEQA EIR and a NEPA EA. (The NEPA document analogous to an EIR is an Environmental Impact Statement [EIS].) For the purposes of a conservative impact analysis under CEQA, Berkeley Lab concluded that the proposed demolition of Building 51 would result in a significant and unavoidable impact to historical resources. Such an impact must be considered in an EIR, as opposed to an Initial Study/Negative Declaration, the category of CEQA documentation comparable to a NEPA EA. In contrast, the Laboratory and DOE concluded that for NEPA purposes, documentation and other mitigation measures reduced this impact to less than significant; thus, an EA is the appropriate level of documentation.

The Lab focused its resources on preparation of the EIR, and turned to completion of a draft EA for submission to DOE following that effort. It has taken additional time to complete the EA, in part, in order to incorporate and analyze information about new potential projects, such as the Berkeley Lab Guest House and the UCB SCIP, which became available after the issuance of the DEIR. The CEQA FEIR also has incorporated this new information.

Response COB-3

The Laboratory disagrees with the commenter's opinion about the DEIR's use of the five percent threshold of significance and the appropriateness of that threshold with respect to the average motorist's perceptions. While there is no written standard for what percent threshold should be used, a five percent threshold is widely used in traffic analyses, including the City of Berkeley's General Plan EIR, which states that a "substantial" increase in traffic volume, which is judged to be a significant impact for roadway segments at LOS E or worse, is defined as "5 percent or more [increase] relative to future volumes without the project." (*Berkeley Draft General Plan Environmental Impact Report*, February, 2001; Chapter IV.D, Transportation, page 132; http://www.ci.berkeley.ca.us/planning/landuse/plans/generalplan/eir/00toc.html).

Effects on the quality of traffic flow (congestion and delay) as a result of a proposed project are felt by the traveling public (motorists and their passengers). The context and relevance of the criterion is that when project-generated trips would not increase traffic volumes more than those volumes fluctuate (i.e., increase and decrease) from day to day, then that increase will not be any different than people experience on a regular basis, and that is an appropriate basis for judging that the effect would be less than significant. It also should be noted that, as described in the Transportation/Traffic chapter in DEIR, pages IV.K-11 - 12, the proposed project's peak-hour trip generation would increase traffic volumes by no more than 0.9 percent at the two area intersections (University Avenue / Sixth Street and University Avenue / San Pablo Avenue) that operate at a poor (LOS F) level of service.

The commenter does not suggest any measures as being more appropriate significance criteria than the five percent threshold. Although traffic volume changes of five percent are unlikely to be perceived by motorists and would not be considered an impact by motorists, changes of five percent could be measured by traffic counts over long periods of time. However, it is less likely that the 0.9-percent increases (ensured by Mitigation Measure IV.K-1) at the University Avenue/Sixth Street and University Avenue/San Pablo Avenue intersections even could be detected within the day-to-day flow of traffic.

Response COB-4

a) As described on pages IV.K-10 - 11, it is estimated that the highest number of daily truck trips would occur during final backfilling of the site and would total about up to 34 one-way trips, with no more than about 10 one-way trips per day during other periods of demolition activity. Because these truck trips would be spread over the course of a work day, they would generate an average of up to about four one-way trips per hour (i.e., one truck every 15 minutes). Trips generated by project workers, conservatively estimated to be about 124 trips per day during the peak demolition activity periods, would be dispersed over the various roadways between the project site and the worker's trip origin/destination. A temporary and intermittent increase in traffic volumes at a level associated with the project is low enough to reasonably conclude that the impact would be less-than-significant, without the detailed level-of-service analysis sought by the commenter.

b) The basis for the DEIR's determination of a less-than-significant project impact, described above, also applies to the DEIR's conclusion that the project-generated trips would add negligible traffic to long-term cumulative conditions. As stated in response COB-1, the cumulative impacts analysis has been updated to include the Southeast Campus Integrated Projects (SCIP), based on the information given in the October 21, 2006 SCIP Final EIR (see Chapter II of this FEIR, which shows revisions to DEIR). Because the SCIP EIR is tiered under UC Berkeley's 2020 EIR, the SCIP EIR incorporates all of the traffic mitigation measures of the 2020 LRDP EIR and incorporates any added measures necessary to mitigate, insofar as is feasible, the direct (and therefore, also the cumulative) traffic impacts of the SCIP.

Construction and the construction-related traffic from the SCIP Memorial Stadium renovation and the other six projects (including a parking structure, a new Law/Business school building, and renovations to existing law school, business school, and student residential buildings) would overlap with the Proposed Project; however the Final EIR for SCIP finds that cumulative transportation impacts would be consistent with the transportation impacts identified in the UC Berkeley 2020 LRDP EIR (UC Berkeley, 2006). The impacts of the UC Berkeley 2020 LRDP EIR are already assumed as part of the cumulative development assumptions incorporated into the Draft EIR Transportation/Traffic section (Section IV.K), and therefore SCIP will not result in any cumulative transportation impacts not already considered for the proposed Building 51 project. A key consideration for the assessment of potential cumulative impacts is that, as stated on DEIR, pages IV.K-16 - 17, implementation of Mitigation Measure K.IV-1 would ensure that traffic-generating activities associated with concurrent projects would not have a significant effect on cumulative traffic conditions.

c) The DEIR's analysis of cumulative impacts does in fact consider the entire multi-year period when LBNL would carry out the Bevatron demolition, as described on page IV.K-10, regarding estimated trip generation; and on pages IV.K-16 - 17 (as revised in Chapter II of this FEIR), regarding the project's lack of new operational (long-term) vehicle trips, and the adoption of mitigation measures that would ensure that traffic-generating activities associated with concurrent projects would not have a significant effect on cumulative traffic conditions. See response COB-3 regarding the DEIR's use of the motorists' perceptions of change to traffic volume conditions.

d) The all-way stop-controlled Gayley Road/Stadium Rim Way intersection was included in the DEIR's study area, despite not being on the truck route, because of its location within the area's street network and the future LOS F condition predicted by other studies. Because the project would have a less-than-significant impact and a negligible effect on long-term cumulative conditions (discussed above), it is reasonable to conclude that the project would not have an adverse effect on other locations. There is no need to carry the analysis farther, as suggested by the commenter.

Response COB-5

The Historic American Engineering Record (HAER) report has been placed in the Main Branch of the Berkeley Public Library. The Historic American Building Survey (HABS) addendum to the HAER report was in draft form, under review by the National Park Service (NPS), and pre-

decisional at the time of the public review. Thus, it could not be released for public comment. At the time of this writing, it is still under NPS review. As stated in Chapter IV.D, Cultural Resources, in addition to the HAER/HABS documentation, LBNL plans to commemorate the scientific achievements attributed to the Bevatron with a monument and/or a display listing the historic discoveries that occurred there.

Response COB-6

As described in Chapter IV.G, Hydrology, pages IV.G-6 - 7, the proposed project, being greater than one acre, will require coverage under the statewide General Construction Permit, and various protective mechanisms (e.g., developing and implementing a project-specific Stormwater Pollution Prevention Plan which specifies Best Management Practices (BMPs) that will prevent all construction pollutants, including dirt and silt from erosion and sedimentation, from contacting storm water and entering receiving waters) will be put in place. Sampling is not required as part of this permit, since this site does not discharge into impacted waters.

Quantitative descriptions of water quality conditions, including results from the Lab's stormwater monitoring and surface water programs, are presented in LBNL's annual Site Environmental Reports. Recent reports are available on the web at http://www.lbl.gov/ehs/esg/tableforreports/tableforreports.htm. The Laboratory is not required to and does not monitor the Building 51 area individually, as the Lab's stormwater permit covers the entire Lab. Data from Lab outfalls includes the Building 51 area.

Response COB-7

The DEIR presents substantial evidence that air impacts from the project, including diesel emissions, would be less than significant; see Chapter IV.B, Air Quality, at pages 13 - 14. See also Chapter II of this FEIR (revisions to page IV.B-2) for revised wording regarding low and ultra-low sulfur fuels. In brief, under California Air Resources Board regulations (13 California Code of Regulations section 2281), diesel-fueled trucks and equipment in California have been required, starting in mid- to late 2006, to use ultra-low sulfur fuel (15 parts per million [ppm] of sulfur). Thus, ultra-low sulfur fuel would be used for trucks and most off-road engines during the entire life of the project. The current CARB diesel regulations can be found at: http://www.arb.ca.gov/fuels/diesel/081404dslregs.pdf.

Response COB-8

The comment is in error in stating that the DEIR includes a mitigation measure that UC will reimburse the City for its fair share of costs associated with damage to City streets. The DEIR contains no such statement. As stated in the comment, wear and tear on public roads is addressed in the DEIR, which concluded that a significant impact would not occur. No further mitigation is required.

Response COB-9

a) The potential hazard to persons living along the truck routes would be far below regulatory limits and any standards of significance. As stated in Chapter IV.D, Hazards and Hazardous Materials, at pages IV.F-23 - 24:

> The shipments with the highest levels of radioactivity would be two or three shipments of depleted uranium. The estimated dose to a hypothetical passenger sitting for one hour in a car positioned two meters (about six-and-a-half feet) from a truck carrying depleted uranium would be 0.2 mrem. For a hypothetical pedestrian standing for 15 minutes at a distance of two meters from such a shipment, the estimated dose would be 0.05 mrem. These are conservative assumptions, as it is unlikely that any individual member of the public would be within this distance of these shipments for these lengths of time. Even under these circumstances, the resulting exposures would be hundreds of times below the DOE regulatory limit applicable to members of the public, and below the standards of significance set out earlier. Exposures would be less at greater distances and lesser durations.

The uranium shipments are the only shipments that could create a measurable dose. This has been clarified in Chapter II, Revisions to the Draft EIR (revisions to pages IV.F-23 - 24), of this Final EIR. As indicated in the concluding sentence of the above paragraph, residents along truck routes would receive lesser exposures than the already very low exposures described above, since under reasonably foreseeable circumstances they would be located farther away from trucks than car passengers or pedestrians. Dose rates from radioactivity decrease exponentially with distance from the source, e.g., the dose at six meters (about 20 feet, roughly the distance from a vehicle to a domicile) would be about ten percent of the dose at two meters for the car passenger or pedestrian, e.g., 0.02 mrem for an exposure of one hour.

b) The DEIR discusses potential hazards during material transport on pages IV.K-13 - 16, under Impact IV.K-4. The discussions and findings on those pages apply to all roads that would be used to transport materials associated with the project, including I-80, as well as on Berkeley city streets. The DEIR's determination of a less-than-significant safety impact was based on the fact that the proposed project would neither change the physical characteristics of the street network serving the site or the physical characteristics of the I-80 freeway, nor would the proposed project generate the type or volume of traffic that would be incompatible with existing traffic patterns. As a result, there is no basis to conclude that the project would increase the rate of motor vehicle accidents, whether expressed as accidents per vehicle trip within Berkeley or accidents per vehicle mile traveled on I-80. In addition, as discussed in Section IV.F, Hazards and Hazardous Materials, the existing regulatory handling and shipping requirements and the 1987 LRDP EIR, as amended, mitigation measures that are part of the project, pages IV.F-20 - 22, reduce the potential of public exposure to the hazardous materials carried by truck. In the analysis of Impact IV.F-1, pages IV.F-22 - 24, which includes risks related to the shipment of hazardous and radioactive materials, the DEIR concluded that the resulting hazard to workers, the public or the environment would be a less than significant impact. Based on the above factors, it is not reasonably foreseeable that a significant impact would occur as a result of project traffic on I-80.

c) Regarding the capacity of receiving sites, as stated in Chapter IV.L, Utilities, Service Systems and Energy, as part of its standard operating procedures, LBNL consults with landfills prior to the start of demolition activities to ensure that there is sufficient capacity to accept the amount of waste generated by such projects, and has done so for the proposed project. Given the availability and capacity of such sites, no capacity problems are anticipated in disposing of the various types of waste that would be generated.

Response COB-10

See response COB-7 regarding the use of ultra-low sulfur diesel fuel in trucks. Some project trucks may use biodiesel since the availability of that fuel in the region is increasing. However, use of biodiesel will not be required, since its use could lead to engine warranty concerns for some trucks.

Response COB-11

The comment requests an analysis of the 1987 LRDP EIR, as amended, that is not required by CEQA. The comment does not allege nor present substantial evidence that the mitigation measures, including those from the 1987 LRDP EIR, as amended, that have been incorporated into the DEIR have failed to mitigate specific impacts to less than significant levels, and does not provide substantial evidence regarding a significant impact that would result from the proposed project. Pursuant to CEQA Guidelines section 15064 [determining the significance of the environmental effects caused by a project], an effect shall not be considered significant in the absence of substantial evidence. CEQA Guidelines section 15204(c).

Response COB-12

Comment noted. The mitigation summarized in the comment is Mitigation Measure IV-K-1 from the 1987 LRDP EIR, as amended. This is one of a number of measures included in the DEIR to reduce impacts, which were found to be less than significant, from hazards and hazardous materials. Each year, LBNL prepares a Site Environmental Report, which reports on compliance in all areas of environment, health, and safety, most of which are overseen by outside agencies. As referenced in response COB-6, this report is publicly available on the Laboratory's web site at http://www.lbl.gov/ehs/esg/tableforreports/tableforreports.htm. In addition, reports are placed in the main branch of the Berkeley Public Library. LBNL also notifies regulators, including the City of Berkeley, of the availability of new Site Environmental Reports by e-mail. The additional mitigation measure suggested in the comment is unnecessary to reduce any impacts to less than significant.

Response COB-13

As stated in DEIR Chapter III, Project Description, while development of the site is likely at some point in the future, at this time, there are no firm plans for future development that have reached the level of a proposed or reasonably foreseeable action. Due to the speculative nature of a future project, CEQA review of such development would be premature at this time. As far as

potential uses permitted under the 1987 LRDP, Chapter IV.H of the DEIR, Land Use and Planning, states that "The project site is in the functional planning area designated by the LRDP as the "Bevalac Accelerator Complex," which is "a center for nuclear physics, radiobiology, and accelerator research" (LBNL, 1987).

The use of the 1.75 acres that are not part of the Building 51 footprint following demolition has not been set. As stated in Chapter III, separate CEQA documentation would be prepared if and when necessary for any future project. However, unless a new parking structure would be proposed, the continued use of this flat, paved area for parking would not require additional CEQA analysis, as such use is covered under the 1987 LRDP EIR, as amended.

Jill Korte, City of Berkeley Landmarks Planning Commission, December 7, 2005 (Comments Identified "LPC-1 through LPC-10")

Response LPC-1

The 1987 LRDP EIR, as amended, is not 18 years old. As detailed in Chapter I, Introduction, it consists of three documents, approved in 1987, 1992, and 1997, respectively. It remains Berkeley Lab's programmatic EIR until it is superseded. See also response H-1.

Response LPC-2

As provided by CEQA Guidelines Section 15126.6(d), the EIR has included sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. For example, the analysis of the No Project Alternative in Chapter V, Alternatives, states that this alternative would not avoid long term significant cultural resources impacts, because the deterioration of Building 51 and Bevatron would continue and eventually, the value of the historic resource would be lost (page V-3). Regarding the Preservation Alternative, the chapter states that significant and unavoidable effects to historic resources would be reduced to a less than significant level; however, among other drawbacks, this alternative would not achieve the Laboratory's goals for the site (page V-5). Under the Rubbling Alternative, the chapter states that the Bevatron and Building 51 would still be demolished; thus, impacts to historic resources would be the same as under the proposed project (page V-8). The comment does not specify why the description and analysis of the various alternatives presented in Chapter V is deficient, nor what additional information about the effects of the alternatives on historical resources is required in order to compare these effects with those of the proposed project; nor provide substantial evidence regarding a significant impact that would result from the proposed project.

Response LPC-3

DEIR Chapter IV.D, Cultural Resources, states that Building 51 was determined eligible for listing in the National Register of Historic Places and has been listed in the California Register of Historical Resources; see, e.g., page IV.D-9. As described in the response LPC-2, the discussion of each of the alternatives in Chapter V includes consideration of their impacts to cultural resources. The effect of the alternatives on the building's eligibility for listing on the National Register and California Register corresponds to this discussion. Under the No Project Alternative, the value of the historic resource would eventually be lost due to deterioration of Building 51 and the Bevatron. Under the Preservation Alternative, the building's current eligibility would be maintained. Under the On-Site Rubbling Alternative, the impacts would be the same as under the proposed project, as the building would still be demolished.

Response LPC-4

As described in Chapter V, Alternatives, the Adaptive Reuse alternative was considered but rejected as infeasible: it would not avoid the significant impacts to historic resources associated with the proposed project, it would be much more costly than the proposed project, and it would not meet project objectives. Therefore, it is not necessary to consider the features suggested in the comment. See response H-7 regarding the use of the facility for educational purposes.

Response LPC-5

According to the California State Office of Historic Preservation, Building 51/51A is eligible for inclusion on the National Register of Historic Places under Criteria A and B, with Criterion Consideration G.

Response LPC-6

The DEIR identified Building 51 and the Bevatron as an historic resource under National and State criteria. The DEIR also identified the designer of the structure as the San Francisco architectural firm of Masten and Hurd. In addition, the DEIR accurately concluded that the loss of this building would be a significant unavoidable impact under CEQA 15.064.5. Because the DEIR accurately identified the demolition of Building 51 and the Bevatron as a significant and unavoidable impact, no additional information about the architectural firm of Masten and Hurd would be required beyond what was provided in the DEIR.

However, the following information about Masten and Hurd is taken from the landmark application for Building 51 and the Bevatron, City of Berkeley, Landmarks Preservation Commission. Charles F. Masten designed Kezar Stadium in 1922. He and Lester W. Hurd began their partnership in 1924, becoming well known for institutional buildings. After WW II, they specialized in large-scale institutional projects, such as Hastings College of Law in San Francisco and Warren Hall at UC Berkeley. Later, in collaboration with Ernest J. Kump & Associates, they designed three community colleges: Foothill College in Los Altos, Cabrillo College in Santa Cruz and De Anza College in Cupertino.

Response LPC-7

Comment noted. The EIR has been revised accordingly; see Chapter II (revisions to page IV.D-11) of this FEIR.

Response LPC-8

The 1997 Memorandum of Agreement has been included in the FEIR; see Chapter II (new Appendix F).

Response LPC-9

Comment noted. The DEIR has been revised accordingly; see Chapter II (revisions to page IV.D-6) of this FEIR.

Response LPC-10

Comment noted. The discussion has been removed; see Chapter II of this FEIR (revisions to page IV.D-11).

Committee to Minimize Toxic Waste, December 7, 2005 (Comments Identified "CMTW-1 through CMTW-35")

Introductory note: Many of the comments from Committee to Minimize Toxic Waste (CMTW) are either identical or very similar to comments submitted in May and June 2005 by this same organization or one of its members (Pamela Sihvola) regarding two documents cited on pages IV.F-17 - 18 of the DEIR, the *Draft RCRA Corrective Measures Study Report for the Lawrence Berkeley National Laboratory* ("CMS Report"), February 2005, and the *Initial Study and Tiered Negative Declaration for the RCRA Corrective Measures – Remedy Selection Project, Lawrence Berkeley National Laboratory*, April 2005 (draft) and August 2005 (final). See Chapter II, Revisions to the Draft EIR (revisions to pages IV.F-17 - 18), for further detail on these documents and a related DOE document, the *Environmental Assessment and Corrective Measures Study Report for Remediating Contamination at Lawrence Berkeley National Laboratory Regulated under the Resource Conservation and Recovery Act* ("DOE EA/CMS"), DOE/EA-1527, September 2005.

These CMTW comments and DTSC responses to comments are contained in Appendix K to the DOE EA/CMS, *Department of Toxic Substances Control (DTSC) Response To Comments, Lawrence Berkeley National Laboratory on Proposed Cleanup Remedies in the Corrective Measures Study Report and CEQA Negative Declaration,* August 31, 2005.[8]

As they are directly relevant to CMTW's comments on the DEIR, some of the CMTW comments and DTSC responses from Appendix K to the DOE EA/CMS are reproduced below. As evidenced in the DTSC responses, many of the materials requested by CMTW in their comments on the DEIR have already been made available to the public via the CMS Report itself and a Berkeley Lab publication referenced by the CMS Report, the *Draft Final RCRA Facility Investigation Report for the Lawrence Berkeley National Laboratory Environmental Restoration Program* ("RFI Report"), September 2000.[9] The EIR for the Bevatron and Building 51 Demolition Project is not intended nor required to duplicate the CMS Report and its supporting environmental documentation, nor the multi-volume RFI Report.

Response CMTW-1

Groundwater contamination in the project area, including maps showing contaminant contours, is discussed in Chapter IV.F, Hazards and Hazardous Materials. The comment does not specify why the description and analysis in Chapter IV.F is deficient, or why the additional information

[8] Apart from being available as part of the DOE EA/CMS Report, this document also is available on DTSC's website at http://www.dtsc.ca.gov/HazardousWaste/Projects/upload/LBNL_CEQA_Response.pdf. See also http://www.dtsc.ca.gov/HazardousWaste/Projects/LBNL.cfm to locate copies of the original CMTW comment letter and attachments.

[9] RCRA is the Resource Conservation and Recovery Act; see the DEIR at pages IV.F-2 - 4. The RFI Report is available at the main branch of the Berkeley Public Library. As stated on the cover page of the RFI Report, "The *draft final* RCRA Facility Investigation Report (RFI) Report, for the Lawrence Berkeley National Laboratory Environmental Restoration Program, dated September 2000, was approved by the Department of Toxic Substances Control (DTSC) as final. The *final* RCRA Facility Investigation Report (RFI) Report contained herein consists of the draft final document accompanied by the DTSC approval letter dated July 27, 2001."

requested is necessary, nor provide substantial evidence regarding a significant impact that would result from the proposed project. A lead agency has discretion to reject comments that are not focused as provided by the CEQA Guidelines. CEQA Guidelines section 15204(e). CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenter's. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR. CEQA Guidelines section 15204(a). Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to Section 15064 [determining the significance of the environmental effects caused by a project], an effect shall not be considered significant in the absence of substantial evidence. CEQA Guidelines section 15204(c).

A similar comment (16-21) was made by CMTW in regard to the CMS Report ("The Final CMS Report must include a geologic cross section of each plume to show the depth and concentration of groundwater contamination in the four-acre Bevatron site and vicinity"). A portion of the DTSC response to that comment is applicable here:

> **RESPONSE 16-21** Geologic cross sections showing depth and contaminant concentrations in each of the groundwater contaminant plumes in the Bevatron site are presented in the RFI Report, with the exception of the Building 51L plume, which was still being characterized at the time. Geologic cross sections illustrating key relationships for the major plume are also presented in Appendix I of the CMS Report, which includes a cross section through the Building 51L plume area.

The relation of the RFI Report to the CMS was explained in DTSC response 16-7:

> **RESPONSE 16-7** The CMS Report is a complementary report to, and relies on the data presented in the LBNL RFI report, which is the principal site characterization document. For this reason, the CMS only presents a brief summary of the geologic characterization data presented in the RFI Report and cites the RFI report for detailed information. The RFI Report was released for public review on November 15, 2000 and public hearings were held on December 6, 2000 and January 24, 2001.
>
> The RFI report presents site-wide maps of bedrock geologic units, faults, surficial geologic units, stream courses, storm water drainage systems, and landslides. In addition, the site was divided into module areas for which more detailed geologic maps, geologic cross sections, and hydrauger locations were presented. These maps and cross sections were based on the highly detailed synthesis of geologic data presented in the Converse Consultants 1984 Hill Area Dewatering and Stabilization report (Converse, 1984), and supplemented by additional geologic mapping and subsurface drilling data obtained by Environmental Restoration Program (ERP) scientists during the RFI. The Converse Consultants synthesis included a thorough review and analysis of all known previously

existing geologic studies at and adjacent to LBNL, and presents a detailed geologic map of LBNL and the surrounding regions as Plate 2 of that report.

Response CMTW-2

LBNL does not agree that there is either a "Cyclotron Fault" or a "New Fault" in the vicinity of the project site. A similar comment (16-22) was made by CMTW in regard to the CMS report ("In addition to the Bevatron core area, more monitoring wells should be located laterally along the Cyclotron Fault and New Fault because they could act as conduits for the contaminated groundwater."). A portion of the DTSC response to that comment is applicable here:

> **RESPONSE 16-22** There is no geologic evidence for the presence of the New Fault, which was proposed by Lennert and Associates. The reference to the Cyclotron Fault is not known. If this refers to Great Valley Group/Orinda Formation fault contact, then more monitoring wells are not required, since the fault contact is oriented approximately perpendicular to the groundwater flow direction. Several monitoring wells are located close to this contact near Building 51, and groundwater sampling or water level data from those wells do not show any evidence that the contact acts as a preferential conduit for contaminated groundwater flow. It should be noted that the depiction of geologic faults as conduits for groundwater flow is not correct. Although the ability of earth materials to transmit water can in some cases be higher in fault zones, in many cases faults have little or no effect on flow and the fine-grained materials formed by fault movement often serve to impede flow.

Also relevant is a portion of DTSC Response 16-14:

> The RFI and Draft CMS Report do evaluate potential seismic hazards. The Alquist-Priolo Earthquake Fault Zone near LBNL is shown on Figure 4.2-6 in the RFI Report. The zone represents an area within approximately 1/8 of a mile of the surface trace of an active fault where surface rupture might be expected to occur during an earthquake. All areas of soil and groundwater contamination [at LBNL] are outside this area, except for a small area of soil contamination under Building 88 that has been cleaned up to an unrestricted land use-level.

See also responses CMTW-3 and CMTW-6, below.

Response CMTW-3

Berkeley Lab does not agree that new monitoring wells are necessary in the vicinity. A similar comment (16-23) was made by CMTW in regard to the CMS report ("Additional groundwater monitoring wells are needed (a) west of the northern lobe of the Building 51/64 plume as well as (b) west of the western lobe of Building 71 solvent plume to show whether the two plumes converge into a topographic swale and (c) west of the old town plume, specifically in the area between Building 46 and 51. All of these plumes are in the Blackberry Creek Watershed and

drain west toward the city of Berkeley and San Francisco Bay (Attachment 13)"). A portion of the DTSC response to that comment is applicable here:

> **RESPONSE 16-23** There is no technical basis for the additional groundwater monitoring wells suggested. Two groundwater monitoring wells are located down-gradient (west) of the Building 51/64 plume along the former drainage to North Fork Strawberry Creek. Groundwater flow from the "northern lobe" of the Building 51/64 plume would converge on these wells. Contaminants have not been detected in either of these wells and therefore additional monitoring wells are not needed.
>
> Two monitoring wells are located along the former drainage to North Fork Strawberry Creek at the down-gradient edge of the "western lobe" of the Building 71 solvent plume (assumed to refer to the Building 71 Solvent/Freon plume in the vicinity of Buildings 71C through 71K). Concentrations of groundwater contaminants in these wells have either been below the detection limit or well below MCLs for the past 10 years. Groundwater contaminants were generally not detected in a third well that was located in this area. Based on the extensive data available, the Building 51/64 and Building 71 plumes do not converge; however, even if they did converge, there would be no change in the proposed corrective measures.
>
> Several monitoring wells are located between Building 46 and Building 51. Groundwater contaminants have generally not been detected in these wells. In addition, there is a slope stability well SSW19.63 located between Buildings 51 and 46 in the area of potential concern indicated on Attachment 13. SSW19.63 has been sampled approximately annually for VOCs since 1994 to ensure that the Building 46 subdrain adequately captured the down-gradient edge of the Building 52 Lobe. Except for trace concentrations of chloroform (approximately 1 µg/L or less), contaminants have not been detected in this well.
>
> Note that Attachment 13 [LBNL note: Attachment 3A to the CMTW comments on the Bevatron and Building 51 DEIR is identical to a portion of this earlier Attachment 13] of the comments does not accurately reflect current geologic conditions at LBNL.
>
> The attachment shows "earthquake faults", "historic landslides" and "unsampled areas which could contain contaminated plume(s)" superimposed on a facility map of the known groundwater chemical plumes and the Building 75 tritium plume. The "earthquake faults" shown on the map are primarily those shown on Plate 3 (i.e. compilation of prior work) of the Converse Consultants 1984 geologic synthesis. As described above, the presence of most of these faults was based solely on conjecture; extensive analysis of field data by Converse Consultants indicated that there was no evidence for their existence. The feature labeled "earthquake fault liniation (sic) undetermined interpreted from 1939 photos" is not based on any known field observations. The areas labeled "historic landslides" do not reflect the current distribution of landslide deposits, which is illustrated in Figure 4.2.7 and 4.2.8 of the RFI Report. The "historic landslides" shown on Attachment 13 are apparently derived from studies that predate cut-and-fill operations, slope stability engineering, and most recent geotechnical studies conducted during development of the facility. In addition

to the areas addressed in the preceding paragraph, several other "unsampled areas which could contain contaminated plume(s)" are shown on Attachment 13. These areas are either monitored by existing wells that are part of the groundwater sampling program (and are shown on the map), or are located in undeveloped areas of the facility where contaminants would not be present.

Response CMTW-4

As stated on page IV.F-19, "Once Building 51 is demolished, further investigation for potential soil and groundwater contamination at portions of the site that were previously inaccessible would take place, and appropriate corrective measures would be undertaken as necessary." Some areas are inaccessible until demolition takes place.

A similar comment (16-21) was made by CMTW in regard to the CMS report ("A sampling strategy must be developed and implemented prior to the publication of the Final CMS Report to characterize and comprehensive data on the extent of the potential groundwater contamination plume under the Building 51/Bevatron. Soil boring(s) and testing should be part of this investigation."). The DTSC response to comment 16-21 is given in CMTW-1, above, and CMTW-6, below.

Response CMTW-5

A comment (9-3) on the CMS Report made by a member of CMTW (Pamela Sihvola) concerned the shape of groundwater plumes at LBNL ("You can see that the plumes have odd shapes. This is a plume here, it is flowing in an old creek bed of Chicken Creek, and I can't really -- I understand that anyone by looking at the shape of this one or this one or this one or this one, can you say that these plumes are contained? They clearly have moved. The source of contamination that sweeps forth right here and all of these that you see here is moving downstream, downstream along the old creek bed, and the canyon wall is here."). A portion of the DTSC response to that comment is applicable here:

> **RESPONSE 9-3** Groundwater contaminants at LBNL initially moved down-gradient from the locations where the original chemical spills or leaks occurred, thereby forming groundwater contaminant plumes. These plumes eventually reached equilibrium and further down-gradient movement of the plumes stopped. The shape of a plume cannot be used to determine whether or not it is currently moving, but is the result of the combined effects of several factors including: a) the locations of the original spills; b) the chemical properties of the contaminants, c) the groundwater gradient (direction of flow) and velocity; d) the time since the initial contaminant release; and, e) the action of natural and artificial mechanisms (diffusion, dilution, degradation, pumping etc.) that attenuate (reduce concentrations of) contaminants. The plumes stabilized after attenuation processes reached equilibrium with the factors that caused them to move. The groundwater contaminant plumes at LBNL are not currently moving, and there is no evidence of recent movement, based on data collected over the past 13 years.

The degree of containment of a plume cannot be determined from its shape, but, must be assessed by viewing variations in contaminant concentrations with time in key monitoring wells. Such data are presented in detail in both the RFI and CMS Reports, and show that the groundwater contaminant plumes are contained; that is, the concentrations of contaminants remain relatively static or are have been decreasing in key wells monitoring the down-gradient edges of the plumes.

Response CMTW-6

A similar comment (16-21) was made by CMTW in regard to the CMS report ("It appears that the location of the groundwater monitoring wells in the general Bevatron site is insufficient to characterize the full extent of these plumes. Are the contamination plumes interrelated? It appears that there are no groundwater sampling wells located in the basement of the Bevatron core area."). A portion of the DTSC response to that comment is applicable here:

RESPONSE 16-21 The number and locations of groundwater monitoring wells are sufficient to characterize the magnitude and extent of the groundwater plumes in the Bevatron area and no additional wells are needed to characterize the extent of the plumes. For each of the plumes in the Bevatron area, groundwater monitoring wells have been installed at the contaminant source location, within the plume bodies, cross-gradient from the plumes, and down-gradient from the plumes, thereby defining the extent of the plumes. In addition, a number of wells have been installed in multilevel clusters to assess the depth distribution of contaminants in key areas of the plumes.

As described in the RFI Report [referenced in the CMS report], the three contaminant plumes described in the comment are not interrelated. These plumes are each derived from distinct sources, have distinct chemical compositions, and are not contiguous.

No groundwater monitoring wells have been installed beneath the Bevatron core area because of logistical constraints on installing wells in that area. In addition, no Solid Waste Management Units (SWMUs) or Areas of Concern (AOCs) that might constitute potential sources of contamination have been identified in the core area. Wells down-gradient from the core area do not show results indicative of a source of chemical contaminants in groundwater beneath that area. Therefore, there is no basis for installing wells or collecting soil samples. If there are any indications of contamination beneath the core area when the Bevatron is demolished, additional investigation will be conducted.

Response CMTW-7

A similar comment (16-22) was made by CMTW in regard to the CMS report ("The Final CMS Report must include the potential effects of the increased rainfall on the now pervious site, if the Bevatron structure is removed. What protections will be put in place in the future site design to protect further impact of rainwater on existing groundwater plumes? How will the increased groundwater influence slope stability?"). A portion of the DTSC response to that comment is applicable here:

RESPONSE 16-22 [Regarding future site design,] Factors such as slope stability, potential soil and groundwater contamination beneath the building, and the effect on corrective measures proposed for adjacent areas of groundwater contamination would be considered in any redevelopment of the site.

Based on results from the numerous groundwater monitoring wells surrounding the Building 51 complex footprint, there is no evidence for significant groundwater contamination beneath the Bevatron core area. Potential groundwater contamination will be evaluated during demolition and redevelopment of the site, and additional monitoring wells will be installed if necessary.

Adding to this response, there would be no change to the present day slope stability condition for several reasons. First, stormwater runoff would continue to be discharged into the existing storm sewer system, which has the capacity to contain this runoff. As stated on page IV.G-12 in Chapter IV.G, Hydrology and Water Quality:

Stormwater runoff from the proposed project site is currently discharged to the North Fork of Strawberry Creek. This condition would not change under the post-project site configuration. Following the demolition and removal of Building 51 and its foundation, the demolition zone would be converted to vacant space and hydro-seeded with native grasses. This would allow varying amounts of surface water to percolate into the ground rather than flow along the surface, especially early in the rainy season when soil conditions are not yet saturated. The percolation of surface water into the ground would slightly reduce the overall quantity of surface water runoff. Because the proposed project would cause stormwater runoff on the subject site either to be slightly reduced or to remain the same as under existing conditions, the impact on runoff rates and volumes discharged to the North Fork of Strawberry Creek would be less than significant.

Secondly, the slopes uphill from the site are currently pervious and restoring pervious surfaces down gradient from the existing slopes would not increase the groundwater table in the slopes (water flows downhill). Lastly, downhill slopes from the site are a significant distance from the site, and were reinforced with an engineered reinforced fill in the 1970s.

Response CMTW-8

Measures to prevent contamination from entering creeks are discussed in Chapter IV.G, Hydrology, generally; see e.g., pages IV.G - 8 - 12. A similar comment (16-24) was made by CMTW in regard to the CMS report ("The Final CMS Report must include how the removal of the Bevatron (a concrete plug) and its subterranean structures impact the movement and current hydraulic controls of these groundwater contamination plumes. This factor alone is reason for additional groundwater evaluation and monitoring wells. How is LBNL preparing to prevent any contamination form entering the creeks and ending up in downtown Berkeley where Strawberry Creek flows day lighted through many public and private properties? For this reason, all site clean-up must be done to residential standards."). The DTSC response to that comment is applicable here:

RESPONSE 16-24 The removal of the Bevatron is not anticipated to have a significant effect on the movement or current hydraulic controls of groundwater contamination plumes. Chemical concentrations and water levels in numerous wells down-gradient from the Bevatron will be monitored and corrective action will be taken if it is determined that contaminated water might enter the creek.

Response CMTW-9

The types of radioactive materials that would be encountered, the way they would be handled, and their potential impacts are discussed in Chapter IV.F, Hazards and Hazardous Materials. Quantities and destinations of the different categories of materials that would be encountered are presented in Table IV.L-1 in Chapter IV.L, Utilities, Service Systems, and Energy. The comment does not specify why the description or analysis in the DEIR is deficient, or why the detailed information requested is necessary, nor provide substantial evidence regarding a related significant impact that would result from the proposed project. See also response CMTW-1.

Response CMTW-10

Background radioactivity levels are described on page IV.F-9 - 10

> There is little likelihood of induced activity in the majority of the concrete shielding blocks, as only the blocks closest to the beams produced by the Bevatron were exposed to thermal neutrons. Surveys to date of similar blocks found within the Building 51 complex confirm that most blocks have no detectable induced activity. Those that have induced activity have low levels of such activity. This low-level induced activity is of a magnitude similar to the natural radioactivity within the concrete, which typically ranges from 15 to 30 picocuries per gram (pCi/g) total activity. This background radioactivity originates from the elements within crushed stone aggregate that is present in all concrete, and comes primarily from the decay of naturally-occurring radioisotopes of potassium, uranium and its decay series, and thorium and its decay series. The induced radioisotopes that are contained within the concrete shielding include cobalt-60, europium-152/154, barium-133, and cesium-137.
>
> In the Bevatron accelerator apparatus itself, the most prevalent material is steel, with a substantial amount of copper and minor amounts of aluminum and other metals. Preliminary surveys indicate that while a greater proportion of the metals may be activated, the range of activity will be similar to that found in the concrete blocks. The primary isotopes in metals are cobalt-60, titanium-44, and iron-55.
>
> ...Materials that LBNL has reason to suspect might contain radioactivity would be characterized by taking external radiation measurements using appropriate survey instrumentation and/or swipe samples according to DOE-approved protocols

The only radioactivity included in waste manifests is that added as a result of LBNL operations. Background activity is subtracted at the measurement level.

Response CMTW-11

The activation level of each material to be shipped cannot be specified in advance of the actual surveys of such materials. Chapter IV.F discusses the range of activation levels that are expected based on past experience; see, e.g., pages IV.F-8 - 9.

Response CMTW-12

The language quoted in the comment does not appear in the Draft EIR. As stated on pages IV.F-9 - 10, materials that LBNL has reason to suspect might contain radioactivity would be characterized by taking external radiation measurements using appropriate survey instrumentation and/or swipe samples according to DOE-approved protocols.

The only portions of the facility suspected to contain radioactivity are located within the inner area of the facility containing the Bevatron apparatus, which is bordered by the concrete shielding blocks. In addition, portions of some of the blocks themselves may be activated. This inner area has been designated a controlled area. Some items from this area have been stored temporarily in other controlled areas. All items from controlled areas would be surveyed before being sent offsite. The type of surveys that would be used would depend upon the items involved.

In the case of the potentially surface contaminated items mentioned in the comment, only a subset of the items located in the controlled areas are liable to have surface contamination. As stated on page IV.F-9,

> As a result of particle beam collisions with these targets, some interior surfaces of the beam tube were contaminated with low levels of various radioactive materials. It is anticipated that very limited amounts of surface radioactivity, affecting a small volume of materials, would be encountered.

To be conservative, all items from controlled areas that might be subject to release, either unrestricted or subject to the DOE Metals Suspension, would be surveyed for surface contamination, even though most are unlikely to be surface contaminated. Swiping would be carried out using protocols consistent with the requirements of DOE Order 5400.5. Items showing any DOE-added activity would be sent to a low level radioactive waste disposal site.

Response CMTW-13

No materials are "scheduled for shipment," as the project has not been approved. Estimated quantities of the materials listed in the comment are presented in Table IV.L-1 in Chapter IV.L, Utilities, Service Systems, and Energy. As stated in Appendix C, *Agreement between LBNL and DOE Berkeley Site Office, LBNL Implementation of DOE Metal Release Suspension* (April 22, 2005), the DOE Metals Release Suspension does not apply to rebar and other embedded metal materials in concrete that are not surface or volumetrically contaminated due to induced activity; thus, the certification mentioned in the comment would not apply to such metals. It is expected that less than 1 percent of the 12,360 tons of Bevatron accelerator metals listed in Table IV.L-1

would be eligible for shipment to landfills, subject to an agreement not to recycle. None would be eligible for unrestricted release.

Response CMTW-14

10,300 tons of concrete shielding blocks are listed in Table IV.L-1 as the estimated quantity that would be eligible for unrestricted release. Any portion of this could be broken into rubble and released. However, no commitments have been made to break any blocks into rubble, for any purpose.

Response CMTW-15

Air monitoring at LBNL is described in the Laboratory's annual Site Environmental Report; see response COB-12. Regarding radionuclides in particular, as stated in the Air Quality chapter (Chapter 4) in the 2004 edition of that Report:

> Lawrence Berkeley National Laboratory's air monitoring program is primarily designed to measure the impacts from radiological air emissions. The program is designed to meet the requirements established by the United States Environmental Protection Agency (US/EPA) and the United States Department of Energy (DOE) that are contained in the following references:
>
> - 40 CFR Part 61, Subpart H (National Emission Standards for Hazardous Air Pollutants, or NESHAPs)
>
> - DOE Order 5400.5 (Radiation Protection of the Public and the Environment).

The main means by which LBNL would monitor the impact from any air emissions resulting from the proposed project would be through the Laboratory's network of ambient air monitoring stations, which are strategically located around the Laboratory and collect particulate samples for measurement of gross alpha and gross beta levels. Please refer to the Air Quality chapter of Site Environmental Report for further details on these stations, including a figure showing their locations.

Response CMTW-16

Police, fire, and other emergency services are discussed in Chapter IV.J, Public Services.

Response CMTW-17

As described on page IV.F-10, the detection limit for volume contamination is 2 picoCuries/gram, while detection limits for surface contamination depend upon the radionuclides being surveyed. Instrumentation is calibrated to achieve these detection limits.

Response CMTW-18

Specific landfills have not been selected. As stated on page IV.L-12, "As part of its standard operating procedures, LBNL consults with landfills prior to the start of demolition activities to ensure that there is sufficient capacity to accept the amount of waste generated by such projects, and has done so for the proposed project. No problems are anticipated in disposing of the various types of waste that would be generated." Table IV.L-1 shows the types of destinations where hazardous and non-hazardous waste generated by the project would be sent.

Response CMTW-19

See response CMTW-18.

Response CMTW-20

A similar comment (16-26) was made by CMTW in regard to the CMS report ("The Final CMS Report must include the effects on the potential beneficial uses of Berkeley's large aquifer, e.g., availability in times of drought. Of special concern is the Lennert aquifer, currently pumped by the Shively well #1."). A portion of the DTSC response to that comment is applicable here:

> **RESPONSE 16-26** The Lennert Aquifer is up-gradient from areas of groundwater contamination at LBNL; and therefore, there is no effect on the potential beneficial uses of this "aquifer" from LBNL groundwater contaminants.

LBNL has not made the purported request to the Office of the U.C. President described by the commenter, and has no plans to do so.

Response CMTW-21

Chapter IV.C, Biological Resources, discusses the potential impacts of the project on threatened and endangered species. As stated in footnote 4, page IV.C-5, suitable whipsnake habitat is not present at or near Building 51. Only a relatively small portion of Berkeley Lab (in the east canyon area) is US Fish and Wildlife Service designated critical habitat for the Alameda whipsnake. See also response CMTW-22.

Response CMTW-22

See response to GB-2. The Alameda whipsnake (which is state and federally listed as a "threatened," not "endangered" species), is not found to have any potential for inhabiting the project site as per a sitewide habitat assessment for Alameda whipsnake conducted in 2006 by a biologist specializing in Alameda whipsnake research. See also response CMTW-21.

Response CMTW-23

Packaging and labeling of hazardous and radioactive materials is discussed in Chapter IV.K, Transportation/Traffic, e.g., at pages IV.K-13 - 15, and on page IV.F-6. DOT requirements for the

transportation of these materials in commerce are specified in Title 49 of the Code of Federal Regulations (CFR), Subchapter C. Where any material meets the DOT definition of hazardous or radioactive, it will be transported in compliance with these requirements. This may or may not require the use of specified packaging, depending on the potential for dispersion of the material during transit. Materials that are not defined as hazardous or radioactive in accordance with DOT regulations have no specified packaging requirements. There are numerous other basic transportation requirements that govern the transportation of all materials in commerce. For example, loads must be secured using DOT-approved hold down devices which will ensure that materials do not fall from a vehicle during transportation. Where small objects or debris which cannot themselves be adequately secured to a vehicle are transported, such materials will be packaged in a "strong, tight" package which is designed to contain materials during all conditions incident to normal transportation. Examples of such containers include metal boxes or covered roll-off containers. General non-hazardous construction debris or soil which would be transported in a dump truck must conform to requirements for a cover on the load to prevent release of materials to the roadway or otherwise endanger other vehicles while in transit. Transportation of Building 51 demolition debris would be conducted in compliance with all applicable Federal, State, and local regulations. LBNL intends to use only transportation companies that are fully licensed and registered for commercial transportation activities.

Regarding the identification of trucks, DOT regulations specify the criteria used to define a material as hazardous or radioactive in transportation and include the requirements for marking and labeling of such materials and placarding of their shipments while in transit. All transportation vehicles are marked with the company name and DOT/Interstate Commerce Commission registration number in addition to other company specific vehicle identification numbers.

Response CMTW-24

See response CMTW-23.

Response CMTW-25

See response H-20.

Response CMTW-26

See response CMTW-1. Regarding a "sampling strategy," see response to CMTW-12.

Response CMTW-27

See response CMTW-23. The commenter did not attach a copy of the newspaper article cited in this comment, and it is unknown whether the opinions cited concern the proposed project in particular. 49 CFR 171.2(f)(2) states that "No person shall, by marking or otherwise, represent that - ... A hazardous material is present in a package, container, motor vehicle, rail car, aircraft, or vessel, if the hazardous material is not present". LBNL follows all DOT requirements for the

marking, labeling and placarding of hazardous materials in transportation, and would not intentionally violate the provisions of the Federal regulations governing hazardous materials by representing a shipment as hazardous if such shipment did not meet the definition of a hazardous material as specified in 49 CFR. DOT regulations have been promulgated with due consideration to public safety as well as the safety of emergency responders.

Response CMTW-28

Where necessary for containment, debris will be transported in a container designed to contain all material during conditions incident to normal transportation. For large debris such as concrete blocks, large pieces of steel, or large magnets, the typical size and weight of these items preclude safe loading and unloading if a fully enclosed van-type vehicle is used. Covered van-type vehicles are not designed with the necessary tie down devices to adequately restrain a load such as a large concrete block during transportation. Also, both LBNL and the various receiving facilities must use a crane or large fork-lift for unloading at the destination site, which could not be practically or safely used if an enclosed, van-type vehicle was used. Since the majority of debris from the project does not contain dispersible radioactivity or hazardous constituents, transportation of all debris in an enclosed vehicle is not warranted. See also responses H-7, CMTW-23, and CMTW-1.

Response CMTW-29

Chapter IV.B, Air Quality, which addresses air quality impacts from the proposed project, found that no reasonably foreseeable significant air impacts would result. The comment does not specify why the description or analysis is deficient or why air quality along the truck route should be monitored, nor provide substantial evidence regarding a significant impact that would result from the proposed project. See also response CMTW-1.

Response CMTW-30

The titles that CMTW attaches to local features are not standard terms. Re the “Cyclotron” and “New” Faults, see response CMTW-2. As noted on page IV.E-7, “Fault rupture,” the project is not located on a trace of an active fault or within the Alquist-Priolo Earthquake Fault Hazard Zone, and therefore is not susceptible to ground surface rupture during an earthquake.” Also, the footprint of Building 51 is about 2.25 acres, not four acres.

Response CMTW-31

Chapter IV.E, Geology and Soils, discusses active faults in the vicinity, while hydrology in the vicinity is discussed in Chapter IV.G, Hydrology and Water Quality. The only active fault close to the project site is the Hayward Fault, which is shown in two figures in Chapter IV.E. The comment does not specify why the description or analysis is deficient, why showing faults (including inactive faults) in the entire watershed is necessary, why it is necessary to discuss the relation of these faults to surface and groundwater transport, or otherwise provide substantial

evidence regarding a significant impact that would result from the proposed project. See also response CMTW-1.

A similar comment (16-16) was made by CMTW in regard to the CMS report ("The Final CMS Report must include a comprehensive earthquake fault map that would include all the faults in the entire Strawberry Creek Watershed, whether active or not, and an interpretation of the significance of the presences of these faults regarding the transport of surface, soil and groundwater within the LBNL site."). A portion of the DTSC response to that comment is applicable here:

> **RESPONSE 16-16** A fault map of the entire Strawberry Creek watershed would cover large areas outside the LBNL site and is outside the scope of the CMS. LBNL provided earthquake fault maps in the RFI Report that include faults that could potentially play a role in the migration of contaminants. There is no evidence that any of these faults act as conduits for contaminant migration.

Response CMTW-32

Hydrology in the vicinity is discussed in Chapter IV.G, Hydrology and Water Quality, which includes a discussion of the various creeks in the vicinity. The comment does not specify why the description or analysis is deficient, why a watershed map is necessary, nor provide substantial evidence regarding a significant impact that would result from the proposed project. See also responses CMTW-30 and CMTW-1.

A similar comment (16-17) was made by CMTW in regard to the CMS report ("The Final CMS Report must include a watershed map for the LBNL hill site showing the various watershed and sub-watershed divides with a detail of the Blackberry Creek watershed and the four-acre Bevatron site as well as the Strawberry Creek watershed including the Chicken Creek sub-basin and the East Canyon area above the UC Botanical Garden.") A portion of the DTSC response to that comment is applicable here:

> **RESPONSE 16-17** Maps showing the boundary between the Blackberry Creek watershed[10] and the Strawberry Canyon watershed (and also showing site creeks and drainage systems) are provided in the module-specific volumes of the RFI Report. This information is provided along with details of the stormwater discharge system to show which offsite creeks (Strawberry or North Fork Strawberry) are the receptors of surface water runoff from the site. The locations of the sub-basins are not relevant to the CMS.

[10] LBNL note: As stated in Chapter IV.G, Blackberry Canyon is in the North Fork of Strawberry Creek watershed. Blackberry Canyon is drained by the North Fork of Strawberry Creek and Strawberry Canyon is drained by the South Fork of Strawberry Creek.

Response CMTW-33

The project will not increase landslide hazards, and it is unnecessary to provide a map showing previous landslides, especially landslides in entire watersheds. As stated on page IV.E-7, the project involves demolition of a facility that is currently located on a stable geologic unit. Because the facility would be removed and the facility footprint converted to vacant area, the project would not cause a condition that would destabilize the underlying geology. As stated on page IV.E-6, although portions of the project site may be within a Seismic Hazard Zone, this zoning does not apply to the proposed project because the building site itself is not zoned, and the project involves demolition, with no new facility construction.

Chapter IV.E, Geology and Soils, discusses active faults in the vicinity, while hydrology in the vicinity is discussed in Chapter IV.G, Hydrology and Water Quality; see response CMTW-31. It is unnecessary to show "all topographic, geological, geotechnical, and subsurface water conditions which indicate a potential for permanent ground displacement." Lastly, groundwater plumes are discussed in Chapter IV.F. It is unnecessary to show the distribution of groundwater plumes on the entire LBNL site. See response CMTW-1.

Similar comments (9-5, 16-18 and 16-19) were made by Pamela Sihvola and/or CMTW in regard to the CMS report (9-5: "And I would like to read for the record what I read before from a 1949 geologist's report for this site, where the Orinda Formation is used as the foundation for not cleaning up these plumes. The Orinda Formation, and I'm not going to read the whole thing here, the area as available is a four-acre site needs to be X-rayed, this is 1949 before the building was constructed, and leveled off. The bedrock beneath this beveled surface will be comprised of poorly consolidated marine sediments. The Orinda Formation absorbs water freely and a lot of those features that are associated with it are also quite pervious so the whole mass is really saturated in the area adjoining the Lisbon Tract to the east, which is comprised of the same formation as those under consideration, all the Lisbon Tract. They had 68 streams from which they once collected water for the domestic supply of Berkeley in the early days. There appears to have been considerable landsliding in this active area, and the appearance of heavy rainfall, the deep overburden and underlying marine sediment becomes quite soft from the absorbed water, seeps come out of the ground in many places, and even while several inches of rain are falling, this was a stream in 1949." 16-18: "The Final CMS Report must include a Seismic Hazard Zone Map which would show areas in the Strawberry and Blackberry Creek Watersheds where previous landslides have occurred, as well as all topographic, geological, geotechnical, and subsurface conditions which indicate a potential for permanent ground displacement." 16-19: "It should be noted that in a 1949 geologist (c. Marliave) report on the bedrock conditions at the Bevatron site "…the area at the Bevatron is to be excavated and leveled off to elevation 710. The bedrock beneath this beveled surface will be comprised of poorly consolidated Orinda sediments…The Orinda Formation absorbs water freely and the lava flows and breccia that are associated with it are also quite pervious so that the whole mass becomes readily saturated… There appears to have been considerable land sliding in the amphitheatre in which the Bevatron is to be located – and during periods of heavy rainfall, the underlying Orinda sediments become quite soft from absorbed water … seeps come out of the ground in many place, there are two

known permanent springs in the area where tunnels have been driven into the hillside and pipes leading out from the caved entrances have been flowing water for many years" (Attachment 12). Further, though landsliding deposits may have been modified or have fill placed over them their subsurface characteristics /failure planes may exert control on groundwater flow patterns and thus on the movement contaminant plumes at the hill site. Mapping of the historical landslide distribution in the Final CMS Report is extremely important for understanding/interpreting how the contaminant plumes may be distributed on the hill."). Portions of the DTSC responses to those comments are applicable here:

> **RESPONSE 9-5** ...The CMS Report notes that rocks of the Orinda Formation have low permeability values with the exception of a few areas where permeability is relatively high apparently due to the local presence of coarse-grained strata. The hydraulic conductivity (permeability) of the saturated portion of the Orinda Formation at LBNL has been extensively tested in numerous locations by hydraulic testing and yield testing of monitoring wells. The results of these tests are documented in the RFI and CMS report.
>
> **RESPONSE 16-18** ...a map depicting both prior landslides and areas susceptible to future landslides is presented in the RFI Report. This map is based on a synthesis of topographic, geologic, geotechnical, and hydrogeologic data.
>
> **RESPONSE 16-19** Slope stability analyses and extensive engineering of cut-and-fill operations have been an integral part of development of LBNL facilities, particularly large facilities such as the Bevatron. This work has included extensive mapping, drilling, and logging of soil borings, and geotechnical testing of soil samples. Much of these data were used for preparation of geologic maps and cross sections presented in the RFI and CMS reports. The 1949 report by Marliave documents conditions that were present prior to preparation and placement of engineered fill at the Bevatron site, not current conditions.
>
> Geologic maps showing the distribution of historically active landslides and paleolandslides are included in the RFI Report and Appendix I in the CMS Report. The subsurface distribution and hydrogeologic properties of bedrock units and surficial geologic units (including landslide deposits) and the relation of these units to contamination plume locations are discussed in the RFI and CMS Reports, and were a primary consideration in the assessment of the fate and transport of groundwater contaminants and siting of groundwater monitoring wells. Groundwater monitoring wells are located in the downslope area of a number of the slide deposits that intersect contaminated groundwater. Based on the logging of the borings for the wells and the groundwater sampling data, there is no evidence that former landslide slip planes are a preferential pathway for contaminant migration.

A portion of DTSC Response 16-8 also is relevant:

> **RESPONSE 16-8** Detailed information on areas of slope instability is provided in the RFI Report. Figure 4.2-7 in the RFI Report includes the locations of recent landslide deposits mapped by Harding-Lawson Associates (1982). The RFI Report also contains a landslide

hazard map (Figure 4.2-8) showing areas that are considered to have a risk of landslide movement. These areas include both known historical landslide deposits (generally classified as high risk) and areas where landslides have not occurred, but that are known or suspected to be susceptible to landsliding.

Response CMTW-34

A similar comment (16-20) was made by CMTW in regard to the CMS report ("The Final CMS Report must include the current configuration and condition of the engineered drainage around the Bevatron site. How is groundwater from the seeps and springs intercepted and captured? Where are water source diverted? Do creek beds of the historic creek function as conduits for these waters? According to the 1875 F. Soule Map titled: Strawberry Valley and Vicinity Showing the Natural Sources of the Water Supply of the University of California, at least two of the branches of the North Fork of Strawberry Creek were located directly under the Bevatron Complex. The Final CMS Report should provide a historic map of the site showing these watercourses and their current state."). A portion of the DTSC response to that comment is applicable here:

> **RESPONSE 16-20** ...the RFI Report provides site-wide maps showing the principal stormwater drainage systems and stream courses. The stormwater drainage systems connect to various smaller building subdrain systems within the buildings of the Bevatron Complex. Building subdrains that intercept clean groundwater discharge to the storm drain system that drains to the creeks. Building subdrains that intercept contaminated groundwater (including a portion of the Building 51 subdrain system) are routed to on-site groundwater treatment systems. Segments of several creek beds (including part of North Fork Strawberry Creek), were culverted during construction of the facility.
>
> A number of groundwater monitoring wells has been installed in former creek bed locations in several of the historic creeks to evaluate whether they function as conduits for contaminant migration. These include North Fork Strawberry Creek and some of its tributaries and Chicken Creek. At some locations the historic creek beds appear to be preferential flow paths, while at others they do not. Groundwater contaminant flow paths are discussed in the Draft CMS Report.
>
> The RFI Report contains detailed maps of both the original topography and current topography of the Bevatron Complex that illustrate the locations of former drainage courses beneath those buildings. Geologic cross sections in the RFI Report and Appendix I of the CMS Report show the geometry of artificial fill that has been placed in these drainages.

Response CMTW-35

Alternatives to demolition, including the no project alternative and an alternative to encase the facility as a central courtyard feature, are discussed in Chapter V, Alternatives. As discussed in that chapter, these alternatives would not achieve the goals of the proposed project, as well as possessing other disadvantages. For example, the encasing/central courtyard alternative, which

was suggested by CMTW in its April 15, 2005 comments on the NOP for the proposed project, would require major upgrades to the building and entail significant additional costs.

It should also be noted that in earlier comments to Berkeley Lab, CMTW supported the dismantling of Building 51, in contradiction to its present stance. In its July 17, 2003 written comments opposing the Laboratory's proposed Building 49 project, CMTW stated the following:

> The Lawrence Berkeley National Laboratory has several acres of re-usable land, on which huge decommissioned facilities are waiting for clean-up. These sites include the Bevatron Accelerator, Building 51 [and two other buildings], some of which have already been standing idle for over a decade. We are requesting a commitment from Department of Energy and LBNL for a time-line for the comprehensive clean-up of these contaminated sites to facilitate their potential re-use, prior to undertaking any new development on any of the remaining pristine, unused, i.e. new open space lands at LBNL in the Strawberry creek Watershed. The Lab must prepare an EIR under CEQA and an EIS under NEPA for the dismantling of these facilities, the hauling/shipping of resulting radioactive/hazardous debris and for the final disposition of those materials and the contaminated soil/vegetation that will be removed from the sites as a result of the clean-up process.[11]

[11] See Appendix B, page B-135, of the *Construction and Operation of the Building 49 Project Draft Environmental Impact Report,* September 2003 (SCH No. 2003062097. The Building 49 project is addressed on page VI-7 of the Building 51 and Bevatron Demolition Project DEIR.

Daniella Thompson / Jim Sharp, December 7, 2005 (Comments Identified "TS-1 through TS-3")

Response TS-1

Comment noted. Transportation impacts are addressed in Chapter IV.K, Transportation/Traffic, of the DEIR. Risks from the transport of waste materials that would be generated by the project are addressed in Chapter IV.F, Hazards and Hazardous Materials (see pages IV.F-22 - 24), and Chapter IV.K, Transportation/Traffic (see pages IV.K-13 - 16).

Response TS-2

Comment noted. See the discussion of this matter in response H-13.

Response TS-3

Comment noted. This issue is discussed at length in response H-1.

Dale Smith, December 8, 2005 (Comments Identified "DS-1 through DS-4")

Comments were received from Dale Smith after the close of the public review period on the DEIR. Under CEQA Guidelines Section 15207, a lead agency is not obligated to respond to such comments. However, LBNL has chosen to do so.

Response DS-1

See response H-13.

For general information, the Draft LBNL 2006 LRDP and Draft 2006 LRDP EIR were circulated for public review and comment from January 22 to March 23, 2007. It is anticipated that these documents will be submitted to The Regents of the University of California in July 2007 for approval. The Final EIR will include responses to public comments. The action of the proposed demolition of the Bevatron and Building 51 has also been analyzed in the 2006 LRDP EIR.

Response DS-2

If LBNL understands the question correctly, the commenter is asking about typical background levels of radioactivity. Background radiation in the Bay Area is approximately 260 mrem/year; as compared with the national average of approximately 360 mrem/year (the difference is due largely to higher levels of radon elsewhere in the country). Potential exposures resulting from the proposed project would be orders of magnitude below background levels.

Response DS-3

Off-site rubbling is a potential recycling (as opposed to disposal) option, and this question is discussed in the DEIR. As stated on page IV.L-10, "Another recycling option for concrete with no hazardous characteristics is to send it to commercially operated off-site locations that break concrete into rubble. Rubbling offers transportation advantages, as rubbled material fills the volume capacity of trucks more efficiently than unbroken concrete, thereby decreasing the number of truck trips generated in hauling concrete to subsequent destinations. The resulting rubble could be released for such uses as fill for construction projects and road building, or it could be sent to landfills." (Since publication of the DEIR, LBNL has determined that rubbled material would not fill the volume capacity of trucks more efficiently than unbroken concrete; this change is shown in Chapter II, Revisions to the Draft EIR, of this FEIR.) See also response CMTW-14.

Response DS-4

This question is discussed in the DEIR. As stated on pages IV.F-24 - 25:

> Dewatering may be necessary during project activities because groundwater can be as shallow as 15 feet below ground surface in the vicinity of the site. It is not yet known

whether the excavation would intersect the existing groundwater plumes, which are located adjacent to the project site. As a prudent practice, however, the project would consider all soil and groundwater collected during these activities as potentially contaminated. In accordance with existing LBNL policies, any groundwater extracted during demolition activities would be appropriately contained and tested prior to determining the appropriate disposal option. Prior to the start of excavation, the project management team would obtain information on known residual soil and groundwater contamination in the project area. The project management team would be responsible for ensuring that bid specifications disclose known locations and concentrations of hazardous chemicals in soil and groundwater that could be encountered by contractors. Any intrusive work in areas where contaminants are present would be performed by properly trained contractors with oversight by the project management team and assistance from the EH&S Division (e.g., for soil, water, or air monitoring or auditing). If residual soil or groundwater contamination is encountered during demolition, it would be managed in accordance with applicable DOE and Berkeley Lab policies and state and federal regulations regarding hazardous material handling and hazardous waste management.