

## **3.3 Environmental Impact Report**

### **3.3.1 Introduction to Preparing EIRs**

This section of the Handbook contains a description of the content requirements of an EIR. The section is organized to follow the outline of an EIR, from the introduction to the technical appendices. Several key organizational principles are important to guide the reader in the use of this section.

#### **Tiering**

To encourage increased efficiency in the UC environmental planning process, campuses should use Program EIRs for LRDPs to deal primarily with broad environmental issues, such as campus population levels and cumulative campus development programs. Employing the tiering concept, Project EIRs should then be prepared for projects that are consistent with and carry out the goals and objectives of the LRDP. Broad issues covered by the LRDP EIR need only be incorporated by reference in the Project EIR, with further detail provided only for site-specific issues that have not been adequately covered by the LRDP EIR. In this manner, the LRDP Program EIR can serve as an analytical "umbrella" for all subsequent actions requiring environmental evaluation. (See *UC CEQA Handbook Sections 2.8 and 3.4* for more information on Tiering EIRs under the LRDP EIR.)

#### **EIR Format**

Regardless of the type of EIR prepared, a direct link between impacts and mitigation measures should be established in the EIR. For purposes of clarity, it is advisable to establish a direct connection between the significant impact that has been identified and the mitigation measure that is designed to reduce the impact to a less-than-significant level. Specifically, it is recommended that impacts and mitigation measures be numbered to correlate with one another. Establishing this link is particularly important for evaluating complex projects such as LRDPs.

The EIR should clarify which impacts are reduced to less-than-significant levels and which remain significant after mitigation. This information should be incorporated in each section, and summarized in the Summary Table.

#### **EIR Contents**

The Introduction, Summary, and Project Description sections of the *UC CEQA Handbook* (See *Sections 3.3.2 through 3.3.4*) describe the information that should be routinely included in each of these respective sections.

The Setting/Impacts/Mitigation Measures section of this *Handbook* (*Section 3.3.5*) describes the approach that should be used to prepare each of the technical issue sections.

For each Handbook technical section (geology, hydrology, etc.), the text introduces the subject area and is followed by a paragraph on the approach that should be used to prepare LRDP and Project EIRs. The text also describes:

- Responsible Agencies,
- Standards of Significance for evaluating whether the project has the potential to result in significant environmental impacts,
- Analytical Methods for describing the approach that should be taken in analyzing information for each issue, and
- Generally Feasible Mitigation Measures for each issue area that are generally acceptable to reduce impacts to less-than-significant levels. See *UC CEQA Handbook Sections 3.3.6 through 3.3.26*.

### **3.3.2 EIR Introduction**

The introduction to the EIR should briefly present the following information:

- The nature and background of the project being proposed;
- The type of EIR being prepared and whether it is part of a tiered process;
- The format and contents of the EIR; and
- Environmental review process

#### **A Brief Description of the Nature and Background of the Project**

The introduction should briefly summarize the salient information about the project regarding the type of plan or facility being proposed; its location, size and intended use; its relationship to campus or University of California goals; and the rationale for its proposal.

#### **The Type of EIR Being Prepared and Whether It Is Part of a Tiered Process**

The EIR should state which type of EIR is being prepared (see *UC CEQA Handbook Section 2.3.1*):

- Program EIR
- Project EIR
- Tiered Project EIR
- Focused EIR
- Staged EIR
- Master EIR
- Subsequent EIR
- Supplement to an EIR
- Addendum to an EIR
- Joint EIR / EIS

Further, the introduction should describe whether the EIR is linked to any other EIR as part of a tiered process.

#### **The Format and Content of the EIR**

The introduction should describe how the EIR is organized and the type of information that is included in each of the sections. It should indicate which environmental issue areas are addressed in the EIR. It should also indicate, for example, that the section containing each technical issue is divided into: 1) the setting, which consists of environmental baseline information; 2) impacts of the proposed project; and 3) mitigation measures that are designed to reduce impacts to less than significant levels. If the EIR is tiered from Program EIR or LRDP EIR, the introduction should summarize relevant Program EIR or LRDP EIR information.

It is important to specify formatting techniques at this point (e.g., bold print will identify significant and unavoidable impacts, mitigation measures will be printed in italics, etc.).

### **How the Document Will Be Used in the Decision Making Process**

The introduction should briefly indicate how the document will be used in the decision-making process and who will make the final decision to certify the EIR and approve or deny the proposed project. In addition, it should describe the schedule for the public review process. Finally, it should include, to the extent known, a list of the agencies that are expected to use the EIR in their decision-making and a list of the agency approvals for which the EIR will be used (see *CEQA Guidelines Appendix B*)

[http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/pdf/appen\\_b.pdf](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/pdf/appen_b.pdf) (upon request, the Office of Planning and Research will provide assistance in identifying State permits for a project).

### 3.3.3 Summary

The summary should include a brief project description stating the location, type, size and intended use of the proposed project. It should briefly describe controversial issues that have been raised either by members of the University of California faculty, students, staff, and local communities, or by agency representatives. The text should provide definitions for levels of significance for each impact. It should also summarize the unavoidable adverse impacts that have been identified for the proposed project.

The main component of the summary is the Summary Table. Numerous formats are acceptable, but, at minimum, they should include the information provided in Table 4 below.

In addition to the Summary Table, the Summary section should contain a brief description of project alternatives and a table that compares the impacts of alternatives with those of the proposed project, and identifies significant impacts of each alternative (See Table 4). Table 5 in *UC CEQA Handbook Section 3.3.25* sets forth a sample of an alternatives matrix that lists all of the significant impacts of the project by issue area to allow for a detailed analysis of each alternative. This model may be especially appropriate for controversial projects.

<b>Environmental Impact</b>	<b>Level of Significance Without Mitigation</b>	<b>Mitigation Measure</b>	<b>Level of Significance With Mitigation</b>
Legend: S = Significant    LS = Less Than Significant    B =Beneficial    SU = Significant and Unavoidable			

### 3.3.4 Project Description for EIR

A project is defined as "...the whole of an action, which has the potential for resulting in a...physical change in the environment..." *CEQA Guidelines Section 15378 (a)*  
[http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art20.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art20.html).

The project description provides the analytical foundation for the entire EIR. It is therefore essential that an EIR have an accurate, well-conceived, stable and finite project description.

The project description should describe all the basic characteristics of the project, including location, need for the project, project objectives, technical and environmental characteristics, project size (gross square feet ["GSF"] and assignable square feet ["ASF"]), design, population effects (faculty, staff, student and other), project phasing, and required permits. (Refer to *UC CEQA Handbook Section 2.1.1* for a discussion of the point at which the campus has enough information to prepare an adequate project description and thus begin the EIR process.)

#### LRDP EIR

In an LRDP EIR, the project description should include the academic and institutional objectives that serve as the rationale for long-range planning. LRDPs that contain enrollment implications which have not been previously considered should also describe the key factors supporting the assessment of optimal campus enrollment levels during the planning period. This discussion should refer to the unique characteristics of each campus in light of its history and culture, academic and non-academic program requirements, enrollment demand, graduate/undergraduate/health sciences mix and optimal faculty and student absorption and recruitment rates. It should include those on- and off-campus facilities covered under the LRDP. Additionally, the LRDP EIR should describe various environmental factors, such as the physical resources available to the campus, and environmental constraints requiring consideration in the planning process. A map showing planned/potential land use designations should also be included.

The project description should clearly describe anticipated development needs, including square footage estimates generally described in GSF for various types of new and expanded building projects, as well as the proposed locations for future development in a campus land use plan. If ASF are used to estimate square feet, GSF equivalents or approximations should also be stated. The focus of the project description should be on new and expanded physical facilities being developed and the land use map guiding the siting of these facilities.

Information required to fully describe the project is summarized below.

#### LRDP Project Description

##### Description of Planning Areas

- Regional Setting
- Campus Setting

##### Content of LRDP

- Environmental Setting
- Regulatory Setting

- Goals and Principles
- Projected Enrollment Population
- Utilities Element
- Open Space Element
- Space Needs Assessment
- Land Use Element
- Circulation/Transportation/Transit & Parking Element
- Student Housing
- Academic/Administrative Support

## **Project EIR**

In a Project EIR, the project description should describe the location and boundaries of the project on or in relation to the campus. The location should appear, both on a regional map and on a detailed map, preferably with topographic lines (*CEQA Guidelines Section 15124(a)*) [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art9.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art9.html).

The project description should set forth campus policy objectives and describe how they relate to the most recently approved LRDP. It should also describe the need for the project, the size and layout of proposed facilities and all reasonably foreseeable uses of the facilities.

The project description should describe those technical and environmental characteristics, such as number of wet labs, fume hoods, etc. that have implications for the environmental review process. It should describe temporary and permanent changes to existing facilities and to the circulation system that would result from the project; changes might include relocation of facilities or closure of existing circulation routes. The project description should also describe project design and siting in relation to its environmental context. Further, it should describe project phasing and permit requirements, and should consider the principal engineering proposals, if any, and supporting public service facilities.

A summary of information generally required to fully describe the project is provided below:

### **Project-Specific Project Description**

- Regional setting.
- Campus setting (include map with boundaries of the project on or in relation to the campus).
- Site map (use map with topographic lines where feasible).
- Description of project objectives.
- Description of project compliance with the most recently adopted LRDP.
- Description of project background and need for project
- Population associated with project.

- Description of proposed facilities (indicate GSF and ASF) and all reasonably foreseeable uses
- Description of related projects, e.g., demolition of vacated space utility improvements required for project, use of released space.
- Description of project's technical, economic and environmental characteristics, considering the principal engineering proposals, if any, and supporting public service facilities.
- Description of changes to existing facilities, utilities infrastructure, landscaping or to the circulation system that would result from the project, such as the temporary or permanent relocation of facilities, or modification or closure of any circulation routes.
- Description of project design, scale, and site. Include a site plan, sections, elevations and a photograph of the project model, or computer simulation if available.
- Description of project phasing.
- Description of permit requirements.
- Description of unusual construction activities.
- Location of construction staging.
- Approval process and timing.

### 3.3.5 Setting/Impacts/Mitigation Measures

This section constitutes the heart of the EIR analysis. This Handbook describes environmental impact information that is pertinent to the analysis of each technical environmental issue area, including the following:

- **Standards of Significance** which describe criteria used to determine whether the project has the potential of resulting in significant impacts to the environment. The standards are also used to determine which impacts need to be mitigated. (See *UC CEQA Handbook Section 2.1.6* and individual topical sections in *Chapter 3.3* for further discussion and examples of standards of significance.)
- **Analytical Methods** which describe the approach to be used in preparing the section, collecting baseline or setting information, analyzing potential impacts and determining levels of significance. The methods used should result in substantial analytical evidence to support conclusions about impacts that have been identified.
- **Generally Feasible Mitigation Measures** which describe measures that are generally acceptable to reduce impacts to less-than-significant levels.

Additionally, for each issue area, the campus or its consultant must evaluate whether the project, in combination with other campus and non-campus projects, would result in significant cumulative impacts. A discussion of cumulative impacts generally should be included in each topical section, rather than in one section at the back of the EIR.

The environmental setting, which establishes the baseline for the analysis, is the physical environmental conditions in the project vicinity at the time that the Notice of Preparation is filed (*CEQA Guidelines Section 15125(a)*).

[http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art9.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art9.html)

Topical sections should generally be presented in alphabetical order as indicated below, unless another order is appropriate to the proposed project.

Issue areas described in this Handbook are as follows:

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials

- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities, Energy and Service Systems
- Growth-Inducing Impacts
- Cumulative Impacts
- Significant Irreversible Changes
- Alternatives

### 3.3.6 Aesthetics

#### Introduction

The purpose of the Aesthetics section is to identify and evaluate key visual resources in the project area, and to determine the degree of visual impact that would be attributable to a proposed project. Further, the analysis should identify key visual resources that warrant consideration in subsequent plans, so as to ensure, where possible, that the integrity of the landscape and built environment is maintained.

#### Responsible Agencies:

- *California Coastal Commission* <http://www.coastal.ca.gov/web> for projects in the Coastal Zone.

#### LRDP EIR

It is common practice for the aesthetics section of an LRDP EIR to be based on a policy evaluation and a site inspection of key viewsheds and visual resources. Additionally, a photo reconnaissance is usually prepared to document key resources. At the LRDP stage, it may not be possible to perform more than a general analysis because detailed design plans have not yet been developed. At a minimum, the LRDP EIR should:

- Identify key visual resources, including viewsheds, as defined by the campus, which are intended to be preserved;
- Describe the site selection and design review process (i.e., how sites are selected and areas that are aesthetically valuable are to be protected, campuswide or area design guidelines, how individual projects are evaluated for their compliance with design guidelines);
- Identify massing, types of building materials, and the overall style and character of facilities, to the extent such information is available; and
- Describe the introduction of and/or increase in amount of light and glare, particularly in rural and residential areas.

Mitigation measures for visual impacts should focus on eliminating conflicts between existing built structures and the proposed project.

#### Project EIR

The Aesthetics section of a Project EIR should describe the potential aesthetic effects of the proposed project on the existing landscape and built environment. The analysis should focus on the compatibility of new development with existing development. The massing of structures, the types of building materials being used, and the overall style and character of facilities, should be evaluated for their visual compatibility with the existing setting. The section should also consider the effect of the proposed project on visual resources such as viewsheds. Computerized visual simulations will often be useful in this analysis.

## **Standards of Significance**

Would the project:

- Have a substantial adverse effect on a scenic vista?
- Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, or historic buildings within a scenic highway?
- Significantly degrade the existing visual character or quality of the site and its surroundings?
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?
- Exceed an applicable LRDP or program EIR Standard of Significance? (Conflict with Campus goals and guidelines related to visual quality? This is used in situations where the campus may have identified an aesthetic standard that is different from or exceeds the state standards.)

## **Analytical Methods**

- Perform a site inspection to identify key viewsheds and visual resources.
- Photograph primary views to and from the site and key visual resources.
- Prepare a visual simulation of the project, if appropriate.
- Evaluate and describe ways in which the project would alter the visual character of the project site.
- Use significance standards to determine the degree of visual impact of the proposed project.
- Identify potential cumulative impacts. Are there other projects planned in the vicinity which will create a cumulative visual impact?

Local general plans often incorporate scenic resource information such as scenic highways, scenic vistas, and other visual resources in a scenic resource or open space element. Historic buildings and/or landscapes may also be identified in a local planning document or register as contributing elements of local visual resources. However, it is important to focus on changes in visual character, rather than conducting an analysis of land use changes or impacts on historic resources. Although the University of California is constitutionally exempt from local land use planning requirements, information contained in the local plans is valuable, and should be considered.

## **Generally Feasible Mitigation Measures**

- Site or design structures in such a way that they do not block or eliminate viewsheds.
- Design structures so that they are sensitive to existing terrain, natural features, and historic structures or landscapes (if any).
- Incorporate vegetative screening to soften architectural structures.
- Use lighting fixtures that focus downward to eliminate potential light and glare. Restrict use of reflective materials.
- Design structures so that they complement the architectural character of buildings in the vicinity. Consider building mass and form, building proportions, roof profile, architectural detail and fenestration, and the texture, color and quality of building materials.
- Consult with affected local planning jurisdiction(s) prior to adopting any land use change or approving any project that could restrict or eliminate views of scenic or visual resources identified in local general planning documents.
- Review project design for compliance with campus visual quality goals and guidelines.

### 3.3.7 Agriculture Resources

#### Introduction

The purpose of the Agricultural Resources section is to determine whether implementation of an LRDP or a project would result in significant environmental impacts to agricultural resources. The analysis should identify the status of agricultural land that could be converted by implementation of the project or the LRDP. See below for Appropriate Standards of Significance, Analytical Methods, and Generally Feasible Mitigation Measures.

#### Responsible Agencies

- Local counties may be considered Responsible Agencies if they have “Right to Farm” ordinances in place. While the University is constitutionally exempt from such ordinances, campuses may seek to comply with them as much as possible as a “good neighbor” gesture.

#### LRDP EIR

The environmental setting for the Agricultural Resources section of an LRDP EIR should identify the status of any agricultural land using “Important Farmland Maps” prepared by the California Department of Conservation, Division of Land Resource Protection, as part of the Farmland Mapping and Monitoring Program (See *California Government Code Section 65570* <http://www.leginfo.ca.gov/calaw.html> ). In addition, the local jurisdiction’s zoning designation and status of Williamson Act contracts must be identified. This information is then used to determine whether implementation of the LRDP would involve changes in the existing environment that could result in the conversion of existing Farmland to non-agricultural use. At the LRDP stage, it may not be possible to prepare more than a general analysis because detailed design plans may not yet have been developed. However, if the LRDP contemplates future development in an area that contains undeveloped land, the agricultural status of the land can be identified in the LRDP EIR.

#### Project EIR

The Agricultural Resources section of a Project EIR should analyze whether the project would result in the conversion of agricultural land not previously identified in the LRDP EIR, or, if possible, the Project EIR should quantify the number of acres of designated agricultural land (Prime, Unique, or Farmland of Statewide Importance) identified in the LRDP EIR to be converted to non-agricultural uses.

#### Standards of Significance

Would the project:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

- Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland to non-agricultural use?
- Exceed an applicable LRDP or program EIR Standard of Significance? (This is used in situations where the campus may have identified an agricultural resource standard that is different from or exceeds the state standards.)

### **Analytical Methods**

- Determine whether there are unique crops grown only in the project region or site. Compare this with regional production.
- Check to see if there is a right-to-farm ordinance that would restrict agricultural activities adjacent to development, such as buffers that would be imposed on the agricultural use, instead of the new development. (This could potentially reduce agricultural productivity.)
- Collect applicable land use plans and ordinances, including “Important Farmland Maps” (city, county).
- Determine whether the project proposes to convert designated agricultural land to non-agricultural uses that could conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Determine if the project (or the LRDP) would involve other changes in the existing environment which could result in the conversion of farmland to non-agricultural use or loss of productivity of Important Farmland.
- Identify potential cumulative impacts associated with the loss of agricultural land.

### **Generally Feasible Mitigation Measures**

- Redesign the LRDP or project to avoid development of prime agricultural lands for non-agricultural purposes, to the extent feasible.

### **Other Considerations**

- New development adjacent to farmland could increase nuisance complaints about spraying and agricultural operations (e.g. odor), and decrease crop yields on surrounding land due to restrictions on pesticide or fertilizer use near urban areas.
- All of the considerations above (see Standards of Significance and Analytical Methods), plus development pressure with the rising value of land (for development, not farming) near developed areas may induce growth.

### 3.3.8 Air Quality

#### Introduction

The Air Quality section addresses the impacts of the project on ambient air quality and the exposure of people, especially sensitive individuals, to hazardous pollutant concentrations. The pollutants of concern include both criteria pollutants and toxic air contaminants. The criteria pollutants are those regulated by federal and State laws since the 1970s: e.g., ozone, carbon monoxide (CO), suspended particulate matter (PM<sub>10</sub> and/or, possibly, PM<sub>2.5</sub>), oxides of nitrogen (NO<sub>x</sub>), and sulfur dioxide (SO<sub>2</sub>). Toxic air contaminants are identified by State regulation: e.g., particulate matter from diesel-fueled engines, asbestos, chlorinated organic compounds, metals, radon and iodine gas, and other contaminants.

Air emissions commonly associated with campus projects include: exhaust from motor vehicle traffic; emissions from boilers and cogeneration plants used for heating; fume hoods and exhaust; and emissions from construction activities. The EIR must address each of these, as applicable.

#### Responsible Agencies

Air quality management in California is coordinated by the Air Resources Board with the assistance of local air districts. The Air Resources Board has authority to define emission standards for motor vehicles and other sources of statewide concern and manage the statewide air toxics program (<http://www.arb.ca.gov/>).

Local air districts regulate stationary sources of air pollutants through permitting programs and implementation of the air toxics program. The local air district would serve as the Responsible Agency for all projects requiring air quality permits. The major air districts are identified below:

- *Bay Area Air Quality Management District*  
(<http://www.baaqmd.gov>)
- *Monterey Bay Unified Air Pollution Control District*  
(<http://www.mbuapcd.org>)
- *Sacramento Metro Air Quality Management District*  
(<http://www.airquality.org>)
- *San Diego County Air Pollution Control District*  
(<http://www.sdapcd.co.san-diego.ca.us>)
- *San Joaquin Valley Air Pollution Control District*  
(<http://www.valleyair.org>)
- *Santa Barbara County Air Pollution Control District*  
(<http://www.sbcapcd.org>)
- *South Coast Air Quality Management District*

(<http://www.aqmd.gov/>)

- *Yolo-Solano Air Quality Management District*

(<http://www.ysaqmd.org>)

Regulatory information and additional information on the local air districts can be obtained from the *Air Resources Board* (<http://www.arb.ca.gov>).

## **LRDP EIR**

The air quality impact analysis should focus on the potential for development to:

- Conflict with or obstruct applicable air quality planning efforts,
- Cause or contribute to a violation of any air quality standard, or
- Expose receptors to substantial concentrations of air toxics or odors.

The impact analysis would be based on emissions and changes in air quality that would be caused by development, occupation, or growth of campus facilities and activities. Analysis of construction-related emissions should include the effects of equipment and worker-trip vehicle exhaust as well as fugitive dust. Mitigation of these effects should then be identified in the LRDP EIR. Limitations on use of asbestos-containing serpentine rock can be found in the statewide Airborne Toxic Control Measure (<http://www.arb.ca.gov/regact/asbestos/asbestos.htm>). Regulations for control of asbestos during construction or demolition are published by each local air district.

Potential LRDP mitigation methods include implementing dust control programs, programs designed to reduce motor vehicle trips, and installation of abatement devices to minimize emissions from stationary sources, such as boilers and laboratory fume hoods. Local air districts should be consulted to ensure that campus-related emissions are included in the emissions inventories for the region-wide air quality plan.

## **Project EIR**

To the extent not analyzed in an LRDP EIR, the Air Quality section of a Project EIR or IS should analyze the type and quantity of project-related emissions that were not anticipated by or evaluated by the LRDP EIR. It should also take into account changes in air quality conditions, air quality standards, surrounding land uses, or impact assessment methodologies relative to the current LRDP EIR.

Localized effects that would potentially be associated with construction activities, fume hoods, accidental releases to the atmosphere, operation and maintenance of the project, or project-related motor vehicle trips should also be analyzed.

## **Standards of Significance**

Appendix G of the CEQA Guidelines contains the following standards of significance for the evaluation of air quality effects. Would the project:

- Conflict with or obstruct implementation of the applicable air quality plan?

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
- Expose sensitive receptors to substantial pollution concentrations?
- Create objectionable odors affecting a substantial number of people?
- Exceed the probability of 10 in one million of a maximally exposed individual contracting cancer?
- Have ground level concentrations of non-carcinogenic toxic air contaminants which would result in a Hazard Index greater than one for the maximally exposed individual?
- Exceed an applicable LRDP or program EIR Standard of Significance? (this is used in situations where the campus may have identified an air quality standard that is different from or exceeds the state standards.)

Where available, the significance criteria established by the applicable air district may be used to make these determinations.

## **Analytical Methods**

### Setting

- Describe the regulatory setting including local attainment status, air quality trends, and air quality plans.
- Identify transportation-related plans or programs which may influence air quality.
- Identify relevant standards and control technology requirements for any new or expanded stationary sources, and review engineering estimates for emissions and the efficiencies of abatement devices or new equipment, if any.
- Identify locations where existing or project-related land uses could be exposed to sources of air contaminants.
- Identify existing potential odor sources.

### Impacts

Air quality impacts should be analyzed using the current guidelines or procedures specified by the local air district or the Air Resources Board.

- Characterize air quality effects of construction-related emissions. Analysis of construction-related emissions should include the effects of equipment and worker-trip vehicle exhaust as well as fugitive dust. Other potential sources of construction emissions include building materials, asphalt, and architectural coatings. A recommended analysis methodology is normally available from the local air district.
- Review the transportation impact analysis, and analyze emissions associated with project-induced motor vehicle trips. Consider using campus-specific emission factors where appropriate.
- Review the transportation impact analysis, and identify locations where heavy traffic could cause elevated carbon monoxide concentrations, e.g., intersections, roadway segments, or parking areas. If necessary, use an appropriate dispersion model to determine whether ambient air quality standards would be exceeded.
- Prepare an inventory of existing and expected emissions of toxic air contaminants
- If exposure to toxic air contaminant emissions would be substantial, perform a risk assessment to evaluate cancer risks or health hazards.
- Identify whether sensitive receptors would be exposed to objectionable odors.
- Identify potential cumulative impacts.

### **Generally Feasible Mitigation Measures**

For all air quality effects:

- Comply with all applicable air quality laws and regulations, and demonstrate consistency with applicable air quality plans.
- For construction-related air quality effects:
  - Apply water or dust suppressants to exposed earth surfaces to control dust emissions.
  - Revegetate exposed earth surfaces following construction.
  - Avoid unnecessary idling of construction vehicles and equipment.
  - Provide proper maintenance and upkeep for construction equipment, or specify use of low-NOx emitting, low-particulate emitting, or alternatively fueled construction equipment.

- Reduce construction-worker trips with ride-sharing or alternative modes of transportation.

For transportation-related air quality effects:

- To reduce emissions related to motor vehicle trips, develop a Transportation System Management (TSM) program, including shuttle buses, car pooling, bicycle paths, and other methods to discourage automobile use.
- Provide high-density academic core areas to encourage pedestrian or bicycle travel.
- Provide pedestrian facilities and improvements.
- Provide electric vehicle charging facilities, and/or alternative fuel fueling stations.
- Provide preferential parking for carpools/vanpools.

For air quality effects due to stationary sources:

- Plan for appropriate abatement devices on stationary sources, such as carbon adsorption systems and filters on organic chemistry laboratory fume hood exhaust stacks.
- Design combustion sources to include low-NO<sub>x</sub> emissions technology.

### **3.3.9 Biological Resources**

#### **Introduction**

The Biological Resources section addresses the impacts of the proposed project on campus vegetation, wildlife, aquatic resources and associated habitats.

#### **Responsible Agencies**

The following state agency is the Responsible Agency for state listed species:

- The California Department of Fish and Game (CDFG) (<http://www.dfg.ca.gov/dfghome.html>) for projects affecting species protected by the California Endangered Species Act.

#### **Federal Agencies**

The following federal agencies may be contacted for projects involving federal funds or requiring federal permits:

- The U.S. Fish and Wildlife Service (USFWS) (see <http://www.fws.gov>) for projects affecting species protected by the U.S. Endangered Species Act or Bald Eagle Protection Act; and
- The U.S. Army Corps of Engineers (USACE) (see <http://www.usace.army.mil>) for projects affecting wetlands and/or waters of the United States (Under Section 404 of the Clean Water Act)

CEQA requires consultation with the Department of Fish and Game if the project may result in effects to endangered or threatened species. The consultation process is designed to determine whether a project would jeopardize the continued existence of an officially listed or candidate species under the California Endangered Species Act. Prior to beginning the formal consultation process, the campus should determine if a listed species may be affected by the project and design mitigation plans to either avoid, minimize or compensate for these effects.

Further, the Department of Fish and Game requires a Stream Bed Alteration Agreement prior to any construction activity occurring within the bed, channel or banks of any California river, stream or lake (see Fish and Game Code, Section 1601-1603; <http://www.leginfo.ca.gov/calaw.html>). Recent regulation requires CDFG to produce CEQA documentation when issuing Stream Bed Alteration Agreements or authorizations for take of threatened or endangered species. Project CEQA documentation can serve as this vehicle if the documentation addresses these issues to the satisfaction of CDFG. The EIR therefore should provide sufficient detail on the project effects and proposed mitigation plan to serve as the CDFG CEQA documentation if possible.

#### **LRDP EIR**

The Biological Resources section of an LRDP EIR should evaluate whether the proposed LRDP would substantially affect:

- wetlands or waterways;
- listed wildlife and plant species or their habitat;
- species or resources considered rare or of local importance;
- trees protected by local ordinances; or
- important migratory corridors.

The Biological Resources section of an LRDP EIR is commonly based on information and data derived from field surveys of the land areas potentially affected by LRDP plans and activities. On-site surveys, supplemented by resource maps, aerial photography, and review of the existing biological literature form the basis for the section.

### **Project EIR**

The Biological Resources section of a Project EIR should review the specific project plans within the context of the construction year to determine consistency with the LRDP EIR. Wildlife and plant resources may be transitory and their presence within a project site may change seasonally and annually.

In addition, species may have been provided new or additional protection after the LRDP EIR was certified. Consultation with the appropriate agencies will determine if newly protected resources may be affected by the project. If protected resources may be affected by the project that are not identified within the LRDP EIR, then these species should be addressed within the Project EIR in a similar fashion as discussed within the LRDP EIR section.

### **Standards of Significance**

Would the project:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS)?
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS?
- Have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marshes, vernal pools, coastal areas, etc.) through direct removal, filling, hydrological interruption or other means?
- Interfere substantially with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- Conflict with any applicable local policies protecting biological resources?

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP) or other approved local, regional or state habitat conservation plan?
- Exceed an applicable LRDP or program EIR Standard of Significance? (This is used in situations where the campus may have identified a biological standard that is different from or exceeds the state standards.)

### **Analytical Methods**

- Collect and review existing resource maps, including those from the California Natural Diversity Database for sensitive species, sensitive wildlife habitat and native California plant communities. Obtain aerial photographs. Prepare graphics that show vegetation cover types and wildlife habitat.
- Describe existing biotic resources through field surveys and literature review. Identify through surveys (during the appropriate season) the presence or absence of rare or endangered plant or animal species, or their likely habitat.
- Characterize the distribution and abundance of habitats or species where appropriate.
- Determine potential impacts and assign level of significance. Consult with the California Department of Fish and Game, the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service as appropriate. Consider utilizing the biological resources section as a source document in federal and state regulatory processes.
- Identify potential cumulative impacts. Determine any future reasonably foreseeable projects within the region which may result in impacts similar to those described within the EIR. Identify if the project's mitigated effect, when added to the effects of these planned future projects, will result in a significant cumulative effect to these resources.

### **Generally Feasible Mitigation Measures**

- Redesign project as feasible to avoid development of areas known to contain candidate, rare or endangered species populations, or their habitat;
- Redesign project as feasible to avoid development within significant riparian corridors, wetlands, marshes and other wildlife habitat (consider application of the 404(b)(1) guidelines to federally regulated wetlands);
- Minimize adverse impacts to sensitive and significant biological resources by reconfiguring the project as feasible or using in-kind habitat replacement on- or off-site;
- Develop vegetation or wildlife management strategies to conform to plant, animal, and habitat protection goals of the LRDP;

- Provide new landscaping that complies with the campus landscape plan; and
- Preserve trees, shrubs and grass areas where feasible.

### 3.3.10 Cultural Resources

#### Introduction

The purpose of the Cultural Resources section is to identify and evaluate the potential for the project to adversely affect paleontological, archaeological, and historical resources. The resources of concern include, but are not limited to fossils, prehistoric and historic artifacts, burials, sites of religious or cultural significance to Native American groups, and historic structures. Although the Governor's Executive Order on historic resources does not apply to the University, the University evaluates historic resources and complies with historic standards when feasible.

#### Responsible Agencies

The following agencies would serve as Reviewing Agencies for issues related to cultural resources:

- The California Native American Heritage Commission (NAHC) (<http://ceres.ca.gov.nahc/default.html>) is the primary agency with regard to sites (including burials), lands, and artifacts of Native American religious, historical, or cultural significance. This agency may require a Sacred Lands File check (which is completed by this agency, but must be formally requested) and consultation with Native American representatives (a list of which is provided by the agency upon request).
- The California State Office of Historic Preservation (SHPO) (<http://ohp.parks.ca.gov/>) is the primary agency with regard to historic and archaeological resources. Any final determination of eligibility of a resource for the California Register of Historic Places (CRHR) or the National Register of Historic Places (NRHP) requires the concurrence of the State Historic Preservation Officer. If a resource is determined by the State Historical Resources Commission to be eligible to the CRHR or NRHP, the resource is entitled to the same level of protection that it would enjoy if it were actually listed on either register.
- The California Coastal Commission (<http://www.coastal.ca.gov>) participates in the regulation of land uses that could affect cultural resources within the Coastal Zone (for example, a sea water line that requires trenching and may affect archaeological resources).

#### LRDP EIR

The significance of impacts to historical and archaeological resources is generally determined by whether the project could adversely affect resources that are listed or are eligible for listing on a local register, the CRHR, or NRHP. However, while resources that have been listed on a local, State or federal register of historical resources are generally significant, the CEQA Guidelines specifically state that a resource need not be listed to be considered significant for the purposes of a CEQA analysis (*CEQA Guidelines Section 15064.5[a][4]*). [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html).

The paleontological resources impact analysis should focus on the geological formations that underlie the campus; the nature, scientific importance, and extent of these units' previous fossil yield; their potential to yield additional fossils of scientific importance; and the potential for land use conversion to damage or

destroy these formations. Damage usually results from earth-disturbing activities (grading or excavation). A qualified paleontologist should be retained to prepare this portion of the cultural resources section

The archaeological resources impact analysis should focus on the potential disturbance or destruction of known significant archaeological resources within the LRDP area, and should also identify areas of sensitivity (i.e., the potential to yield resources) within the LRDP area that, based on the presence of resources in the surrounding area, are likely to contain additional archaeological resources that may be disturbed by development or maintenance activities. In addition to direct impacts resulting from earth-disturbing activities, indirect impacts could occur to other resources, such as rock art sites or petroglyphs, from deliberate or inadvertent damage resulting from increased human activity in the area. A qualified archaeologist should be retained to prepare this portion of the cultural resources section.

The historical resource impact analysis should focus upon the historic and/or architectural significance of structures within the LRDP area that are at least 50 years old at the time of preparation, as well as those that may reach 50 years of age during the LRDP horizon, if such structures may foreseeably be affected by the LRDP. Actions that could directly affect historic structures include demolition, seismic retrofitting, and accidents or vibration caused by nearby construction activities. This analysis should be prepared by a qualified historian or an architectural historian.

Mitigation measures should focus on protecting cultural resources through avoidance at the site planning stage, recording structures to appropriate standards, recording and collecting artifacts, and preservation in place, where feasible. Also, LRDP EIR mitigation measures should specify a process to address cultural resources, usually paleontological or archaeological, that are unexpectedly encountered during development, or during the course of normal operations. *CEQA Guidelines Section 15064.5(e)* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html) provides a process in the event of discovery of human remains in any location other than a formal cemetery.

## **Project EIR**

To the extent not analyzed in the LRDP EIR, the Cultural Resources section of a Project EIR should indicate whether the project could result in any site-specific effects that were not anticipated or evaluated by the LRDP EIR. Further, it should analyze the project in relation to the current LRDP and any existing land use plans.

## **Standards of Significance**

Public Resources Code (PRC), Section 5020.1 and *CEQA Guidelines Section 15064.5(b)(1)* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html) define a significant effect as one that would materially impair the significance of an historical resource. According to *CEQA Guidelines Section 15064.5(b)(2)*, [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html) material impairment of a resource's historic significance could result if the project would:

- Demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register of Historic Resources (CRHR);
- Demolish or materially alter in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to local ordinance or resolution (*PRC Section 5020.1[k]*) <http://www.leginfo.ca.gov/calaw>, or its identification in an historical resources survey meeting the requirements of *PRC Section 5024.1(g)* <http://www.leginfo.ca.gov/calaw> unless a preponderance of evidence establishes that the resource is not historically or culturally significant; or
- Demolish or materially alter in an adverse manner those physical characteristics of a resource that convey its historical significance and that justify its eligibility for its inclusion on the CRHR, as determined by the lead agency.

Generally, a project that follows the Secretary of the Interior’s guidelines will be considered mitigated to a less than significant level, according to *CEQA Guidelines Section 15064.5(b)(3)*, [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html)

Other applicable thresholds of significance include whether the project would:

- Disturb any human remains, including those interred outside of formal cemeteries;
- Directly or indirectly destroy a unique paleontological resource or site; or
- Exceed an applicable LRDP or program EIR standard of significance. This enables the campus to establish campus specific significant resources which may be important to the campus culture and history, but not qualify for local, state or national listing.

### **Analytical Methods**

As stated above, impacts must be considered when a proposed undertaking has the potential to affect cultural resources, such as those described above. CEQA associates a “substantial adverse change” in the significance of an historical resource with a significant impact on the environment. *PRC Section 5020.1* <http://www.leginfo.ca.gov/calaw> and *CEQA Guidelines Section 15064.5(b)(1)* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html) define the term “substantial adverse change” as demolition, destruction, relocation, or alteration of a historical resource or its immediate surroundings such that a resource’s value would be materially impaired.

*CEQA Guidelines Section 15064.5(a)* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html) defines the term “historical resources” to include

- (1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (*PRC Section 5024.1* <http://www.leginfo.ca.gov/calaw>, *Title 14*

California Code of Regulations, Division 3, Chapter 11.5 Section 4850 et seq. <http://www.calregs.com>).

- (2) A resource included in a local register of historical resources, as defined in *PRC Section 5020.1(k)* <http://www.leginfo.ca.gov/calaw>, or identified as significant in an historical resource survey meeting the requirements in *PRC Section 5024.1(g)* <http://www.leginfo.ca.gov/calaw>, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (*PRC Section 5024.1* <http://www.leginfo.ca.gov/calaw>, *Title 14 CCR Division 3, chapter 11.5, Section 4852* <http://www.calregs.com>) including the following:
  - (A) Is associated with events that have made a significant contribution to the broad patterns of California history and colonial heritage; or
  - (B) Is associated with the lives of persons significant in our past; or
  - (C) Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
  - (D) Has yielded, or may be likely to yield, information important in prehistory or history.

A resource may still be considered historical if it does not meet these standards: *CEQA Statutes Section 21084.1* [http://ceres.ca.gov/ceqa/stat/chap2\\_6.html](http://ceres.ca.gov/ceqa/stat/chap2_6.html) states that a resource need not be listed on any register to be historical. Further, *CEQA Guidelines Section 15064.5(a)(4)* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html) states that "until such time as a structure is evaluated for possible inclusion in the inventory pursuant to subdivisions (b) and (c) of *PRC Section 5024.5* <http://www.leginfo.ca.gov/calaw> [historical significance criteria], state agencies shall assure that any structure which might qualify for listing is not inadvertently transferred or unnecessarily altered."

However, according to *CEQA Guidelines Section 15064.5(c)(4)*, [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html) if the study finds that an archaeological resource is neither a historical resource nor a unique archaeological resource, the project effects on the resource shall not be considered significant.

The lead agency must, therefore, resolve two questions:

- Is there a historical resource that may be affected by the proposed project; and
- Will the project result in a substantial adverse change to the extent that the resource's historical value is materially impaired or lost?

Field reconnaissance for surface indications of paleontological or archaeological resources should usually be conducted at the project level. Other appropriate investigations include evaluation of specific, potentially historic structures by an architectural historian, particularly if a structure was not evaluated in the LRDP because of its youth, but has aged to 50 years or older by the time of project implementation.

Other data sources for addressing whether resources may be present include consultation with the vertebrate paleontology sections of applicable county museums of natural history, and records checks and literature searches from the applicable California Historic Resources Inventory System (CHRIS) information center. Paleontological data may usually be obtained by environmental consultants. However, CHRIS checks will not provide site-specific data unless requested or conducted by a qualified archaeologist.

Also, as described above, information regarding Native American sacred lands or sites of significance can be obtained by consultation with Native American contacts provided by the NAHC, or by a Sacred Lands File Check.

Once the lead agency has made a determination of whether a resource is historical, and determined that a substantial adverse change will occur to the resource, then the analysis must also address ways to reduce the adverse affect on the resource.

### **Generally Feasible Mitigation Measures**

- Appropriate recovery and study of unevaluated paleontological or archaeological resources to determine their significance and determine a further course of action.

For projects that cannot feasibly be relocated or reconfigured, excavation may also be necessary. However, for cases in which excavation of a paleontological or archaeological site that is an historical resource or unique resource of its type, excavation must be limited to the portion of the resource that would be damaged or destroyed by the project, as stated in *CEQA Statutes Section 21083.2(d)* [http://ceres.ca.gov/ceqa/stat/chap2\\_6.html](http://ceres.ca.gov/ceqa/stat/chap2_6.html).

- Avoid siting project land uses in areas of known paleontological, archaeological, or Native American sensitivity.
- Capping or covering archaeological sites with a layer of soil before building on the sites.
- Planning parks, greenspace, or other open space (including surface parking lots) in areas where buried resources are likely to be encountered.

Where site reconnaissance, records checks, consultation, or previous investigations associated with surrounding areas or the subject site have indicated that resources are likely to be present, avoid to the extent feasible siting project uses near the areas that contain the highest density of resources. If resources are discovered during project implementation, and are determined to be historical or unique resources, attempt, to the degree feasible, to reconfigure remaining uses to avoid the resources encountered. Additionally, although the above measures are intended to mitigate or avoid impacts to sites that are historical resources or unique resources of their type, they are also adequate for sites for which no determination of significance has been made.

- Consultation with appropriate Native American groups regarding the disposition of finds, burials, or cultural materials.

When resources of significance to Native Americans are known, or likely to be present, or are unexpectedly discovered, follow the provisions of *CEQA Guidelines Section 15064.5(e)* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html).

- For historic or potentially historic structures that will undergo seismic retrofit or other renovation, follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*, or the *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Weeks and Grimmer, 1995).  
<http://www2.cr.nps.gov/tps.tax.rhb/stand.html>

*CEQA Guidelines Section 15064.5(b)(3)* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html) states that projects that follow the above guidelines shall generally be considered as mitigated to a level of less than significant. If a structure that is listed, or has been determined eligible for listing in, a local, State, or federal register of historic resources will be demolished, the impact would be considered significant and unavoidable. However, recording the structure to the standard established for the National Park Service's Historic American Building Record (HABS) or Historic American Engineering Record (HAER) is advisable.

- Use of architecturally complementary fixtures or building elements in historic areas or districts.

Although the U.S. Secretary of the Interior's standards and guidelines prohibit the creation of a false sense of history, the disturbance of an historic context by a project could be reduced or mitigated by the incorporation of similar architectural elements into the relevant structure, so long as a clear distinction between the historical and new elements are maintained.

### 3.3.11 Geology and Soils

#### Introduction

The purpose of the Geology and Soils section is to evaluate whether the proposed project would create a physical change in surface or subsurface soil or rock characteristics, or would expose people or structures to major geotechnical hazards. Changes could also include the damage or destruction of unique geologic/physical features.

#### Responsible Agencies

The primary agency with regard to geologic conditions in the State is the California Department of Conservation, Division of Mines and Geology <http://www.consrv.ca.gov/dmg>. The Division of Mines and Geology gathers data and publishes maps and reports about earthquake faults, ground motion and other seismic hazards, mineral resources and mines (see *UC CEQA Handbook Section 3.3.15*, Mineral Resources), landslide hazards, and fundamental California geology.

Other agencies that may also be Responsible Agencies, depending on the site-specific conditions or geologic resources that could be affected, include:

- Division of Oil, Gas and Geothermal Resources, which oversees the exploration and development of oil, gas, and geothermal resources and regulates construction and operation of wells <http://www.consrv.ca.gov/dog/>
- State Mining and Geology Board, which provides policy advice for earthquake fault, groundshaking, liquefaction, and landslide hazard-mapping programs <http://www.consrv.ca.gov/smgb/>
- Seismic Safety Commission, which advises the Governor, the Legislature, and the public on earthquake policy-related issues, develops and monitors seismic risk mitigation programs, and sponsors legislation regarding seismic safety. <http://www.seismic.ca.gov/>

#### LRDP EIR

- The geology and soils analysis should focus on whether the proposed project would create a physical change in surface or subsurface soil or rock characteristics, or would expose people or structures to major geotechnical hazards.

The Geology and Soils section of the LRDP EIR should be based on a generalized summary of geologic and seismic activity and features, such as faults in the region, as well as a description of topographic and hydrologic features, slope, soil and substrate characteristics, groundwater elevations, and other geotechnical conditions that could affect structures.

The Geology and Soils section should consider the location and type of projects relative to the known geologic and soils conditions to qualitatively evaluate the potential for adverse geologic

effects. In addition to the potential for seismic hazards, landslides, or avalanche, the section should assess whether: excavation and grading would significantly alter land features that could be subject to or result in erosion or unstable slopes; foundations would be subject to liquefaction, settlement, expansive soils or other soils conditions that could affect structural integrity; or involve excavation or foundations that could encounter groundwater.

The UC seismic policy requires new UC facilities to comply with the current seismic provisions of the California Code of Regulations (CCR), Title 24, California Building Standards Code, or local seismic requirements, whichever requirements are more stringent. Title 24 of the CCR regulates the design criteria for new University of California buildings to ensure that they are structurally sound under static and dynamic conditions, and are free of geotechnical hazards <http://www.ucop.edu/facil/fmc/facilman/volume1/rpsafety.html>. A certain level of geologic and seismic safety is therefore integrated into the safe building practice inherent in compliance with the code.

## **Project EIR**

To the extent not analyzed in an LRDP EIR, the Geology and Soils section of the Project EIR or the Initial Study should analyze whether the site for a specific project would result in any effects that were not anticipated or evaluated by the LRDP EIR.

## **Standards of Significance**

Would the project:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
  - Strong seismic groundshaking?
  - Seismic related ground failure, including liquefaction?
  - Landslides?
- Result in substantial soil erosion or the loss of topsoil?
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994 or most current edition), creating substantial risks to life or property?
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?
- Exceed an applicable LRDP or program EIR standard of significance?

### **Analytical Methods**

The description of existing conditions and the impact analysis should be based on the following information:

- At the campus LRDP level, a general technical study prepared by a geologist, engineering geologist, or civil or structural engineer with expertise in geotechnical issues registered in the State of California.
- At the project level, the site plan and building footprint, if appropriate, reviewed by the registered professional to ensure that project siting and design provides adequate protection from features such as faults and unstable slopes (if the project site is within a geologically sensitive area). Site-specific information and recommendations presented in the site-specific study should be summarized in the setting and impact analysis.
- If project features have not been developed to a level that would allow for preparation of a geotechnical study or detailed analysis, other published technical information should be used to generally characterize site-specific conditions for use in evaluating project effects. These resources (some of which are available in digital format suitable for GIS mapping) include:
  - general geologic information and maps available from California Division of Mines and Geology <http://www.consrv.ca.gov/dmg/>
  - seismic hazards information available from the California Division of Mines and Geology: Alquist-Priolo maps [http://www.consrv.ca.gov/dmg/rghm/a-p/disclose.htm#More\\_Info](http://www.consrv.ca.gov/dmg/rghm/a-p/disclose.htm#More_Info); Special Publication 117, *Guidelines for Evaluating and Mitigating Seismic Hazards* <http://www.consrv.ca.gov/dmg/pubs/sp/117/index.htm>); seismic hazard zone mapping <http://www.consrv.ca.gov/dmg/shezp/index.htm>
  - county soil surveys published by the Natural Resources Conservation Service <http://www.ca.nrcs.usda.gov/>
  - topographic maps published by the U.S. Geological Survey <http://www.usgs.gov/>, which can be combined with other data sources to create slope maps

- groundwater elevation maps published by Department of Water Resources  
[http://wdl.water.ca.gov/gw/admin/main\\_menu\\_gw.asp](http://wdl.water.ca.gov/gw/admin/main_menu_gw.asp)
- local general plans and general plan background documents (useful for identifying locations where local jurisdictions have identified geologic hazards, such as erosive soils, landslides, avalanches, liquefaction, expansive soils), and other environmental documents for projects in the vicinity <http://www.ceres.ca.gov/planning>
- When using digital GIS data, the metadata should be carefully reviewed, along with a comparison to published (paper) materials or other documents to ensure accuracy of mapping.
- The approximate areal extent and volume of grading, excavation, and cut-and-fill slopes, methods to control potential hazards, and disposition of waste soils should be also be described. Methods included in the project to reduce potential hazards should be described in the impact analysis.
- The geotechnical evaluation should consider potential cumulative effects, including growth-related increases in the number of people and property that could be exposed to geologic hazards.

### **Generally Feasible Mitigation Measures**

- A site-specific geotechnical study shall be performed for projects in geologically sensitive areas prior to final design to identify potential concerns and recommended measures to reduce hazards. Recommendations in the geotechnical study should be implemented. The study must be prepared by a geologist, engineering geologist, or civil or structural engineer with expertise in geotechnical issues who is registered in the State of California.
- Proposed development must comply with the Alquist-Priolo Earthquake Fault Zoning Act (formerly Special Studies Zone Act), which requires site-specific evaluation and restricts the construction of buildings on or near active fault traces.
- Determine the maximum slope above which development would not occur. Avoid placing structures in areas characterized by unstable slopes or soils that are subject to liquefaction or differential settlement.
- Anchor non-structural building elements (i.e., fixtures, permanent equipment, etc.) to minimize potential hazards from earthquakes.

### 3.3.12 Hazards and Hazardous Materials

#### Introduction

The Hazards and Hazardous Materials section of the EIR primarily relates to the transportation, storage, use, and disposal of hazardous materials that are likely to result from the project. The term “hazardous material” refers to both hazardous substances and wastes. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local regulatory agency, or if it has characteristics defined as hazardous by such an agency. Two types of materials that are regulated separately from hazardous chemicals and materials are biohazardous materials (i.e., that contain biological material capable of causing disease in humans) and radioactive materials (i.e., that spontaneously emit ionizing radiation). The Hazards and Hazardous Materials section of the EIR also discusses the potential for soil or water contamination that could affect the project.

The State CEQA checklist also includes physical hazards such as proximity to airports and wildland fire hazards in the Hazards and Hazardous Materials section ([http://ceres.ca.gov/topic/env\\_law/ceqa/rev/appg\\_102698.pdf](http://ceres.ca.gov/topic/env_law/ceqa/rev/appg_102698.pdf)).

#### Responsible Agencies

##### Hazardous Materials

Numerous laws and regulations have been enacted to regulate the management of hazardous materials and waste to protect the public and the workplace. Implementation of these laws and the management of hazardous materials is regulated through programs administered by various agencies at the federal, State, and local levels. The California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) <http://www.dtsc.ca.gov> is the primary Responsible Agency for matters concerning the use, storage, transport, and disposal of hazardous materials and wastes.

In addition to DTSC <http://www.dtsc.ca.gov>, other agencies that may rely on CEQA documents for decision-making or who may wish to comment on the project include:

- Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA), which provides objective scientific evaluation of risks to public health and the environment posed by hazardous substances <http://www.oehha.ca.gov>.
- Cal/EPA Department of Pesticide Regulation, which regulates all aspects of pesticide sales and use to protect public health and the environment <http://www.cdpr.ca.gov/>.
- Cal/EPA Integrated Waste Management Board, regarding the potential for hazardous materials in the solid waste stream <http://www.ciwmb.ca.gov/> .
- Cal/EPA State Water Resources Control Board <http://www.swrcb.ca.gov/regions.html> and Regional Water Quality Control Boards <http://www.swrcb.ca.gov/regions.html> for issues regarding soil and water contamination from hazardous materials use and disposal (see also *UC CEQA Handbook Sections 3.3.11 Geology and 3.3.13 Hydrology*).

- State Division of Occupational Safety and Health (DOSH) <http://www.dir.ca.gov/DOSH>, which regulates hazardous materials in the workplace pursuant to Occupational Safety and Health Administration (OSHA) <http://www.osha.gov> standards.
- California Highway Patrol <http://www.chp.ca.gov> and Caltrans <http://www.caltrans.ca.gov>, which enforce and monitor U.S. Department of Transportation <http://www.dot.gov> hazardous materials and waste transportation laws and regulations.
- State Office of Emergency Services <http://www.oes.ca.gov>, which implements hazardous materials notification programs and provides emergency response services to hazardous materials accidents in cooperation with local emergency response providers.
- Individual Certified Uniform Program Agencies (CUPAs) <http://www.calepa.ca.gov/CUPA/Default.htm> within local jurisdictions. CUPAs perform the hazardous materials and hazardous waste regulatory activities previously performed by numerous State and local agencies. Contact the local environmental management agency to determine whether a CUPA has been established for the project area.

### Toxic Air Contaminants

The development of policies and State regulations pertaining to the release of hazardous air emissions is the responsibility of the California Air Resources Board (CARB) <http://www.arb.ca.gov>, which are implemented at the local level by various local air districts. *CEQA Statutes Section 21151.4* <http://ceres.ca.gov/ceqa/stat/chap4.html> and *Education Code Section 17213* <http://www.leginfo.ca.gov/calaw.html> contain specific procedural requirements with regard to the siting of school sites near potential sources of hazardous emissions. (See also *UC CEQA Handbook Section 3.3.8*).

### Airport Safety

Planning for existing and future land uses in proximity to airports must consider siting regulations established at the federal, State, and local level by the following agencies:

- *Federal Aviation Administration* <http://www.faa.gov/arp/arphome.htm>
- *Caltrans Division of Aeronautics* <http://www.dot.ca.gov/hq/planning/aeronaut/>, which reviews projects for potential effects related to the safety of existing aircraft operations as well as new facilities such as helipads.
- Airport land use plans developed by local jurisdictions.

### Wildland Fire Hazard

The *California Department of Forestry and Fire Protection* <http://www.fire.ca.gov> provides a variety of fire protection-related services for locations within State Responsibility Areas and through mutual aid agreements with local emergency response providers.

### **LRDP EIR**

The Hazards and Hazardous Materials impact analysis should focus primarily on the potential for development to increase the risk of adverse human health or environmental effects related to the presence of hazardous materials in research and teaching laboratories and in the workplace.

There is a vast array of laws and regulations designed to minimize the adverse environmental effects associated with the use of hazardous substances and physical hazards. One of the most important means of minimizing such effects is for the campus to continue to comply with such laws and regulations. Mitigation measures should be designed to reinforce existing regulations and improve, where possible, campus programs for handling hazardous substances. Additional measures may be required if regulatory compliance is not adequate to address a particular hazardous substance.

### **Project EIR**

For projects that are consistent with an LRDP, the topics listed in “Analytical Methods,” below, should have been previously evaluated. In addition to site-specific features, the Project EIR should include updated setting, specific quantities, types, and locations of hazardous materials use, and updated regulatory context, as well as applicable LRDP mitigation measures and their status.

### **Standards of Significance**

Would the project:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to *Government Code Section 65962.5* <http://www.leginfo.ca.gov/calaw.html> ("Cortese List") and, as a result, would it create a significant hazard to the public or the environment?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?

- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
- Exceed an applicable LRDP or program EIR standard of significance?

### **Analytical Methods**

This hazardous materials section of the EIR should be prepared by individual(s) with expertise in hazardous materials management, including soil and groundwater contamination-related topics.

The section should generally describe, as applicable:

- Hazardous materials - hazardous chemicals, radioactive, and biohazardous materials, use, storage, transport, and disposal, including types or categories, locations, and approximate quantities of hazardous materials that will be used during construction and occupancy, how the hazardous substances would be handled, and detail any potential risks associated with use of the materials; the results of formal human health risk assessments should be presented in the Hazards and Hazardous Materials discussion, if not provided in the Toxic Air Contaminants discussion (see *UC CEQA Handbook Section 3.3.8*).
- Compliance record with applicable laws and regulations, or known concerns;
- How identified problems are being addressed (e.g., storage and disposal of low-level radioactive waste);
- Laboratory animals – approximate number, how and where they are housed, handling procedures;
- Underground and above-ground storage tanks;
- Known or potential locations where hazardous materials (e.g., asbestos, lead, soil/groundwater contamination) could be encountered during construction;
- Whether the campus or local emergency response provider has a specially-trained hazardous materials unit, and if so, response times.
- How the use of facilities would be linked to a building specific or campus wide emergency response plan.

Physical hazards to be evaluated in the LRDP EIR should consider:

- Proximity to private and public airports and airstrips;
- Whether LRDP uses would involve aircraft operations (e.g., helipads at medical centers);

- Proximity to areas subject to wildland fire hazard or areas designated in local plans as severe or high fire hazard.
- Other hazards specific to the project.

The regulatory context is an important component of the discussion. The regulatory context, including applicable federal, State, and local regulations and specific UC policies and their relevance to the information presented in the discussion should be explained. State- or federally-imposed restrictions or mandates (low-level radioactive waste disposal, for example) should also be described.

The project and cumulative impact analysis should consider the following:

- How increased use of hazardous substances (including chemicals, radioactive materials, biohazardous materials, laboratory animals) could increase risk of adverse health or environmental effects either through routine use or accidental release;
- Limits on permitted facilities and disposal capacity for UC-generated hazardous waste;
- How activities associated with demolition, renovation, or construction could encounter asbestos, lead, or fixtures contaminated with mercury, PCBs, etc., or for earth-disturbing activities to encounter contaminated soil or groundwater from past site uses;
- The extent to which construction or occupancy could interfere with emergency response efforts and whether response provider times and locations are adequate.

### **Generally Feasible Mitigation Measures**

As indicated above, mitigation measures should be designed to reinforce existing regulations and improve, where possible, campus programs for handling hazardous substances. The following additional measures may be required if regulatory compliance is not adequate to address a particular hazardous substance or situation:

- Develop or expand training programs for proper use, transportation, and disposal of hazardous substances.
- Provide proper building systems for the level of hazardous substances to be used or stored.
- Develop or expand waste minimization programs.
- Develop a site-specific emergency response plan. Verify or develop mutual aid agreements.
- Prepare site-specific hazardous materials site assessments and building surveys prior to demolition, renovation, or construction. Implement appropriate remedies or management controls to minimize risk of exposure before and during construction-related activities, and during occupancy (e.g., underground utilities maintenance and repair).

### 3.3.13 Hydrology and Water Quality

#### Introduction

The purpose of the Hydrology and Water Quality section is to evaluate and describe the impacts of the LRDP or specific projects on surface and groundwater resources (including aquifer characteristics and water quality), and for the project site to generate runoff that could affect flooding or drainage characteristics (both on-site and downstream), or to be affected by flooding from storm events or dam failure inundation.

The availability of water supplies and infrastructure to serve LRDP and project demand should be addressed in the Public Services and Utilities and Energy sections of the LRDP or Project environmental document, as discussed in *UC CEQA Handbook Section 3.3.21*, Utilities and Energy.

#### Responsible Agencies

The protection of water resources and water quality, flooding issues, and floodplain encroachment in California is the responsibility of the following primary federal and State agencies, which either have statutory authority or are Responsible Agencies under CEQA:

- *Department of Water Resources (DWR)* <http://www.dwr.water.ca.gov>, which guides development and management of the State's water resources;
- *State Water Resources Control Board* <http://www.swrcb.ca.gov/> and nine *Regional Water Quality Control Boards* <http://www.swrcb.ca.gov/regions.html> for projects resulting in point source discharges to surface waters (e.g., industrial facilities, wastewater treatment plants) and non-point source discharges (e.g., construction site and urban stormwater runoff) in accordance with the California Porter-Cologne Water Quality Act;
- *California Department of Health Services* <http://www.dhs.ca.gov> for projects involving water or wastewater treatment, and use of reclaimed water;
- *California Department of Fish and Game* <http://www.dfg.ca.gov> for projects that would change the natural state of any river, stream or lake (California Fish and Game Code, Sections 1600 through 1607);
- *State Reclamation Board* <http://www.recbd.ca.gov/> for any activity or any type of encroachment on or near the banks of the Sacramento and San Joaquin Rivers or their tributaries; or for activities on any designated "floodway" (Colby-Alquist Flood Plain Management Act: California Water Code, Section 8590 et seq); and
- *California Department of Water Resources, Division of Safety of Dams (DSOD)* <http://www.damsafety.water.ca.gov> for projects involving construction, enlargement, repair or removal of a dam or reservoir (California Water Code, Division 3C Parts 1 and 2).

Other State agencies with statutory authority or that may wish to comment on the environmental document with regard to hydrology and water quality issues include: Department of Food and

Agriculture, Department of Real Estate, Bay Conservation and Development Commission, State Lands Commission, Department of Parks and Recreation, Department of Conservation, California Tahoe Regional Planning Agency, California Coastal Commission, and the Department of Forestry.

### **Federal Agencies**

- U.S. Army Corps of Engineers (USACE) for projects requiring "404 Permits" for modifying waters of the United States, as established under the federal Clean Water Act. Three district offices, *San Francisco*, <http://www.spn.usace.army.mil/>, *Sacramento*, <http://www.spk.usace.army.mil/>, and *Los Angeles* <http://www.spl.usace.army.mil/> provide review and permitting services for California.

### **LRDP EIR**

The Hydrology and Water Quality section of the EIR should describe the specific hydrological characteristics of the campus, including existing water bodies, drainage patterns, 100-year flood plain(s), existing drainage and/or flood control facilities, groundwater recharge potential, surface and groundwater quality. The section should then assess whether the proposed project would substantially affect these characteristics and factors.

The analysis should focus primarily on:

- changes in drainage patterns and/or the quantity and rate of drainage that would affect existing system capacity
- changes in the quantity and rate of runoff or other discharges that would affect receiving water quality (surface and/or groundwater)
- development in areas subject to 100-year flood hazard or in areas subject to dam failure or inundation.

### **Project EIR**

To the extent not analyzed in an LRDP EIR, the Hydrology and Water Quality section of the Project EIR or the IS should analyze whether the project would result in any effects that were not anticipated or evaluated by the LRDP EIR. Further, it should analyze the project in relation to the current LRDP. The results of a site-specific drainage study should be used to quantify the rate and volume of stormwater runoff.

### **Standards of Significance**

Would the project:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would

drop to a level which would not support existing land uses or planned uses for which permits have been granted);

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place structures within a 100-year flood hazard area that would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Inundation by seiche, tsunami, or mudflow?

### **Analytical Methods**

- Collect information on drainage patterns, water volumes and quality, extent of floodplain and dam failure inundation areas, and locations of groundwater recharge areas. Sources of information can include U.S. Geological Survey (USGS) topographic maps and watershed mapping information compiled by the *USGS* <http://www.usgs.gov> *California Division of Mines and Geology (CDMG)* <http://www.consrv.ca.gov/dmg/index.htm>, *DWR* <http://www.dwr.water.ca.gov>, *SWRCB* <http://www.swrcb.ca.gov/> and *RWQCBs* <http://www.swrcb.ca.gov/regions.html>, Federal Emergency Management Agency (FEMA) flood insurance rate maps and dam failure inundation maps prepared by *DOSD* <http://www.damsafety.water.ca.gov> and State *Office of Emergency Services (OES)* <http://www.oes.ca.gov/>, and master drainage plans and recent environmental reports for the project vicinity <http://www.ceres.ca.gov/planning>
- Calculate increases in stormwater runoff from the proposed project. Preliminary drainage studies should be prepared by qualified engineers or hydrologists using standard protocols (e.g., HEC-1, HECRAS) to determine the effects of increased runoff on downstream flooding and whether mitigation (e.g., on-site detention) is needed.
- Determine the effects of stormwater runoff water quality on the quality of the receiving water by testing or collecting data, or qualitatively, based on anticipated uses, when limited or no data is available.

- Determine which regulatory standards must be met, including federal National Pollutant Discharge Elimination System (NPDES) permits administered by the SWRCB and RWQCBs, any local pretreatment requirements, and evolving nonpoint source discharge requirements, including those under the *NPDES Phase II program*.  
<http://www.cfpub.epa.gov/npdes>
- Identify potential cumulative impacts, with particular focus on effects of increased stormwater runoff at downstream locations and reduction in floodplain storage area.

### **Generally Feasible Mitigation Measures**

- Redesign project facilities to avoid floodprone lands and natural stream channels.
- Implement stormwater drainage and erosion control strategies to avoid significant adverse water quality impacts.
- Incorporate facilities to provide temporary or long-term storage of stormwater runoff to minimize increase in downstream flood risk.
- Provide facilities to allow increased groundwater recharge of stormwater or reclaimed wastewater.
- Design landscaped areas of development sites to absorb runoff from roofs and walkways.
- Explore the feasibility of using reclaimed wastewater for landscape irrigation or other subpotable use.
- Design development on campus to maintain sufficient levels of absorption in water recharge areas, so that springs and seeps fed by affected aquifers are not substantially diminished.
- Require Best Management Practices in construction contracts, consistent with NPDES General Construction Activity Stormwater Permit requirements to minimize sedimentation resulting from construction and the transport of soils by construction vehicles.
- Schedule construction grading during the dry season to the extent feasible
- Incorporate applicable NPDES Phase II requirements
- Continue to comply with permit requirements and applicable laws and regulations in discharging wastewater effluent.

### 3.3.14 Land Use and Planning

#### Introduction

The purpose of the Land Use and Planning section is to identify and evaluate potential conflicts between the project or LRDP and 1) local land use plans and policies (including the campus LRDP); and 2) existing land uses. Although the University of California is constitutionally exempt from the application of local plans and policies, mitigation measures should be suggested to reduce or minimize any physical consequences of potential conflicts. Environmental documents should include a statement such as: “The University of California is constitutionally exempt under Article IX, Section 9 from local land use regulation including general plans and zoning, but seeks to cooperate with local jurisdictions to reduce any physical consequences of potential land use conflicts to the extent feasible.”

(See <http://www.leginfo.ca.gov/calaw.html>)

#### Responsible Agencies

The following are those agencies potentially responsible for land use issues:

- *California Coastal Commission* (see <http://www.coastal.ca.gov/web>). Pursuant to the California Coastal Act of 1976, the Coastal Commission is responsible for:
  1. protecting and, where feasible, enhancing the overall quality of the Coastal Zone environment and its resources, and
  2. ensuring orderly, balanced use of resources, taking into account social and economic needs.

The Commission's primary tool for accomplishing these objectives is the Local Coastal Plan, which sets forth policies and a land use plan for protecting and guiding development within Local Coastal Zones. At UC campuses, under a special process, the Coastal Commission reviews and approves the LRDP, which in effect serves as the equivalent of a Local Coastal Plan.

- The State Lands Commission (see <http://www.slc.ca.gov>) has jurisdiction over dredging or alteration of structures, mineral extraction and geothermal exploration of State lands, as well as for a series of more general uses of State lands, including income-producing enterprises and right-of-ways. (See *California Public Resources Code, Section 6201 et. seq.* <http://www.leginfo.ca.gov/calaw.html>).

#### LRDP EIR

The Land Use and Planning Section of an LRDP EIR should identify and evaluate potential land use, zoning, and policy conflicts between the proposed LRDP and existing local land uses and policies. If the LRDP is comprised of multiple sub-areas or encompasses more than one local jurisdiction, the analysis should be organized by sub-area and jurisdiction. Graphic aids should be used as needed to

depict boundaries and districts. The contextual nature of land use conflicts, i.e., issues of noise/habitat sensitivity, should be described. An assessment of cumulative impacts should also be included.

## **Project EIR**

The Land Use and Planning Section of a Project EIR should analyze whether the project is in conformance with the LRDP. Further, it should analyze the project in relation to any other relevant existing land use plans.

The Land Use and Planning Section should also identify and evaluate potential conflicts between existing land uses and those that are proposed as part of the project. It should also analyze potential conflicts over the intensity and patterns of use in order to ensure that the project does not result in incompatible uses or nuisance impacts to sensitive receptors (such as residences, medical facilities, schools, churches, etc.) and business.

If a project is not consistent with the LRDP land use designation, explain why the project is proposed at that site, what other sites were considered, how the site is proposed to be redesignated, and what effect, if any, the redesignation will have (i.e., will there still be adequate land appropriately designated to accommodate the remainder of the LRDP program).

## **Standards of Significance**

Would the project:

- Physically divide an established community?
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
- Conflict with any applicable habitat conservation plan or natural community conservation plan?
- For projects exempt from local land use regulations and controls, substantially conflict with those regulations and controls such that a significant incompatibility is created with any existing land use at the periphery of the campus.
- Exceed an applicable LRDP or program EIR standard of significance? This question enables the campus to define a campus specific land use impact.

## **Analytical Methods**

- Collect applicable and/or relevant regional and local land use plans and ordinances (LRDP, City, County, Association of Governments, and Coastal Commission).

- Summarize existing land uses and relevant policy provisions of plans.
- Determine whether the project proposes land uses in the coastal zone that are considered priority land uses by the Coastal Act, including coastal-dependent industry, recreation, visitor-serving commercial facilities, and agriculture.
- Analyze potential conflicts between campus periphery land uses and local land uses.
- Identify potential cumulative impacts.
- If a project is not consistent with the LRDP land use designation, explain why the project is proposed at that site, what alternative sites were considered, how the site is proposed to be redesignated, and what effect, if any, the redesignation will have (i.e., will there still be adequate land to appropriately designated to accommodate the remainder of the LRDP program.)

### **Generally Feasible Mitigation Measures**

Generally, specific mitigation measures for land use impacts should not be developed until the LRDP and LRDP EIR for the campus are finalized. Mitigation would depend on project-specific impacts, or impacts particular to each campus environment. Following are general types of mitigation, and/or guidelines on how to formulate mitigation.

- Provide buffers or setbacks at campus edges
- Consider compatible densities and land use types at campus edges
- Conform to the extent feasible, consistent with University goals and objectives, with local land use limitations relevant to the project.

### **LRDP Inconsistency**

If a project site is inconsistent with the LRDP land use designation, the project can either amend the LRDP as part of the project, or the amendment can be a mitigation. The analysis of the LRDP amendment must be included in the project environmental analysis. Normally the Regents will amend the LRDP at the time of project design approval.

The analysis of the LRDP amendment must describe:

- The land area to be redesignated;
- The proposed new land use designation;
- Other sites that were considered for the project, and why they were unacceptable;

- Why an LRDP amendment is required rather than locating the project on an appropriately designated area.
- Whether the land use redesignation will affect the rest of the LRDP program (i.e. will there be adequate remaining land appropriately designated for the remainder of the program).

### 3.3.15 Mineral Resources

#### Introduction

The purpose of the Mineral Resources section is to identify and evaluate the potential for the project to adversely affect the availability of known mineral resources. The mineral resources of concern include metals, industrial minerals (e.g., aggregate, sand and gravel), oil and gas, and geothermal resources that would be of value to the region and residents of the State.

#### Responsible Agencies

The protection of mineral resources in California is the responsibility of the following agencies, which either have statutory authority or are Responsible Agencies under CEQA:

- *California Department of Conservation* <http://www.consrv.ca.gov> is the primary agency with regard to mineral resource protection. The Department is charged with conserving earth resources (*Public Resources Code Sections 600-690*) <http://www.leginfo.ca.gov> and has five program divisions that address mineral resource issues: *Division of Mines and Geology*, <http://www.consrv.ca.gov/dmg> *Division of Oil, Gas and Geothermal Resources*, <http://www.consrv.ca.gov/dog/> *Division of Land Resource Protection*, <http://www.consrv.ca.gov/dlrp> *Division of Recycling*, <http://www.consrv.ca.gov/dor/> and *Office of Mine Reclamation* <http://www.consrv.ca.gov/omr>.
- *State Mining and Geology Board*, which develops policy direction regarding the development and conservation of mineral resources and reclamation of mined lands. <http://www.consrv.ca.gov/smgb/>

Other State agencies with Statutory Authority or that may wish to comment on the environmental document with regard to mineral resources issues include:

- State Lands Commission
- Coastal Commission (for land uses that could affect access to mineral resources within the Coastal Zone). (See *UC CEQA Handbook Section 3.3.14.*)
- State Water Resources Control Board (as pertains to mineral resource water quality-related issues),
- Parks and Recreation, Fish and Game, and Energy Commission (*CEQA Guidelines Appendix B*),

See *UC CEQA Handbook Section 3.3.14*, Land Use, for a description of the responsibilities of the State Lands Commission and California Coastal Commission with regard to project or land uses.

## **LRDP EIR**

- The mineral resources impact analysis should focus on the potential loss of availability of the mineral resource due to land use conversions.

Loss of access to mineral resources would primarily be the result of conversion of lands underlain by these resources to other uses, or within close proximity to the resources, such that the construction and occupancy of the project would restrict or eliminate safe and environmentally sound measures to implement extractive operations. Loss of access could also be the result of changes in land ownership (e.g., non-renewal of a lease where active mining is occurring).

Loss of access to mineral resources for the purposes of future extraction could be considered to be primarily an economic issue. According to *CEQA Guidelines Section 15131(a)* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art9.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art9.html) purely economic impacts are not considered physical environmental impacts. Notwithstanding, important mineral resource areas are recognized at the federal and State levels through environmental resource management plans and adopted mineral resource mapping, and at the local level through land use planning documents such as general plans that incorporate such information. Therefore, the potential loss of such resources, if any, due to project implementation should be described. If mineral resources could be affected, an assessment of cumulative impacts should also be included.

Potential effects related to land use compatibility (if the project would site new uses adjacent to existing mining operations) are more appropriately discussed in the land use section of the LRDP EIR. If active mining activities were restricted or eliminated by changes in land ownership, it might be necessary to expand or open a mine in another area, which could have significant environmental effects on other natural resources. Such issues should be discussed in the appropriate technical sections of the LRDP EIR.

## **Project EIR**

To the extent not analyzed in an LRDP EIR, the Mineral Resources section of a Project EIR or the IS should analyze whether the project would result in any effects that were not anticipated or evaluated by the LRDP EIR. Further, it should analyze the project in relation to the current LRDP and any existing land use plans.

## **Standards of Significance**

Would the project:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

- Exceed an applicable LRDP or program EIR standard of significance? This question enables the campus to define a campus specific standard of significance.

### **Analytical Methods**

- The environmental analysis must evaluate site-specific characteristics in relation to the type and extent of proposed changes in land use.
- The Mineral Resources section of the EIR or Tiered Initial Study should identify the locations of mineral resources relative to the project site.

Sections 2761(a) and (b) and 2790 of the State's *Surface Mining and Reclamation Act (SMARA)* provide for a mineral lands inventory process termed classification-designation. The California Division of Mines and Geology, and the State Mining and Geology Board <http://www.consrv.ca.gov/smgb/> are responsible for administering this process and have statutory authority. Areas are classified on the basis of geologic factors, without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs). Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources where geologic data indicate significant measured or indicated resources are present. MRZ-2 areas designated by the Mining and Geology Board as "regionally significant" are incorporated by regulation into Title 14, Division 2 of the California Code of Regulations. Such designations require that a lead agency's land use decisions involving designated areas be made in accordance with its mineral resource management policies, and that it consider the importance of the mineral resource to the region or the state as a whole, not just to the lead agency's jurisdiction.

The primary source of information considered in the analysis is the "mineral lands classification" maps published by the State pursuant to SMARA, as described above. Reports containing these maps are listed in *Publications Available from the Division of Mines and Geology*.

<http://www.consrv.ca.gov/dmg> Digital data is currently available for some locations and may be obtained by contacting the Division of Mines and Geology. Locations of areas classified MRZ-2 on the classification maps and their proximity to project development should be depicted graphically and described in the text, based on information provided in the published report. If mineral lands classification mapping has not been published, that should be noted. In lieu of such information, the local general plan or applicable environmental plan should be consulted to determine whether any mineral resource land use designations have been adopted, or if there are other land use or zoning designations that allow for mineral extraction. Finally, two comprehensive databases managed by the U.S. Geological Survey (*Minerals Availability System* and *Mineral Resource Data System*) <http://www.mrdata.usgs.gov> contain substantial amounts of information regarding specific mineral locations. However, interpretation of the data and its relevance to the mineral resources analysis in the EIR or Tiered Initial Study (TIS) should be limited to a general discussion and should not be used solely to determine potential effects.

Local general plans are required to incorporate the above-mentioned information where MRZ-2 classifications or regionally significant designations have been published. Although the University of

California is constitutionally exempt from local land use planning requirements, information contained in the local plans is valuable, and should be considered.

The data listed above may be assumed to reasonably indicate the potential for resources of local or regional significance. Consultation with the local land use jurisdiction regarding active and pending mining permits and status of reclamation plans may also provide useful information, along with review of the most current edition of *Mines and Mineral Producers Active in California*, Division of Mines and Geology Special Publication 103. If such information is available, mineral rights, patents, and claims should also be identified.

Once information has been gathered from the above-mentioned sources as to the existence of valuable mineral resources, the determination must be made as to whether the project would affect them.

### **Generally Feasible Mitigation Measures**

- Avoid siting project land uses in areas classified MRZ-2 or designated as “regionally significant” by the State Geologist where feasible.
- Where MRZ-2 or “regionally significant” areas have not been identified, avoid siting project land uses in mineral resource areas formally identified in local general plans, specific plans, or relevant environmental plans, or where site-specific information evaluated by a geologist registered in the State of California suggests the potential for a mineral deposit of economic value as feasible.
- Consult with local planning jurisdictions prior to adopting any land use change that could restrict or eliminate mineral deposits identified as MRZ-2, regionally significant, or identified by the local land use jurisdiction, or that would interfere with active mining operations. The purpose of this consultation is to identify potential land use conflicts and to cooperate with the local jurisdiction so that it can fulfill its obligations under the Public Resources Code and SMARA.

### **3.3.16 Noise**

#### **Introduction**

The purpose of the Noise section is to identify, describe, and evaluate noise sources and potential land use conflicts related to environmental noise. Potential sources of ground-borne vibration and exposure to ground-borne vibration is sometimes also addressed in the Noise section. To determine the potential for significant noise impacts, the baseline noise conditions and surrounding existing sensitive land uses need to be characterized. Then, changes in noise levels or changes in noise exposure circumstances caused by the contemplated project need to be evaluated.

Common noise sources associated with campus development include: construction activities (e.g., heavy truck traffic, pile drivers, pumps and compressors); increased motor vehicle traffic; and other increased outdoor or nighttime activity.

#### **Responsible Agencies**

No specific Responsible Agencies would normally be involved in the CEQA process regarding the noise consequences of UC projects. Local communities commonly maintain a Noise Element within the community General Plan and a noise ordinance that regulates noise in the community. For informational purposes only, the following background references are provided:

- The California Governor's Office of Planning and Research provides guidelines for preparing community General Plans (<http://www.opr.ca.gov/publications/pdfs/genplan.pdf>) including the *Noise Element Guidelines*. (<http://www.opr.ca.gov/publications/GeneralPlanning.shtml>)
- The State Department of Transportation provides guidance on assessing impacts due to transportation-related projects. (<http://www.dot.ca.gov/hq/env/noise> )

#### **LRDP EIR**

The Noise section of an LRDP EIR typically uses baseline noise measurements taken on and around the sites potentially affected by the LRDP. Future noise conditions are then estimated based on anticipated changes in land use, traffic, and surrounding activities. Construction activities associated with development projects commonly include similar sources of noise that can be analyzed and mitigated in the LRDP EIR, usually without further analysis at the project level. The Noise Element of the local community General Plan, or the community noise ordinance, can be consulted for guidance on locally acceptable noise levels. An acoustical engineer should be retained to prepare the Noise section of the LRDP EIR.

#### **Project EIR**

To the extent not analyzed in an LRDP EIR, the Noise section of a Project EIR should analyze the noise impacts that would be caused by the proposed project and determine whether they would result in perceptible or significant changes in noise conditions.

## **Standards of Significance**

Would the project result in:

- Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels existing without the project?
- Exposure of people residing or working in the project area to excessive noise levels if the project is located within an area covered by an airport land use plan, or where such plan has not been adopted, within two miles of public airport or public use airport?
- Exposure of people residing or working in the project area to excessive noise levels if the project is located in the vicinity of a private airstrip?
- Exceedance of an applicable LRDP or program EIR standards of significance? This question enables the campus to define a campus specific threshold of significance.

## **Analytical Methods**

- Complete a noise survey if one does not exist, to establish baseline conditions. The survey should identify locations of sensitive receptors and major noise sources (e.g., freeways, industrial areas, etc.), and the community land use compatibility guidelines for noise.
- Identify and map major noise sources and sensitive receptors (e.g., residences, areas used for quiet recreation) in the proposed project area.
- Identify relevant noise policies and regulations.
- Estimate noise associated with project construction activities. Determine the duration of construction and phases or periods most likely to be disruptive. Identify other nearby projects potentially undergoing simultaneous construction. Compare effects with land use compatibility standards and applicable noise standards.

- Identify noise sources related to project operation (e.g., new traffic, stationary equipment, or other loud activities), and estimate project-related contribution to the noise environment at sensitive receptors. Assign level of significance.
- For sensitive receptors that may be planned with the project, characterize compatibility with the existing and future noise environment.
- Identify potential cumulative impacts.

### **Generally Feasible Mitigation Measures**

For construction-related noise effects:

- Schedule construction activities and route construction traffic to minimize disruption to area residences and existing operations surrounding the project site, as well as to campus users. Construction scheduling limitations should depend on the sensitivity of the affected receptors. For example, to protect residential land uses, night and weekend construction should be restricted; however, interior construction work at night or on weekends may be permissible if noise thresholds are not exceeded. To protect academic land uses that would be occupied primarily in the daytime, nighttime and weekend construction could be encouraged.
- Erect temporary wood noise barrier shields around the work area where jackhammers and other construction equipment are being used in the vicinity of sensitive receptors.
- Locate noise equipment away from sensitive receptors.
- Limit the hours of construction activities.

For noise effects related to new sources:

- Limit hours of operation of new noise sources to minimize disturbance of sensitive receptors.
- Design new noise sources to incorporate noise attenuation measures or features.

For noise effects related to land use compatibility:

- Design new campus residential facilities so that indoor noise levels will conform to Title 24, Part 2, of the California Code of Regulations.
- In projects where redesigning is not feasible, suggest mitigation measures that will reduce noise (e.g., reduce the intensity of the noise sources, provide double-paned windows, or provide barriers, fences, or berms between the noise source and receptors).

- Erect/construct a permanent noise barrier (i.e., a soundwall) to reduce noise impacts to sensitive receptors.

### **3.3.17 Population and Housing**

#### **Introduction**

The purpose of the Population and Housing section of an EIR is to provide a context in which to assess the direct and indirect physical and socioeconomic impacts of campus population growth on general population levels, and the housing stock of the region.

#### **Responsible Agencies**

None identified.

#### **LRDP EIR**

The Population and Housing section should establish the scope of geographic impact for both direct and indirect impacts. For this purpose, it may be useful to organize the region into planning units that are likely to be impacted differently by the proposed project.

The LRDP EIR should establish a comprehensive database of growth conditions that will serve as an "umbrella" for future project environmental documents. Baseline information should be collected and a baseline year established for information on population and housing.

#### Population

Information on population should include the total on-campus population by sub-group and the population of any applicable city and county jurisdictions. Campus population may be subdivided into a number of sub-groups, but should at least include student, faculty, and staff counts.

The most appropriate population unit to use in the LRDP EIR is the three quarter (or two semester) average headcount. While UC is currently expanding enrollment in the summer, the three quarter average headcount is still the best representation of the campus student population.

Faculty and staff should similarly be expressed in terms of headcount.

#### Housing

Housing information should include:

- the number of student beds on campus;
- any off-campus student housing controlled by the University;
- faculty units, if applicable, and
- a description of existing housing conditions in the region such as the number of households and average number of persons household.

- While student housing is offered in a variety of forms (residential halls, suites, apartments, theme houses, etc) it is essential to have a comparable unit of measure so housing should be expressed in terms of “beds”.

The Population and Housing section should also include a discussion of growth control restrictions or other conditions that might limit the number of housing units that can be built in the area. In addition, characteristic past growth rates in the region should be documented to assist in the analysis of future growth rates both with and without the project. A professional economist or economic planner should help prepare this section of the EIR.

### **Project EIR**

To the extent not analyzed in an LRDP EIR, the Population and Housing section of a Project EIR should analyze any specific impacts of the proposed project.

Generally, considerably more information is known at the project level about numbers and types of users. Therefore, it is possible to ascertain the primary and secondary impacts that would potentially result from the project. However, if the project is consistent with an LRDP and its EIR, population and housing impacts should have been evaluated previously.

### **Standards of Significance**

Would the project:

- Induce substantial population growth or concentration of population in an area, either directly (for example, by proposing new housing and/or businesses), or indirectly (for example, through extension of roads or other infrastructure)?
- Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
- Exceed an applicable LRDP EIR or program EIR standard of significance? This question enables the campus to define a campus specific standard of significance.

### **Analytical Methods**

- Collect baseline data on population and housing for the setting section. Ascertain relative growth rates for each study area.
- Describe the campus population (total number of students, faculty, staff, and visitors), and the population of any applicable jurisdictions affected by the proposed project.

- Evaluate the direct impacts of increased campus population on areawide population, and housing stock.
- Project (in percentages) the new campus population by category and household size that would live in the study area (city/county, etc.). Compare off-campus population growth to the region's ability to accommodate that growth.
- Develop multipliers, or apply existing multipliers used by affected jurisdictions (if available) for estimating the indirect impacts of this level of increased growth on areawide population, and housing stock.
- Identify impacts and assign a level of significance.
- Identify the potential for growth-inducing impacts.
- Identify potential cumulative impacts.

### **Generally Feasible Mitigation Measures**

- Build or provide housing on campus for students, or make provisions to provide University controlled housing off campus.
- Offer a variety of housing assistance measures that increase the affordability of home ownership for faculty.
- Most population mitigations will be those identified in other EIR sections dealing with physical effects; e.g., traffic, air, public services and utilities.

### **3.3.18 Public Services**

#### **Introduction**

The Public Services section should assess the impact of the proposed project on law enforcement, fire protection, schools, and other public services. The EIR discussion should differentiate between physical impacts on the environment and other impacts of community concern, as well as services provided by UC, as contracted with those provided by public jurisdictions.

#### **Responsible Agencies**

Responsible agencies for public services will vary by campus depending on who provides the public services. Potential Responsible Agencies include:

- Local (City/County) fire departments;
- Local school districts.

The *California Department of Forestry and Fire Protection* <http://www.fire.ca.gov> provides a variety of fire protection-related services for locations within State Responsibility Areas and through mutual aid agreements with local emergency response providers.

#### **LRDP EIR**

The Public Services section of an LRDP EIR is based on comparisons of projected service needs to levels of service currently provided and anticipated. Public service analyses focus on the need for additional staff and equipment, as applicable to each function and the resulting environmental impacts of providing increased service capacity.

#### **Project EIR**

The public services section of a Project EIR should analyze the specific effects of a project on existing levels of service and the improvements that would be required to accommodate the proposed project and the resulting environmental impacts of providing increased service capacity.

## **Standards of Significance**

Would the project:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response time or other performance objectives for any of the public services:
  - - o Fire protection?
    - o Police protection?
    - o Schools?
    - o Parks?
    - o Other public facilities?
- Exceed an applicable LRDP or program EIR standard of significance? This question enables the campus to define a campus specific standard of significance.

## **Analytical Methods**

- Prepare a summary of existing conditions in the designated base year by contacting each of the service providers. Differentiate campus provided services (police) from publicly provided services (fire). Collect information relating to staff and equipment as it applies to police and fire services.
- Identify locally accepted or required standards or ratios related to the provision of service (Examples include number of police officers /1,000 people, response times for fire service).
- Identify existing school capacity and future response times for service providers to reach the project site.
- Compare anticipated requirements with existing and future planned service provision improvements. Identify potential impacts of capacity expansions. Assign levels of significance to these impacts.
- Identify potential cumulative impacts.

## **Generally Feasible Mitigation Measures**

Mitigation measures for public service impacts typically consist of expansion of existing services, which generally involves adding staff and equipment. Methods to reduce service demands can also be recommended.

- Provide sufficient on-campus services.
- Hire more campus police/fire personnel and/or purchase equipment.
- Ensure access for fire trucks and other emergency vehicles (may use pedestrian walkways).

### **3.3.19 Recreation**

The Recreation section of the LRDP or Project EIR should assess the impact of the proposed project on recreation facilities both on-campus and off-campus. The standard recreation analysis for private projects is intended to determine the extent to which a project contributes to the physical deterioration of publicly provided recreation facilities. Because campuses provide a myriad of recreation facilities on-campus – including athletic facilities, recreation facilities, open space areas, etc, the campus population is primarily served by campus recreation facilities. The adequacy of those facilities impacts UC and only indirectly impacts public recreation facilities. The impact of campus development on off-campus recreation facilities is a function of the number and distribution of campus population who live off campus and who use public recreation facilities rather than campus or private recreation facilities.

The EIR should discuss the potential increased demand for various recreational facilities (particularly off-campus), identify any potential need for new recreational facilities generated by the project, and differentiate between physical impacts on the environment associated with the need to construct new recreational facilities and other impacts of community concern. Standards of Significance, Analytical Methods, and Generally Feasible Mitigation Measures for such an analysis are discussed below.

#### **Responsible Agencies**

- *p*California Department of Parks and Recreation <http://cal-parks.ca.gov>
- Local Parks and Recreation Departments
- California Department of Fish and Game <http://www.dfg.ca.gov/dfghome.html>
- California Department of Boating and Waterways <http://www.dbw.ca.gov>

#### **LRDP EIR**

The Recreation section of an LRDP EIR is based upon comparisons of projected service needs to levels of service at facilities currently provided and anticipated. The analysis focuses on identifying whether the LRDP would result in a potential increase in demand for existing off- campus recreational facilities such that physical deterioration of the facilities would occur. The analysis would also determine if implementation of the LRDP would require the construction or expansion of campus or community recreational facilities that could result in an adverse physical effect on the environment.

#### **Project EIR**

The Recreation section of a Project EIR should analyze the specific effects of a project on existing recreation facilities on or near the project site and determine if the project will result in substantial increased demand for recreation facilities off campus. Since off-campus recreational demand is generally a function of residential population, the Project EIR should identify whether implementation of the project would result in increased demand on either existing on-campus or off-campus recreational facilities that would result in accelerated physical deterioration of the facilities. On-campus demand is a function of student enrollment and employment. The Project EIR should also analyze any impacts associated with project construction and operation of recreation facilities that may be included as part of the project.

## **Standards of Significance**

Would the project:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

## **Analytical Methods**

- Evaluate the characteristics of the likely population group created by the project, i.e., undergraduate or graduate students, faculty/staff families, etc.
- Determine where that additional population would be housed, i.e., on or off- campus housing.
- Identify locally accepted or required standards or ratios related to the provision of parks (i.e., number of acres per 1,000 residents; acreage broken down by types of parks/facilities).
- Compare anticipated demand for recreation with existing and future planned parks and recreation improvements. Identify potential impacts. Assign levels of significance to these impacts.
- Identify potential cumulative impacts.

## **Generally Feasible Mitigation Measures**

- Provide sufficient on-campus open space, athletics, and recreation facilities.

### 3.3.20 Transportation/Traffic

#### Introduction

The purpose of the Transportation/Traffic section is to describe existing and future traffic circulation and parking patterns, and to evaluate the impact of the proposed project on these conditions. This evaluation should also consider project impacts on public transportation and alternative modes of transportation, such as bicycles, shuttles, and walkways.

Key transportation issues to be evaluated include traffic patterns, trip generation, peak congestion periods, areas and cause of congestion, traffic and pedestrian safety, transit availability, parking availability, and if applicable, bicycle and pedestrian flows. The analysis should focus on both on- and off-campus circulation.

The analysis should evaluate project impacts against conditions in and around the project vicinity that are likely to be affected by the changes in transportation/traffic attributed to the project. The analysis should also define the affected traffic study region.

#### Responsible Agencies

- The *California Department of Transportation (Caltrans)* <http://www.dot.ca.gov> would be a Responsible Agency for projects requiring permits for encroaching on land within its jurisdiction. Caltrans reviews projects to ensure that the proposed encroachment is compatible with the primary uses of the State highway system, to ensure the safety of both the permittee and the highway users, and to protect the State's investment in the highway facility. Caltrans Division of Aeronautics (see <http://www.dot.ca.gov/hq/planning/aeronaut/htmlfile/index.html>) issues permits for projects involving the construction or operation of an airport or heliport.
- In cases where federal funding may be appropriate, guidance from the *Federal Highway Administration* (see [www.fhwa.dot.gov](http://www.fhwa.dot.gov)) should be considered.

#### LRDP EIR

The Transportation/Traffic section of the LRDP EIR establishes a comprehensive database of traffic and parking conditions, which serves as an "umbrella" for future project EIRs. The section should examine all relevant elements of on- and off-campus traffic and parking.

Baseline data should be coordinated with the local community to the greatest extent feasible. Caltrans should also be consulted and, when possible, baseline data should match Caltrans data. Where needed, additional data collection related to existing traffic volumes, circulation patterns, intersection level of service (LOS), parking supply and utilization, and transit usage should be prepared by a registered traffic engineer with a good understanding of local traffic conditions and a sound working relationship with the local traffic department.

To facilitate information gathering, a circulation survey that examines all forms of transportation could be conducted. This survey would focus on pedestrian traffic and circulation patterns, transit usage and activity, and bicycle traffic and circulation patterns.

## **Project EIR**

To the extent not analyzed in the LRDP EIR, this section of the Project EIR should assess how the project would affect transportation and traffic both on- and off- campus. The section should calculate the effect of the project on average daily trips (ADTs) and peak trips on roadways in the project vicinity. It should also assess how the traffic volumes would affect Levels of Service (LOS) at key intersections and roadways in the area. The section should evaluate whether existing transit services can accommodate the project and indicate whether the project area has an adequate network of bicycle and pedestrian paths to allow for easy transit access. If a project is consistent with an LRDP, however, these impacts should have been evaluated previously.

## **Standards of Significance**

Would the project:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections?)
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?
- Result in inadequate parking capacity?
- Conflict with applicable policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?
- Exceed an LRDP EIR or program EIR standard of significance? This question enables the campus to define a campus specific standard of significance.

## **Analytical Methods**

- Select intersections for detailed study. Selection should be based on which intersections are the most crucial to the movement of traffic to and from the project area.
- Collect existing traffic conditions data within the study area, including peak-hour turning movements and pedestrian flows at selected intersections.
- Collect information on the availability, location, type, use restriction, current utilization, and security of on- and off-campus parking facilities for both automobiles and motorcycles used by the campus population.
- Determine if the project has adequate parking and internal circulation capacity to accommodate projected traffic so that off-campus areas are not adversely affected.
- Collect transit information relating to the number and type of transit lines and routes serving the campus, the existing transit schedule, and the location of loading and unloading zones in order to obtain a complete inventory of transit conditions in the project vicinity. Determine existing use levels and assess how much of the remaining capacity would be used by the proposed project. Share LRDP population projections with transit systems for their planning purposes.
- Determine the number of persons, vehicles, trips, etc., that would be associated with the project.
- Determine if project features facilitate ease of access to transit facilities such as bus stops, paratransit services, etc.
- Determine if the design of the project accommodates/promotes transit use, alternative modes of transportation (i.e. bicycles), and pedestrian traffic.
- Determine if the project increases pedestrian and bicycle traffic in areas that may not have adequate facilities for these modes of travel.
- Determine if the project increases conflicts between bicyclists, pedestrians, and transit vehicles, causing increased congestion and safety problems.
- Determine if the project increases the demand for transit services, expansion of bikepaths or walkways.
- Assign trips and pedestrian flows to the internal and external circulation system.
- Project cumulative traffic conditions and circulation patterns (with and without the project) in the campus vicinity based on the information collected above.
- Collect information necessary to predict future traffic conditions (i.e., related projects, community plan growth predictions).

- Compare the future cumulative and growth inducing traffic conditions with and without the project to determine the impact of the project; assign levels of significance.

### **Generally Feasible Mitigation Measures**

- Implement campus transportation management programs (i.e. campus shuttle services) and parking management strategies to reduce vehicular trips.
- On- and off-site circulation system improvements (e.g., roadway widenings and rerouting, intersection signalization and widening, channelization, etc.).
- On- and off- site parking improvements.
- Design measures to separate pedestrian, bicycle and vehicular traffic to avoid safety conflicts.
- Coordinate transit programs with transit providers to identify measures needed to maintain or improve acceptable transit services and facilities to the campus.
- Design circulation system to encourage students to walk or use bicycles rather than automobiles. Consider separate bicycle-exclusive paths.
- Provide accessibility for disabled members of the population. (See <http://www.usdoj.gov/crt/ada/adahom1.htm>).
- Provide adequate service routes, service access and loading zones to new buildings.
- Provide additional student housing on campus to reduce student commuting.
- Provide financial support for fair share of off-site intersection improvements.
- Develop a parking occupancy monitoring program. Initiate studies to determine when parking capacity reaches a threshold percentage; then implement planning programs to develop additional parking facilities before existing facilities reach capacity.

### **3.3.21 Utilities, Energy and Service Systems**

#### **Introduction**

The Utilities, Energy and Service Systems section of the LRDP or Project EIR should assess the impact of the proposed project on water supply and wastewater, solid waste disposal, electricity, natural gas, telecommunications, chilled water, and steam. This section should also describe existing treatment of wastewater and existing conveyance systems for all utilities. This section is subdivided into subsections on Utilities and Service Systems and Energy. The University's Energy and Water Conservation Management policy is detailed in the *Facilities Manual*, <http://www.ucop.edu/facil/fmc/facilman/volume6/ch5.html>.

#### **Utilities and Service Systems**

##### **Responsible Agencies**

Potential Responsible Agencies include the:

- *Public Utilities Commission (PUC)* <http://www.cpuc.ca.gov> for projects requiring permits to construct an electric transmission line, a water utility, a radio-telephone utility, or facilities for operating a passenger transportation service;
- *California Integrated Waste Management Board* <http://www.ciwmb.ca.gov> (or applicable Enforcement Agency) would be a Responsible Agency for projects requiring permits to operate a transfer, disposal, or waste-to-energy facility; and
- Local utility providers.

##### **LRDP EIR**

The Utilities section of a LRDP EIR should explain the overall provision and distribution of the utilities used by the campus. These include electricity, natural gas, water, wastewater, solid waste, and telecommunications. Some campuses also generate and distribute chilled water and steam. The LRDP EIR must differentiate which utilities are provided by UC as compared to other providers. The LRDP EIR must describe existing and proposed utility plants and distribution systems. The LRDP EIR must then evaluate whether there is adequate capacity for all utilities, including water and wastewater, based on future demands using projected campus population and campus-specific or generic generation rates provided by service providers (e.g., a water district). The LRDP should consider supply, transmission, or conveyance, and where applicable, treatment facilities.

##### **Project EIR**

To the extent not analyzed in the LRDP EIR, the Utility section of a Project EIR should analyze the specific effects of a project on the increment of existing or planned capacity that would be used for each of the utilities.

##### **Standards of Significance**

Would the project:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant adverse effects?
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
- Result in the need for increased chilled water or steam generation capacity or major distribution improvements?
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- Comply with applicable federal, state, and local statutes and regulations related to solid waste?
- Exceed applicable LRDP or Program EIR standards of significance? This question enables the campus to define a campus specific standards of significance.

### **Analytical Methods**

- Prepare a summary of existing conditions in the designated base year by contacting utility providers. Collect information related to infrastructure capacity as it relates to water treatment, potable (and recycled, if available) water supply, water conveyance, wastewater conveyance and treatment, and solid waste disposal.
- Obtain generation rates for each utility and project future demands based on the proposed project.
- Determine utility demand factors appropriate for the University using either University specific demand factors or standard project utility requirements associated with the proposed project.
- Obtain generation rates for chilled water and/or steam and project future demands of the proposed project

- Analyze potential wastewater associated with use of or production of chilled water and/or steam.
- Compare anticipated utility requirements with existing and future planned capacity. (Consider any upgrading of systems that may be in progress.)
- Identify potential impacts.
- Assign levels of significance to these impacts.
- Identify the potential for growth-inducing impacts.
- Identify potential cumulative impacts.

### **Generally Feasible Mitigation Measures**

- Mitigation measures for utility impacts typically consist of expansion of existing infrastructure capacity, which generally involves adding equipment and infrastructure components. Methods to reduce public utility demands can also be recommended.
- On- and off-site utility system improvements to meet utility requirements.
- Water conservation, to reduce project service demand.
- Install low-flow fixtures and other water-saving devices in new facilities.
- Provide new buildings with storage space for the collection of recyclable materials.
- Use reclaimed water where feasible.
- Contribute to an existing infrastructure finance plan or program.

## **Energy**

### **Introduction**

The purpose of the energy subsection is to discuss energy conservation as it relates to the project by discussing potential energy efficiencies or inefficiencies, energy impacts, and conservation measures. This is done by describing and evaluating nonrenewable energy sources (i.e., oil and natural gas) associated with the project and project energy requirements. The University is required to construct projects that comply with the California Energy Code which is Title 24 Part 6 of the California Code of Regulations. The code applies to the building envelope, space conditioning (heating, ventilating and air conditioning), systems, water heating systems and lighting systems. University policy also requires

independent analysis of the compliance with this code. The intent of this section is to determine whether the proposed project is designed to use nonrenewable energy in an efficient manner. The state guidelines for the discussion of energy conservation are found in *CEQA Guidelines Appendix F*, Energy Conservation [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/pdf/appen\\_f.pdf](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/pdf/appen_f.pdf)

### **Responsible Agency**

The *California Energy Commission* would serve as a Responsible Agency for projects requiring permits for construction of certain generation or transmission facilities. <http://www.energy.ca.gov>

### **LRDP EIR**

The Energy subsection of the Utilities and Energy section of an LRDP EIR describes the existing energy demand on the campus, the existing sources of energy available to the campus and the infrastructure currently used by the campus. The analysis includes a comparison of these sources and systems with those that would be required to support the proposed project. The environmental setting should describe existing use of energy on the campus, including major energy-consuming facilities, the transmission system and energy conservation systems and measures that are in place or planned. Mitigation measures for energy impacts relate to efficient use and conservation of energy. Campuswide transportation aspects of energy use are to be discussed in the Transportation section of the LRDP EIR.

### **Project EIR**

The Energy subsection of the Utilities and Energy section of a Project EIR should analyze energy impacts that would be generated by the proposed project. As aforementioned, compliance with the California Energy Code, Title 24 Part 6 is required and University policy requires independent analysis of compliance. That analysis should determine the number of people that would use the facility and the associated number of automobiles, as well as the amount of energy required to operate the proposed facilities. Further, the subsection should consider whether additional conservation mechanisms are available to reduce energy consumption. If a project is consistent with an LRDP, however, these impacts should have been previously evaluated. The transportation aspects of project energy use are discussed in the transportation section of the environmental document. State CEQA Guidelines Appendix F suggests the following information be included in a project description:

1. Energy consuming equipment and processes which will be used during construction, operation, and/or removal of the project. If appropriate, this discussion should consider the energy intensiveness of materials and equipment required for the project.
2. Total energy requirements of the project by fuel type and end use.
3. Energy conservation equipment and design features.
4. Initial and life-cycle energy costs or supplies.
5. Total estimated daily trips to be generated by the project and the additional energy consumed per trip by mode.

The environmental setting may include existing energy supplies and energy use patterns in the region and locality.

## **Standards of Significance**

Would the project:

- Result in the wasteful, inefficient and unnecessary consumption of energy? (see *CEQA Statutes Section 21100(b)(3)*).

## **Analytical Methods**

LRDP EIR

- Determine existing annual campus energy use (LRDP EIR).
- Describe energy conservation programs or systems.
- Contact the energy provider for the campus (may be campus cogeneration facility) for existing and projected capacity.
- Using information provided in the project description, such as square footage of building space, proposed population, type of research equipment. etc., use standard energy multipliers to calculate the projected energy demands of the project.

Project EIR

- Discuss energy consuming equipment and processes which will be used during construction, operation, and/or removal of the project.
- Discuss total energy requirements of the project by fuel type and end use.
- Discuss energy conservation equipment and design features
- Discuss initial and life-cycle energy costs or supplies
- Discuss the effects of the project on local and regional energy supplies and on requirements for additional capacity.
- Discuss the effects of the project on peak and base period demands for electricity and other forms of energy.
- Discuss the degree to which the project complies with existing energy standards.

- Discuss the effects of the project on energy resources.
- Describe any energy conservation programs or systems.
- Contact the energy provider for the campus (may be campus cogeneration facility) for existing capacity and projected demand information.
- Using information provided in the project description, such as square footage of building space, proposed population, type of research equipment. etc., use standard energy multipliers to calculate the projected energy demand and distribution demands of the project.
- Determine whether energy conservation elements are included in the program, and mechanical system designs for the project.
- Discuss the project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- Identify potential cumulative impacts.

### **Generally Feasible Mitigation Measures**

- Design University buildings to meet or exceed the requirements of the California Energy Code, California Code of Regulations Title 24, Part 6.
- Implement a campus energy conservation strategy for heating and cooling of buildings in accordance with time of use and outside temperature.
- Provide heating and cooling in an energy efficient manner.
- Incorporate passive solar features where cost-effective in the architectural design of all new campus buildings.
- Reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal. The discussion should explain why certain measures were incorporated in the project and why other measures were dismissed.
- Change the potential siting, orientation, and design to minimize energy consumption
- Discuss the potential for reducing peak energy demand.

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### 3.3.22 Growth Inducing Impacts

#### Introduction

CEQA requires discussion of the ways in which proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth. Increases in population will increase demand on existing community services and/or facilities, which may require provision of additional services or construction of new facilities that could result in secondary environmental effects that may be significant. Characteristics of some projects may encourage or facilitate other activities that could significantly affect the environment, either individually or cumulatively. The analysis should not assume that growth is necessarily beneficial, detrimental, or of little significance to the environment.

Under CEQA, a project is generally considered to be growth-inducing if it results in any one of the following criteria:

- Extension of urban services or infrastructure into a previously unserved area;
- Extension of a transportation corridor into an area that may be subsequently developed; or
- Removal of a major obstacle to development and growth (e.g., if to accommodate the campus, new infrastructure components need to be developed capable of serving additional growth in the community).

#### LRDP EIR

The LRDP EIR provides a comprehensive basis for evaluating growth-inducing impacts of future campus development, as proposed in the LRDP. These potential effects may result from three activities: 1) on-campus development, as described in the LRDP; 2) off-campus development related to campus programs (e.g., development and/or expansion of off-campus centers, or third-party development housing in order to meet campus housing demand); and 3) off-campus activities related to, or caused by, the LRDP (e.g., acquisition or leasing of off-campus space or parking, or unintentional effects of on-campus growth, such as increased demand for parking or recreational facilities).

The level of significance of growth-inducing impacts can be determined by evaluating the amount, type, and location of land use(s) proposed by the LRDP. One way to determine significance is to evaluate whether the growth fostered by the LRDP is within the growth projections established by a local jurisdiction's general plan. Although the University of California is not bound by local land use plans, if the total growth fostered by the LRDP exceeds the holding capacity of the general plan, this conflict should be identified in the EIR. If the type or location of a certain land use proposed by the LRDP (e.g., a research park adjacent to low-density residential or open space/agricultural uses) is likely to result in pressure to rezone non-University land, which would result in urbanization of the area, this potential conflict should also be described in the EIR.

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The discussion should quantify impacts to the extent possible. Direct impacts that should be considered include the amount of new housing that would result and the number of jobs that would be created. Forecasts of secondary effects are usually based on estimates using employment multipliers, which represent the ratio of indirect and induced jobs to jobs generated directly by the LRDP. Indirect effects include the increased burden on existing services and infrastructure (e.g., a sewage treatment facility or roadway capacity). Proposed mitigation measures for potential growth-inducing impacts should be included in the issue sections to which they relate.

### **Project EIR**

Assessing growth-inducing impacts for the proposed project generally would consist of determining whether the potential for growth-inducement caused by the proposed project falls within the growth-inducing effects that were identified in the LRDP EIR. Because project-level analysis discloses a greater level of specificity about environmental effects (e.g., population increases can be quantified more specifically), the project analysis should generally refine the LRDP EIR analysis. Depending on the time since the LRDP EIR was certified, it may be appropriate to supplement or update the LRDP analysis of growth-inducing impacts.

### 3.3.23 Cumulative Impacts

#### Introduction

**Note: As of Fall 2001, several CEQA Guidelines, which are the basis of the cumulative impact definition and analysis, have been legally challenged. Please consult with the Office of General Counsel for status and compliance advice (<http://www.ucop.edu/ogc>).**

The *CEQA Guidelines* require that an EIR provide a discussion of cumulative impacts, which is a change in the environment that results from adding the effect of the project to those effects of closely-related past, present and probable future projects. The discussion should focus on whether the impacts of the project would result in cumulative effects, and therefore need not consider cumulative impacts to which the project does not contribute.

The cumulative analysis shall be based upon either: 1) a list of past, present, and probable future projects, including both University and non-University projects; or 2) a summary of projections contained in an adopted general plan or related planning document (such as a regional growth plan), or in a certified environmental document, which described or evaluated regional or areawide conditions contributing to the cumulative impact.

"Probable future projects" is defined in *CEQA Guidelines Section 15130(b)(1)(B)(2)* ([http://www.ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art9.html](http://www.ceres.ca.gov/topic/env_law/ceqa/guidelines/art9.html)) as projects: 1) for which an application has been received at the time the notice of preparation is released; 2) included in an adopted capital improvements program or other similar plan; 3) included in a summary of projections of projects in a general plan or a similar plan; 4) anticipated as later phase of a previously approved project (e.g. a subdivision); or 5) for which money has been budgeted by a public agency. This guideline has been legally challenged. Please consult with the Office of General Counsel for current status. It may be prudent to include future projects which are known, but for which an application has not been filed at the time of the NOP for the EIR. To develop the list of related projects, the type of project and geographic location should be considered, to determine that the impacts would accumulate (as different types of projects, or in some instances, even geographically proximate projects, may not result in cumulative impacts). The list of projects must include those for which an EIR or Negative Declaration has been, or will be prepared, as well as those that are, or may be, exempt from CEQA, if those projects would contribute to cumulative impacts.

If a planning document or previous EIR is to be used as the basis for the cumulative analysis, those documents must be carefully reviewed to consider the relevant analysis of the project-specific and cumulative impacts, the thresholds of significance used in the analysis and the mitigation measures adopted for the project. If a previous document is used, the document should be incorporated by reference and made available to the public.

Because individual cumulative impacts may occur over different geographic areas, the discussion should explain the geographic scope of the area affected by each cumulative effect (e.g., watershed or air basin), and provide a reasonable explanation for the geographic limitation used in the analysis. If the EIR excludes some projects from consideration in the cumulative impact analysis, an explanation should be provided.

The discussion shall reflect the severity of the impacts and their likelihood of occurrence, but in less detail than for the project's impacts. Although this suggests less precision is necessary, an

attempt must be made at a reasonable analysis. If an analysis of cumulative effects is somehow infeasible or speculative, the EIR must provide support for this conclusion. *CEQA Guidelines Section 15130* ([http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art9.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art9.html)) provides for a less extensive analysis of cumulative impacts in certain circumstances:

- A project's contribution may be less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The analysis must provide support for the conclusion that the project's contribution will be rendered less than cumulatively considerable. The basis for this analysis is found in *CEQA Guidelines Sections 15064(i)(3)* ([http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art5.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html)) and *15152 (f)(2)* ([http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art10.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art10.html)), both of which have been legally challenged. Please consult with the Office of General Counsel for current status and advice for compliance.
- If the project is consistent with an adopted (local or regional) plan, and analysis in the programmatic EIR supporting that plan adequately addresses the cumulative impact, then the project EIR need not further analyze that cumulative impact.

To the extent the cumulative impacts are determined to be significant, the discussion should examine reasonable, feasible options for mitigating or avoiding the project's contribution to those significant cumulative effects. However, mitigation of the effect of the related projects (or growth projected in relevant plans) need not be addressed.

## **LRDP EIR**

As discussed above, the analysis of cumulative impacts may be based upon either: 1) a list of past, present, and probable future projects, or 2) a summary of projections contained in an adopted plan or a certified environmental document. Although the use of either method would meet CEQA requirements, both options have advantages and disadvantages with respect to use in an LRDP EIR. A list of "related" projects is typically derived from project lists maintained by local jurisdictions, and although such lists can provide a basis for identifying specific impacts at specific locations, a list has a limited lifespan. Adopted plans have the advantage of a longer planning horizon, but that timeframe may not correspond to the LRDP horizon. Further, such plans may lack sufficient detail to permit determination of whether impacts of the LRDP would accumulate with the growth projected in the plan. Although certified environmental documents have been reviewed and considered by the certifying body (presumably a local jurisdiction), the analysis may have become outdated, may no longer be accurate due to changed circumstances or approval of subsequent projects, or may be based on a planning horizon that does not correspond to that of the LRDP.

Given the extended timeframe of an LRDP (typically 15 years) and the shorter time period for which a list of projects would remain accurate, preparation of a LRDP EIR might include a combination of methods to determine potential cumulative effects: 1) a list of projects (to assure that known and contemplated projects, both on- and off-campus, are analyzed and considered); 2) a summary of projections based on the local general plan (and/or EIR as appropriate); 3) a summary of growth projections from the relevant regional plan; and 4) additional supplemental information as appropriate to fill in gaps in the analysis (e.g., related to differences in time horizons or geographic area). If the LRDP, and therefore the LRDP EIR includes analysis of off-

campus properties, and if those properties or facilities are located at remote locations, it may be necessary to develop a separate cumulative analysis for that remote location. Although this approach exceeds the minimal CEQA requirements, it ensures the longevity of the cumulative impacts analysis in the LRDP EIR by refining and expanding upon those analyses with all reasonably available information.

### **Project EIR**

Except for the scale of analysis, the process of assessing cumulative impacts for a Project EIR is generally the same as that required by an LRDP EIR. However, if a cumulative impact is adequately addressed in the LRDP EIR and the project is consistent with the LRDP EIR, then a project EIR generally need not further analyze that cumulative impact.

Depending on the method(s) used to determine cumulative impacts, and the time since the LRDP EIR was certified, it may be appropriate to supplement or update the LRDP cumulative analysis in a Project EIR. For instance, if a list of projects was provided in the LRDP EIR, it may be useful for the Project EIR to update that list, and therefore the Project EIR may both reference the LRDP EIR cumulative analysis, and provide supplemental information. If the analytical assumptions that formed the basis for the cumulative analysis in the LRDP EIR have changed substantially, the cumulative analysis may need to be updated in the Project EIR to supplement the circumstances and assumptions contained in the LRDP EIR.

### **3.3.24 Significant Irreversible Changes**

#### **Introduction**

An LRDP EIR should describe significant irreversible environmental changes that would result from the proposed project, which include changes that for physical or economic reasons, cannot be reversed or completely mitigated. Therefore an LRDP EIR should:

- Discuss use of nonrenewable resources during the initial and continued phases of the project, since a large commitment of such resources makes removal or nonuse thereafter unlikely; and
- Evaluate irretrievable commitments of resources to ensure that current consumption is justified.

In addition, if the EIR is prepared in connection with the amendment of the LRDP, or a project subject to an EIS under NEPA, the EIR should discuss primary and secondary irreversible environmental changes (such as a highway improvement that provides access to a previously inaccessible area, or impacts that generally commit future generations to similar uses).

#### **Methodology**

Determining whether the proposed project would result in significant irreversible effects requires a review of the project description and all of the technical sections of the EIR, in order to ascertain whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Examples would include building on prime agricultural land or open space lands, obstructing a wildlife corridor with permanent facilities, and building facilities on identified mineral resources, thereby precluding future extraction. Additionally, the discussion should consider whether the proposed project would commit the University to inefficient use of energy resources.

### 3.3.25 Alternatives

#### Introduction

The *CEQA Guidelines Section 15126.6*

[http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art9.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art9.html) require that an EIR describe and comparatively evaluate a range of alternatives to the proposed project. The lead agency is given substantial latitude in determining the range of “reasonable” alternatives under the general guidance that alternatives must be “feasible” and “shall be selected and described in a manner to foster meaningful public participation and informed decision making.” The analysis of the environmental effects of the alternatives is intended to be less detailed than the analysis of the proposed project and to be primarily comparative.

#### LRDP EIR

The alternatives in the LRDP EIR must meet the requirements of CEQA and reflect the unique circumstances and impacts related to the scope of the LRDP. Since the scope of the LRDP EIR will reflect the geographic scope of the LRDP, the alternatives should also appropriately reflect the scope of the LRDP. If off-campus development related to campus programs or off-campus activities related to, or caused by, the LRDP (e.g., acquisition or leasing of off-campus space) are analyzed in the LRDP EIR, to the extent that such activities would result in, or contribute to significant impacts, then the alternatives should also address off-campus activities and programs.

If a revision or amendment of the LRDP is intended to accommodate increased enrollment, then it may be appropriate for the alternatives to consider other ways to accommodate the additional students, such as changes in summer versus regular session enrollment, expanded use of off-campus facilities (such as remote instructional centers), or distance learning. However, since CEQA does not require analysis of impacts that involve speculation about future activities, alternatives related to enrollment scenarios should avoid vague descriptions or rely upon uncertain contingencies.

The analysis of alternatives must include the “no project” alternative, however the current *CEQA Guidelines* provide two objectives for this scenario: 1) the existing conditions at the time the NOP is published (or if no NOP is published, at the time the environmental analysis is commenced); and 2) what would be reasonably expected to occur if the project were not approved, based on current plans and consistent with available infrastructure and services. If the LRDP is being revised or amended, the (Supplemental or Subsequent) EIR should address the dual objectives of the “no project” alternative with two alternatives: a “No Project/No Development” alternative and a “No Project/Development Pursuant to the Adopted Plan” alternative, where the existing LRDP would continue to guide campus development.

Additionally, other alternatives should be considered that would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. The typical range of alternatives would include at least one lower density alternative and other alternatives that modify certain LRDP parameters in order to reduce certain impacts. This could involve one or more “design alternatives,” with one alternative designed to reduce traffic impacts; another to reduce visual impacts, etc. While various modifications could be included in a single alternative, since reducing some impacts may increase others, the use of

single-purpose “design alternatives” may be preferable for clarity of analysis and ease of comprehension.

If included, consideration of alternative sites should focus on reasonable alternatives that have some potential for achieving project objectives. Consideration of incremental campus growth at alternative sites at some distance from the campus would generally not reduce environmental impacts or achieve project objectives. However, if consideration of an off-campus center is included in the LRDP, an analysis of the maximum credible level of growth at more than one location may be useful.

## **Project EIR**

As discussed above, an EIR must analyze a reasonable range of alternatives to the proposed project that would attain most of the basic objectives of the project and would reduce or avoid potentially significant impacts. The analysis of alternatives must include a “no project” alternative, which generally reflects the existing conditions at the time the NOP is published. If the LRDP described specific projects, and the currently-proposed project is substantially different than described in the LRDP, then a “Development as Proposed in the LRDP Alternative” should be considered. Alternative configurations, particularly related to avoidance or reduction of potentially significant impacts, and/or alternative sites (which may include off-campus locations) should also be considered. Arbitrary alternatives, such as a percentage increase or decrease in the project scope should be avoided. Figure 9 depicts typical project alternatives.

## **Methodology**

The alternatives section should describe the methodology used to develop, screen and select potential alternatives. For any project (particularly LRDPs) a wide variety of alternatives could be considered, however, analysis of every possible alternative or option or combination of options would overburden the EIR with an unnecessary amount of detail that would be redundant and complex, and would therefore fail to provide meaningful information for the public and The Regents to consider in its review of the project.

To determine the alternatives that are analyzed, a list of potential alternatives should be prepared, including alternatives that are suggested in the public scoping process. Each potential alternative should be evaluated to determine whether it would: 1) feasibly attain most of the basic objectives of the project; 2) have the potential to avoid or substantially lessen any of the significant effects of the project; and 3) likely be considered feasible.

Alternatives that may impede to some degree the attainment of project objectives or would be more costly than the proposed project should not be excluded from consideration, as the purpose of the alternatives is to identify ways to mitigate or avoid the significant impact of the project. The potentially significant impacts of the project, prior to mitigation, are those that should be used in determining the alternatives. As discussed in the *CEQA Guidelines Section 15126.6(f)*, a number of factors may be considered in determining which alternatives are feasible. These include, but are not limited to, the following:

- Site suitability;

- Economic viability;
- Availability of infrastructure;
- General Plan consistency;
- Other plans or regulatory limitations;
- Jurisdictional boundaries; and
- Whether the proponent owns or can reasonably acquire, control or otherwise have access to an alternative site.

The EIR should include a discussion of which alternatives were considered, but are not analyzed in the EIR, and should provide an explanation of why those potential alternatives are not analyzed in further detail.

According to the CEQA Guidelines, the analysis of significant effects of alternatives can be evaluated in less detail than the effects of the proposed project. However, the analysis should be detailed enough to provide a factual basis for the report's conclusions about the feasibility of various alternatives. The analysis of the impacts of the alternatives should utilize the same standard of significance used for each environmental topic. Each alternative should be analyzed to determine whether the specific environmental impacts (that have been identified for the project) would be significant for that alternative, prior to mitigation. To the extent relevant, the mitigation measures proposed for the project should then be applied to the impact, and a conclusion reached as to whether the impact would be mitigated to a less than significant level.

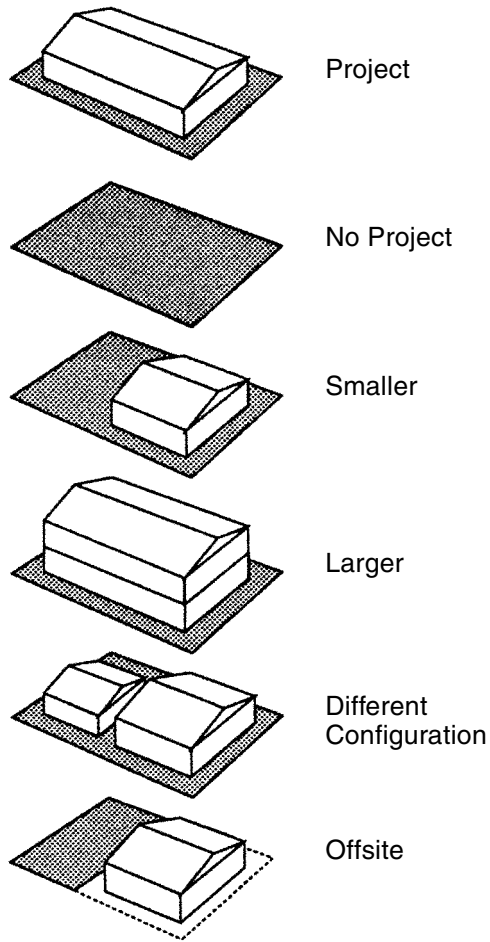
### **Comparison of the Alternatives**

An EIR must provide a comparative analysis of the alternatives, comparing the impacts of the proposed project to those of each alternative. This analysis should be summarized in a matrix or table, which identifies whether the impacts of the alternatives would be “greater,” “lesser,” or “similar” to the impacts of the project. It may also be useful to prepare a more detailed matrix summarizing the impacts of the project and the alternatives, which would indicate both the conclusion for each impact (significant, less than significant, or no impact) as well as the comparative conclusions noted above. This comprehensive summary is useful for internal review of preliminary copies of draft and final EIRs, in the determination of which alternative or alternatives would be environmentally superior, and the preparation of CEQA Findings.

**Table 5: SAMPLE ALTERNATIVES MATRIX**

Impact by Environmental Issue Area	Proposed Project					
	1. No Project					
	2. Larger Project					
	3. Reduced Project					
	4. Alternative Configuration					
	5. Off-Site Altern.					
<b>Aesthetics</b>						
Alteration of building exterior	LS	LS-	LS+	LS-	LS+	LS0
Obstruction of views	S	LS	S+	S-	LS	LS
Cumulative appearance changes	S	LS	S+	S-	S-	S0
<b>Biological Resources</b>						
Removal of habitat of rare and endangered species	S	LS	S+	S-	LS	LS
Cumulative disruption of riparian habitat	S	LS	S+	S-	LS	LS
<b>Cultural Resources</b>						
Construction in vicinity of burial ground	LS	LS0	LS0	LS0	LS0	S
<b>Geology and Soils</b>						
Structural and non-structural damage during ground shaking	LS	LS-	LS+	LS-	LS0	LS-
Cumulative exposure to seismic hazards	S	LS	S+	S-	S0	S0
<b>Hydrology and Water Quality</b>						
Substantial increase in impervious surface	LS	LS-	LS+	LS-	LS-	LS0
Cumulative degradation in water quality	LS	LS-	LS+	LS-	LS0	LS0
S = Significant		+ Greater Impact than Proposed Project				
LS = Less than Significant		0 = Similar Impact as Proposed Project				
		- Less Impact than Proposed Project				

**Figure 9: Project Alternatives**



### **3.3.26 Technical Appendices/Incorporation by Reference**

#### **Technical Appendices**

The information contained in an EIR shall include summarized technical data, maps, plot plans, diagrams and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of the EIR should be avoided by including supporting information and analysis as appendices to the EIR document. These appendices shall be readily available for public examination and shall be submitted to all clearinghouses that assist in public review (*CEQA Guidelines Section 15147* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art10.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art10.html)).

#### **Incorporation of Material by Reference**

EIRs can incorporate information by reference when relevant material is available in another document that is part of the public record or otherwise available to the public. The campus should also make the incorporated document available to the public, but does not need to distribute it. In general, incorporated material should be summarized briefly in the EIR to demonstrate its relevance. When the campus uses information from a previous EIR, the state clearinghouse identification number should be included in the summary of the material.

Information typically incorporated from other documents includes setting information prepared for the same general project area, or specific issues that have been explored in detail in another document such as descriptions of air quality problems or detailed archaeological reconnaissance information (See *CEQA Guidelines Section 15150* [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/art10.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art10.html) for a discussion of Incorporation by Reference).