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CEQA requires an EIR to describe and evaluate a range of alternatives to the proposed project, or alternatives to the location of the proposed project. The purpose of the alternatives analysis is to explore ways that the objectives of the proposed project could be attained while reducing or avoiding significant environmental impacts of the project as proposed. This process is intended to foster informed decision-making and public participation in the environmental process.

Comments received on the Notice of Preparation regarding alternatives to the proposed 2005 LRDP are summarized below:

- Commenters asked that the campus examine an alternative that places some or all of the growth projected under the proposed LRDP at other UC campuses or at an alternative site instead of the main campus.
- Commenters suggested the inclusion of more on-campus housing and consideration of a lower enrollment level or no increase in enrollment as other means of reducing traffic, housing, and other impacts.
- Commenters suggested ways to avoid or minimize the development of the north campus.
- Commenters suggested a number of alternative strategies for reducing LRDP-related traffic impacts, and for consideration of an alternative transportation plan.

All of these comments are addressed in the analysis that follows. It is not feasible to accommodate the projected enrollment increase at other UC campuses, and such an alternative would also be in conflict with the objectives of the proposed project; this is discussed in more detail below. The Reduced Enrollment Alternative and the No Project Alternative would reduce enrollment on campus relative to the proposed project. Housing issues are discussed in more detail in sections below. LRDP Alternative 3, the Southerly Expansion Alternative, would minimize development on the north campus. Strategies to reduce traffic impacts are addressed in Section 4.14, *Traffic, Circulation and Parking*.

5.1 PROJECT OBJECTIVES

Alternatives considered in the EIR should be feasible, and should attain most of the basic project objectives.

The overall project objective is to support the teaching, research and public service missions of the University of California. The foundation of campus needs and goals that support the 2005 LRDP originates in academic planning by the campus's School of Engineering and the four Divisions. The Campus has identified academic goals to continue to fulfill its academic mission, build and expand upon its traditional strengths, and anticipate changing instructional and research programs. The 2005 LRDP is also shaped by campus values, articulated in the 1960s and retained over the past four decades, of

clustered and circumscribed development, energy conservation, preservation of the natural environment, and close community relationships.

The objectives of the UC Santa Cruz 2005 LRDP are to:

- Provide for instruction, research, support, residential facilities and infrastructure needed to:
 - Accommodate anticipated enrollment growth and program development
 - Support the breadth and depth of undergraduate and graduate academic programs and professional degree programs
 - Accommodate the expansion of high-quality research programs
 - Allow the Campus to expand its contribution to the public cultural life and economic well being of the region through public programs, events and services
- Develop facilities to foster a dynamic intellectual and social community, specifically:
 - Locate new facilities on the main campus to build on the established foundation of human and physical resources already in place and to encourage interdisciplinary collaboration
 - Provide facilities and spaces that will enrich the collaborative learning environment for the on-campus student community and encourage academic, personal and social development
- Develop a physical environment that will support educational opportunities for an increasingly diverse population
- Retain flexibility that will allow continuing evolution of the campus over time in response to changing demographics, societal needs, technological developments and new external challenges
- Respect and reinforce the Physical Planning Principles and Guidelines to maintain the unique character of the UC Santa Cruz campus.

In addition to these primary objectives, the LRDP identifies numerous specific objectives under separate sections on campus resources, planning areas, and campus land uses.

The 2005 LRDP also articulates a number of planning principles and guidelines that are designed to protect the campus's natural and cultural features and to maintain the campus's unique character and quality of life. These planning principles, which will be incorporated into the campus environmental and design review processes, are listed below.

- Sustainability
 - Promote sustainable practices in campus development
 - Promote sustainable practices in campus operations
 - Encourage broad-based sustainability initiatives
- Land Use Patterns
 - Respect the natural environment and preserve open space as much as possible
 - Integrate the natural and built environment
 - Maintain UC Santa Cruz's core configuration

- Encourage sustainability and efficiency in building layouts
- Natural and Cultural Resources
 - Respect major landscape and vegetation features
 - Maintain continuity of wildlife habitat
 - Design exterior landscaping to be compatible with surrounding native plant communities
 - Maintain natural surface drainage flows as much as possible
 - Protect historic and prehistoric cultural resources
- Access and Transportation
 - Promote a walkable campus
 - Discourage automobile use to and on the campus
 - Consolidate parking facilities at perimeter campus locations
- Campus Life
 - Enrich the academic experience for all students
 - Offer university housing opportunities for students and employees
 - Create an array of facilities that enrich the quality of campus life
- The Santa Cruz Community
 - Communicate and collaborate with the surrounding community
 - Encourage the economic health of the surrounding community
 - Provide an accessible and welcoming public service environment

5.2 OVERVIEW OF SIGNIFICANT IMPACTS OF THE UC SANTA CRUZ 2005 LRDP

The range of alternatives studied in the EIR must be broad enough to permit a reasoned choice by decision-makers when considering the merits of the project. The analysis should focus on alternatives that are feasible; i.e., that may be accomplished in a successful manner within a reasonable period of time; and that take economic, environmental, social and technological factors into account. Under CEQA, alternatives that are remote or speculative should not be discussed in the alternatives analysis. Furthermore, alternatives should focus on reducing or avoiding significant environmental impacts associated with the project as proposed. Campus growth under the proposed 2005 LRDP would result in the following significant or potentially significant environmental impacts:

- Impacts on scenic resources including the lower campus meadows (LRDP Impact AES-3); aesthetic quality of resources in the Cowell Ranch Historic District (LRDP Impact AES-4); visual character of the campus (LRDP Impact AES-5); and impact from increase in sources of light and glare (LRDP Impact AES-6)

- Impact on regional air quality from new stationary, mobile and area sources added to the campus under the 2005 LRDP (LRDP Impact AIR-2); conflict with the regional Air Quality Management Plan (LRDP Impact AIR-4); and a potentially significant human health risk from operational emissions of toxic air contaminants (LRDP Impact AIR-5)
- Impacts on biological resources, including maritime chaparral and Santa Cruz manzanita (LRDP Impact BIO-1); coastal prairie (LRDP Impact BIO-2); jurisdictional wetlands (LRDP Impact BIO-3); riparian vegetation (LRDP Impact BIO-4); spread of noxious weeds (LRDP Impact BIO-6); Ohlone tiger beetle population (LRDP Impact BIO-7); impacts on California red-legged frog (LRDP Impact BIO-9); nesting special-status raptors (LRDP Impact BIO-11); burrowing owl (LRDP Impact BIO-12); roosting sites of special-status bats (LRDP Impact BIO-13); San Francisco dusky-footed woodrat nests (LRDP Impact BIO-14); and wildlife movement corridors (LRDP Impact BIO-15). Most of these impacts would occur through development on the north campus, although some would also occur through development on other parts of the campus
- Impacts on cultural resources, including archeological sites, historic features and buildings, human remains, and unique paleontological and geological resources (LRDP Impacts CULT-1 through 6)
- Impacts related to construction on unstable soils (LRDP Impact GEO-1), expansive soils (LRDP Impact GEO-2), and in karst hazard areas that occur mainly in the central and lower campus (LRDP Impact GEO-4)
- Impacts associated with hazards and hazardous materials, including interference with the campus's emergency response plan (LRDP Impact HAZ-9); and increased risk from wildland fires (LRDP Impact HAZ-10); and increased use of hazardous materials by non-UC entities on the campus (LRDP Impact HAZ-11)
- Impacts on hydrology and water quality, including increased storm water runoff and its effects on water quality, erosion/sedimentation, and downstream flooding (LRDP Impacts HYD-2 and HYD-3); and impacts related to flooding of caves (LRDP Impact HYD-6)
- Impacts from exposure of nearby sensitive receptors to excessive airborne noise from construction activities (LRDP Impact NOIS-1)
- Impacts related to population and housing, including a substantial increase in study area population (LRDP Impact POP-1); and a cumulative demand for housing in excess of supply (LRDP Impact POP-3)
- Impacts related to the deterioration of on- and off-campus facilities from increased use (LRDP Impact REC-2)
- Impacts related to traffic, including decline in the levels of service at two campus intersections to unacceptable levels (LRDP Impact TRA-1); unacceptable levels of service at 11 off-campus intersections (LRDP Impact TRA-2); demand for parking in excess of on-campus parking capacity (LRDP Impact TRA-3); and impacts on the effectiveness of alternative transportation programs (LRDP Impact TRA-4)

- Impacts related to utilities, including expansion of campus cooling and heating water generation and conveyance facilities (LRDP Impact UTIL-7); and increased demand for water (LRDP Impact UTIL-9)

Most of the potentially significant impacts can be reduced to less-than-significant levels through incorporation of mitigation measures. However, the project would have significant and unavoidable impacts with respect to air quality, (in exceptional cases) historic resources, off-campus traffic, water use, noise, erosion and sedimentation from increased runoff; expansion of cooling water and heating water infrastructure, and population and housing.

The analysis below presents the alternatives that were considered for this project. As required by CEQA Guidelines, a No Project Alternative is also analyzed. Each alternative is examined for its ability to reduce environmental impacts relative to the proposed project, feasibility of implementation, and ability to meet project objectives.

5.3 ALTERNATIVES CONSIDERED BUT REJECTED AS INFEASIBLE

This section discusses alternatives that were considered for the project but were rejected because they did not meet project objectives or were found to be infeasible for technical, environmental, or social reasons.

5.3.1 Alternative Land Use Plans

In the course of the development of the 2005 LRDP, the Campus considered a number of land use plan options to accommodate the same growth in population and building space that is envisioned by the Campus under the 2005 LRDP. Options A, B, C, D, and D' were presented to the LRDP Committee in meetings in April, May, and June 2004. As a result of the evaluation of these options, and comments and other input received in public meetings, a variation of the land use plan that combined elements of Options B and D' was selected and carried forward as the preferred land use plan for the proposed 2005 LRDP. The various land use options considered and rejected are discussed below. Option D is not discussed below among the land use plan options that were considered but rejected. Instead, with minor modifications, it is included amongst the alternatives considered in detail that could avoid or reduce significant impacts of the proposed LRDP. [Figure 5-1](#), *Previously Considered Land Use Plans*, shows Options A, B, C and D'.

5.3.1.1 Option A – Loop Road Option

This plan would have expanded the campus in a northerly direction by completing the north campus loop road (similar to the north campus loop road in the 2005 LRDP land use plan but with a slightly different alignment) and locating a number of new facilities between the north campus loop road and Chinquapin Road further north. Under this plan, new colleges would be located northwest of Crown College, with other student housing and new recreational areas adjacent to and northwest of the new colleges. Employee housing would also be located along the north campus loop road and the graduate village would be

located in the area of the Campus Trailer Park. This alternate plan envisioned new athletic fields in the central parts of the East Meadow. Under this plan, the Academic Core would be expanded moderately by developing lands adjacent to the existing campus core, and core infill would be minimized. Campus support functions would remain in the main entrance area.

This alternate plan was rejected for further analysis because it would expand development further north, in conflict with the LRDP principle, with respect to land use pattern, of maintaining the central core configuration of development, and locating new colleges as close to the core as possible without compromising sites for future academic and research facilities. The maintenance of campus support functions at their current locations under this plan would not allow for the improvement of the campus's entrance area for public-oriented and visitor services, nor would it improve efficiency of operations of the campus. The placement of new recreational facilities in the East Meadow was determined to be in conflict with preserving the natural scenic quality of the meadow, and with the LRDP objective of maintaining the unique character of the UC Santa Cruz campus. Furthermore, the alternative would result in greater environmental impacts by placing development in the forests and meadows on the upper campus.

5.3.1.2 Option B – Expanded Core Option

This alternate land use plan is conceptually similar to the 2005 LRDP land use plan in that it would include development of the north campus loop road. The campus core would be expanded by developing new areas along the loop road. Also like the proposed project, this plan would locate the colleges to the north of Crown College; locate the graduate village in the area of the Campus Trailer Park; and locate student housing along the north campus loop road. Unlike Option A, this plan would place employee housing west of Empire Grade Road and it would also relocate campus support functions to the Cave Gulch area on Empire Grade Road.

This alternate land use plan was rejected for further analysis because it would place student housing a greater distance from the campus core, thus failing to promote a walkable campus, and because it would result in the same impact on the East Meadow as Option A.

5.3.1.3 Option C – Extend Heller to Empire Grade Road Option

The primary feature of this land use plan is the extension of Heller Drive northward along West Road and then further north, to follow the alignment of Chinquapin Road to Marshall Field and to connect with Empire Grade Road at Twin Gates. Under this plan, the campus core would be expanded moderately into areas adjacent to the existing campus core areas. The two new undergraduate colleges would be located in the area of the Campus Trailer Park while the new graduate village, playing fields, and additional student housing would be located in the north campus along the Heller Drive extension. The campus support functions would be located on Marshall Field adjacent to the new entrance on Empire Grade Road at Twin Gates. Employee housing would be located west of Empire Grade Road and new athletic fields would be located in the central portions of the East Meadow.

This alternate land use plan was rejected for further analysis because it would place new development at too great a distance from the campus core, and thereby not promote a walkable campus. It would also

conflict with the campus land use planning principle of maintaining the core configuration. Option C would require the construction of additional road length, which would potentially create additional storm water runoff impacts, result in increased need for transit, and involve additional cost for construction and maintenance of the road system.

5.3.1.4 Option D – Compact Development

Under this plan, no north campus loop road would have been developed and there would be no new development in the north campus or the upper campus. Additional academic space would be provided through infill at increased density in the core and by expanding the area of the core only minimally. The new colleges would be located north of Kresge College in the area of the existing Campus Trailer Park. The new graduate village would be located at Porter Meadow south of Kresge College. As under the proposed 2005 LRDP land use plan, a bridge/roadway connection would be built between Heller Drive extension and Empire Grade Road across Cave Gulch. The campus support facilities would be relocated from the main entrance area to the Cave Gulch area on Empire Grade Road. This would vacate the existing corporation yard area, which could then be developed for campus and community-focused development.

This alternate land use plan was rejected for further analysis because there is not enough in-fill space within the core to accommodate all the needed academic space without development of buildings extending above the treetops. Furthermore, this option would require expansion between building clusters, and result in the loss of all the intervening space that defines each of the clusters within the campus core. It would severely limit the possibility of any further expansion of the campus core beyond the timeline of this LRDP, in conflict with the LRDP objective of retaining flexibility to allow the continuing evolution of the campus over time.

5.3.2 Increased Development Density

Although the proposed LRDP would emphasize infill development and redevelopment in the campus core, under the proposed project there are some additional infill sites remaining. Under the alternative, these could be developed to provide the required academic space. This alternative would involve constructing all the building space required to accommodate the projected increase in enrollment by increasing the density of development in areas that are already developed. This would be accomplished by demolishing some of the existing buildings in the campus core and redeveloping the sites at higher densities; using parking lots for building sites; and placing other new facilities in the remaining undeveloped areas within the existing development clusters. Under this alternative, development of new areas of the campus, such as those envisioned in the 2005 LRDP along the north campus loop road or around the Campus Trailer Park, would not occur. This alternative differs from Option D' above only in that it attempts to place not only all new academic space but also all new housing and campus support facilities within existing development clusters and completely avoids expansion into the north campus.

This alternative was rejected for further analysis because, even with intensive infill, it would not be possible to accommodate all the proposed building space within existing development clusters. The required academic development space could be provided by making the buildings in the core higher,

perhaps as high as 10 stories. However, the existing housing areas do not contain enough undeveloped land to accommodate all the additional housing that is needed to implement the LRDP's housing goals (including the two new undergraduate colleges, the graduate village and the employee housing), even with higher buildings and increased density. Furthermore, similar to Option D', by infilling to the maximum possible extent this alternative would consume all remaining developable land in the central campus and severely limit future expansion of specific buildings or academic programs within the campus core that may be needed in the years beyond 2020. In addition, the taller buildings that would be needed in order to achieve the desired building space on a smaller footprint would be more expensive to build. Further, these taller buildings would extend above the treetops, which is contrary to the development concept of keeping development below the tree line, which has guided campus development since its inception. Very dense development would substantially change the visual character of the campus core, by eliminating screens between buildings and diminishing the clustered development concept that has directed development in the core up to this time. This alternative was therefore found to be infeasible and inconsistent with LRDP sustainability, land use, and natural resource goals, and was rejected for further analysis.

5.3.3 Increased On-Campus Housing

This alternative would increase the number of students and employees who would be housed on campus as a means of reducing the unavoidable significant impacts of the proposed project with respect to daily vehicle trips and to the demand for housing in the city of Santa Cruz and other communities in the region. Under the Increased On-Campus Housing Alternative, the increase in the total population of the campus would be the same as under the proposed 2005 LRDP. However, the Campus would establish a goal to house all new students (5,065 undergraduates and 1,885 graduate students for a total of 6,950 students) on campus. Including existing student beds, under this alternative 64 percent of all undergraduate students enrolled and 66 percent of all graduate students would be housed on campus by 2020. To meet these goals, an additional 6,950 student beds would be needed on campus (as compared to 3,390 new student beds proposed in the 2005 LRDP). The goal for employee housing, under the alternative, would be to provide approximately 375 new housing units on campus, to house all new faculty hires expected through 2020. This additional housing would be accommodated on campus by increasing the density of student housing within areas designated Colleges and Student Housing and Employee Housing in the 2005 LRDP. Additional acreage beyond that designated for housing under the proposed project would not be needed. The land use plan under this alternative would therefore be the same as the land use plan under the 2005 LRDP.

Accommodating all new housing demand on campus, under the alternative, would reduce the demands on regional public services and recreational facilities associated with campus-related population that would be housed off-campus under the proposed project. (Note, however, that the environmental effects of this demand are mitigated to less-than-significant levels under the proposed project). Because the increase in campus population would be the same as under the 2005 LRDP, the significant impact of the proposed 2005 LRDP related to population growth would remain unchanged under this alternative, although the demand for off-campus housing would be substantially reduced, such that the impact of the proposed project, with respect to off-campus housing demand in excess of supply, would be reduced to a less-than-

significant level. Note, however, that if the entire increment of new campus population were housed on campus, the magnitude of impacts from regional demands on water supply, ironically, likely would increase. This result would be likely because, if 2005 LRDP-related population were housed on campus, this would free up existing housing in the city and adjacent communities for use by additional non-UC population, which likely would be taken up by others who might otherwise have resided in other areas outside the Santa Cruz water supply area. If this occurred, as is likely given the current demand for housing in the area, the total resident population using the City's water supply would likely increase.

This alternative would limit the campus's ability to retain the flexibility that would allow continuing evolution of the campus over time, in response to changing demographics, societal needs, technological developments and new external challenges. Further, the increased density of development demanded by this alternative would make it difficult to design the housing to comply with the Campus Physical Planning Principles and Guidelines, which recommend that infill include reasonable buffers between buildings, and also that buildings should not protrude over treetops in forested areas of the campus. Although the alternative would provide a physical framework flexible enough to accommodate new initiatives, create a dynamic teaching environment, and opportunities for collaboration, research and teaching, this alternative would have potentially significant aesthetic impacts.

Most significant with respect to the feasibility of this alternative is the issue of housing demand. UC housing construction is approved only when the results of demand analysis can support the need for additional housing unit development. National housing enrollment trends, and UC Santa Cruz market analysis and historical trend analysis, suggest that the likely level of yield of undergraduate students into University housing would be in the range of 50 percent. Likely, the provision of housing units beyond 50 percent would result in substantial vacancy rates on campus. These trends are driven by several factors that are primarily associated with the preferences of undergraduate students to seek increased levels of independence as they progress into their upper class years. Over-construction of housing bed units with concurrent increased vacancy rates would negatively affect the fee structure for those students who do elect to live on campus.

Further, public institution requirements that mandate on-campus living for students have not been supported by the courts. If housing supply provided under this alternative did prove to be in excess of demand, the Campus would be in a position of having to maintain excess, vacant housing, the cost of which would translate directly into increased student housing fees, thus making on-campus housing less attractive and potentially increasing the on-campus vacancy rate further. These increased costs would likely make this alternative infeasible. For these reasons, this alternative was not carried forward for further consideration.

5.3.4 Accommodate Enrollment Increase at a Satellite Campus at Moffett Field

Under this alternative, the total enrollment at UC Santa Cruz would increase by 6,950 students by 2020 as projected under the 2005 LRDP, but the population of the main campus would increase by only 4,950 students. The remaining 2,000 students, and approximately 460 associated faculty and staff, would be accommodated in facilities to be developed at the Silicon Valley Center at the former Naval Air Station

Moffett Field, in Santa Clara County, approximately 40 miles northeast of UC Santa Cruz main campus. The Silicon Valley Center, which is in an early stage of development, is UC Santa Cruz's component of the fledgling NASA Research Park (NRP), envisioned under a reuse plan for Moffett Field.

In late 2000, NASA published the NASA Ames Development Plan (NADP) for the NRP. Under this plan, the Research Park would include a University Reserve; staff and student housing; and a range of other research, commercial, and ancillary retail facilities. The University Reserve consists of three parcels, with a total land area of 40 acres that could be developed with approximately 1.25 million square feet of building space. In concept, the University Reserve would provide space for education, research facilities and housing dedicated to NRP higher education partners, including UC Santa Cruz, Carnegie Mellon University, San Jose State University, and Foothill-DeAnza Community College.

The University has a letter of intent that would allow it to develop a facility on 25 acres in the NRP University Reserve, with approximately 600,000 gsf of building space, which could accommodate about 2,000 students. Some additional space could also be developed in the former Moffett Field's Shenandoah Plaza Historic District, which is adjacent, and which includes a few sites available for infill. However, as described in the NADP, development of this site as envisioned in the NADP poses a number of problems. Existing building infrastructure serves only a portion of this site. In order to use the site for a satellite campus, new infrastructure would need to be developed. The development would need to be coordinated with the infrastructure needs and development schedules of other entities in the NADP area. In addition, the site at present is not readily accessible to most public transportation, and it would be difficult, under current conditions, to implement many of the transportation demand measures that are required under the NASA Transportation Demand Management Plan and that the Campus would wish to include in its program. Moreover, because of its distance from the academic and social community on the main campus, the satellite development would not share in educational community environment and University atmosphere that is provided at the UC Santa Cruz main campus, and therefore would not meet the goal of providing an intellectual and social community. Further, because development of the NRP overall has proceeded at a much slower pace than anticipated in the NADP, a satellite campus developed at the Silicon Valley Center at this time would provide only very limited capacity for collaborative research and other research synergy. Given the distance of the NRP from the UC Santa Cruz campus, the impediments to physical development of the site, and the early state of development of academic programs, which cannot serve significant numbers of undergraduates, development of a satellite campus at this site does not offer a viable alternative to growth on the main campus overall. Thus, this alternative was considered but rejected for further analysis.

5.3.5 Accommodate Enrollment Increase through Expanded Distance Learning Programs

UC Santa Cruz and other UC campuses currently operate limited distance learning programs, including Study Abroad, UC/DC (for studying in Washington D.C.), and UC Extension. Under this alternative, the existing distance learning programs offered by UC Santa Cruz would be expanded to include extensive electronic instruction delivered at remote sites or through home computers. A substantial undergraduate instructional program would be provided electronically. Strategies to provide instruction at a distance

could include the use of televised classes, passive and interactive web sites, and computerized instruction. Some graduate and faculty research and collaboration would also take place via telecommunications and computer networks. Under this alternative, construction of some new building space would be necessary to house facilities and programs for the development and delivery of distance learning programs, and there would be some increase in faculty and staff to develop and deliver the needed programs, but the increase would be much smaller than envisioned under the 2005 LRDP.

This alternative was rejected for further analysis for a number of reasons. UC Santa Cruz currently offers several programs for distance learning and study abroad. Approximately 289 students are enrolled in these programs at this time, and the Campus anticipates that this number will increase by 2020, but not by nearly the numbers projected under the 2005 LRDP, i.e., 6,950 new students. The study abroad program, which accounts for the majority of the 289 off-campus students, cannot be considered equivalent to a distance-learning program. Students enrolled in this program are only off-campus for a short portion of their enrollment at UC Santa Cruz, returning to on-campus enrollment when they have completed the program. The infrastructure for such a large-scale learning program is not currently in place. Furthermore, development of curriculum, and other logistic issues would have to be resolved and funded.

While this alternative would provide some elements of a UC education to a larger population, it would not provide the opportunities for laboratory work, face-to-face discussion and collaboration, or the educational community environment that is provided at a UC campus, and thus would not meet the goal of providing an intellectual and social community. The in-residence educational experience and access to University human capital and facilities are a key part of a UC education. Web-based instruction cannot substitute for in-person collaboration. Because of the relative isolation, lack of access to many of the resources of the campus (such as libraries and research and studio spaces), and the limitations on collaborative research, electronic distance learning would not accommodate the expansion of high-quality research programs, or support the depth and breadth of academic and professional degree programs that are goals of the proposed project. For these reasons, this alternative would not meet project objectives and was therefore rejected.

5.3.6 No Campus Growth Alternative

Under the No Campus Growth Alternative, the Campus would maintain student enrollment at 15,000 three-quarter average student headcount and there would be no increase in the number of faculty and staff on campus over the numbers existing in 2004-05. Unlike the No Project Alternative, under this alternative there would be no new construction on the campus, no growth in research activities, and no growth in on-campus housing to serve the population provided for under the 1988 LRDP. Any improvements that would be implemented would be limited to those necessary for health and safety reasons.

This alternative was rejected for further analysis because it would not meet most of the objectives of the proposed project. It would not provide for instruction, research support, residential facilities and infrastructure to allow for the campus to accommodate anticipated program growth, support expansion of undergraduate and graduate programs, expand the campus's contribution to the public cultural life and economic welfare of the region, or foster a dynamic intellectual and social community.

5.4 ALTERNATIVES EVALUATED IN DETAIL

This section presents an evaluation of four alternatives to the proposed 2005 LRDP:

- Satellite Campus at Former Fort Ord Military Base
- Reduced Enrollment Growth
- Southerly Expansion
- No Project

Several of the significant impacts of the 2005 LRDP stem from the size of population that the LRDP proposes to accommodate. The increase in the size of the on-campus population between 2005 and 2020 would determine the magnitude of traffic and traffic-related air quality and noise impacts. The size of this new population would also determine the magnitude of the impacts on regional housing resources and water supply. As described below, the first alternative focuses on ways in which impacts could be minimized by reducing the new population and development in Santa Cruz and placing some of it at another location. The second alternative would reduce the overall level of population growth on campus, for both students and employees. The third alternative focuses on minimizing potential impacts on biological resources by avoiding new development on the north campus. Key attributes of the four alternatives are listed on the following page, in Table 5-1. [Figure 5-2, Development Areas Under the 2005 LRDP](#), shows the areas that would be developed under the 2005 LRDP. This figure is provided to assist the reader in comparing the area of effect (footprints) of the alternatives to that of the proposed 2005 LRDP.

**Table 5-1
Summary Data for LRDP Alternatives**

Alternative	New Students On Main Campus	New Employees On Main Campus	New Students Out-of Study Area	New Employees Out of Study Area	New Students Housed on Main Campus	New Employees Housed on Main Campus	Housing Needed in Study Area Communities ^a
Proposed Project	6,950	1,520	0	0	3,390	138	936 (s) ^b 907 (e)
Fort Ord Satellite Campus	4,750	1,040	2,200	480	2,372 ^c	89 ^d	793 (s) 864 (e)
Reduced Enrollment Growth	5,450	1,190	0	0	2,520	89	977 (s) 1,001 (e)
Southerly Expansion	6,950	1,520	0	0	3,390	125	936 (s) 907 (e)
No Project	950	880	0	0	950	178	0 (s) 638 ^e (e)

Notes:

(a) Study area communities for Ft. Ord alternatives include both Santa Cruz and Monterey County communities.

(b) s=students; e=employees

(c) Assumes that Ft. Ord student population is 15% grad students and 85% undergrads, and that on-campus housing is provided for 25% of grad students and 50% of undergraduates at Ft. Ord, for total student housing at Ft. Ord Satellite campus of 1018 beds. Bed space to be constructed at the main campus is therefore reduced by the same amount.

(d) Assumes that 80% of employee population at Ft. Ord is staff and 20% is faculty, and that the Ft. Ord facility provides housing for 25% of faculty and 3% of staff, for total employee housing of 36 units. Employee housing at the main campus would be reduced by the same amount.

(e) Number of employees housed on campus under the No Project Alternative estimated based on the assumption that 80 percent of the 880 employees would be staff and 20 percent will be faculty; and that 25 percent of the faculty and 3 percent of the staff hired from outside the region would be housed on campus.

It should be noted that some of the listed alternatives are not mutually exclusive and could be combined into a number of ways. A number of such combinations are possible, and it would be difficult to characterize the impacts of every combination. Therefore, each of these alternatives is evaluated in this EIR as a stand-alone alternative with the purpose of bringing out clearly the reduction in the impacts of the proposed 2005 LRDP that each alternative could achieve.

For each alternative, a brief description is first presented, followed by a summary impact analysis relative to the proposed project, and an assessment of the degree to which the alternative would meet project objectives.

5.4.1 LRDP Alternative 1. Satellite Campus at Former Fort Ord Military Base

5.4.1.1 Description

Under this alternative, a satellite campus in Monterey County would accommodate about 2,200 of the students and about 480 of the employees included in the growth proposed under the proposed 2005 LRDP and about 1.3 million gsf of the proposed building space. The remainder of the additional students and employees (about 4,750 students and about 1,040 faculty and staff) and the remainder of the proposed development (about 2.8 million gsf) would be accommodated at the main campus, including 2300 Delaware Avenue. The new satellite campus would be developed on land owned by the University of California at the University of California Monterey Bay Education, Science and Technology Center (UC MBEST) at the former Fort Ord Military reservation (hereinafter UC MBEST alternative). The UC MBEST site would not accommodate the entire building program or population proposed under the 2005 LRDP (for reasons discussed below), so the remainder of the building program and population would be accommodated at the main campus.

UC MBEST is located on approximately 1,041 acres of the former Fort Ord Military Reservation in Monterey County, approximately 40 miles south of the UC Santa Cruz main campus. Portions of the UC MBEST property lie within the city of Marina, and the remainder within unincorporated Monterey County. Approximately 600 acres of the site are designated as a natural reserve, and were incorporated into the University of California Natural Reserve System in 1996. An Installation-Wide Multi-Species Habitat Management Plan obligates the University to hold and manage this area as natural habitat in perpetuity. A small portion of UC MBEST land is within the Runway Protection Zone of the Marina Municipal Airport, and buildings are prohibited in this area. Another small area of UC MBEST land is in a transitional protection zone, where building occupancy and heights are restricted. Existing facilities on the MBEST site include a flight simulator building and the recently-constructed 26,200-gsf MBEST headquarters building complex.

The University has prepared a Master Plan for development of the remaining 437 acres of the UC MBEST site as a mixed-use campus. Under this Master Plan, the envisioned UC MBEST could accommodate up to 4.4 million gross square feet of space for the public and private sector, educational-related and research-oriented activities and support functions, including hotel/conference, service,

commercial, and light industrial uses. The primary goal of the UC MBEST is to develop alliances among businesses, government, and educational and research institutions to address economic opportunities, especially in agriculture and industry. Programs would be designed to facilitate knowledge transfer between businesses, government, and educational institutions via research relationships and training/teaching programs. The Regents have approved the first three phases of the UC MBEST Master Plan which envision development of approximately 1.3 million square feet of space on 127 acres of the portion of the facility within the city of Marina. The only new development constructed to date at the UC MBEST is the MBEST headquarters building complex, which consists of space to house offices, classrooms, meeting rooms, research and development and light industrial uses.

Fort Ord Reuse Authority has allocated 230 acre-feet of water supply to UC MBEST. It is anticipated this would be an adequate supply for the 1.3 million square feet of space envisioned under the first three phases of development in the UC MBEST Master Plan. Without additional water allocations, however, the site would not be able to accommodate the 4.1 million gross square feet of space or the 6,950 additional students associated with the proposed 2005 LRDP. For this reason, the Satellite Campus Alternative would not accommodate the entire population or development that is included in the proposed 2005 LRDP, at UC MBEST. UC MBEST could at best accommodate 1.3 million square feet of building space (about 32 percent of the new building space accommodated in the proposed project) and 2,200 of the new students and 480 faculty/staff population (about 32 percent of the LRDP population) envisioned for the main campus under the 2005 LRDP, and the remainder of the projected growth would need to be accommodated at the main campus.

If the Satellite Campus Alternative were adopted, it would be necessary to revise the existing MBEST Master Plan to accommodate some of the development proposed under the 2005 LRDP for the UC Santa Cruz campus. To function as a relatively independent campus, the satellite campus would necessarily include administrative, research and teaching facilities, infrastructure, and housing. To meet the housing targets of the 2005 LRDP, development at the UC MBEST Center would have to include about 1,018 student beds and about 89 employee housing units. The satellite campus would also need to incorporate computer/telecommunication facilities adequate to support a distance-learning program and to provide for some level of collaboration with researchers and faculty on the main campus. In order to make a satellite campus economically feasible, it would depend on the main campus for certain functions initially, particularly while the population was small, and would become more independent as the new facility developed and population at the site increased over the life of this LRDP. Some primary functions—such as a general library and the University Health Center – would likely be maintained only at the main campus even after full development was reached, because it would not be cost effective to construct full-scale facilities at a small satellite campus. Subsequent to development of the satellite campus, some use of main campus facilities and some travel between the satellite and main campus (including 2300 Delaware Avenue) facilities, particularly by faculty and staff, likely would continue to be necessary, and desirable for programming and collaborative research purposes. In order to accomplish the TDM objectives of the LRDP, effective mass transit or strategies to accommodate other alternative travel modes would be needed to connect the satellite campus with the main campus.

Because about 32 percent of the enrollment increase and space needs planned under the proposed 2005 LRDP would be accommodated at the satellite campus, the land use plan for the main campus would

differ from the land use plan under the 2005 LRDP in the following respects. With about 2,200 fewer students, under this alternative the size of the Colleges and Student Housing area south of Kresge College would be reduced, and the Colleges and Student Housing area along the north campus loop road would be eliminated. The area allocated for employee housing on the main campus would be reduced by about one-third. Because some academic space would be provided at the satellite campus, the need for academic space on the main campus also would be proportionally reduced and therefore development of at least one of the three north campus Academic Core expansion areas would not be necessary. For purposes of this analysis, it is assumed that the development area close to Crown College, the development area around the Campus Trailer Park, and the employee housing area on the north campus near Cave Gulch would be developed, whereas the Colleges and Student Housing development area in the middle of the north campus and a portion of the development area west of Heller Drive and south of Kresge College (a portion of Porter Meadow) would not be developed.

Under this alternative, the uses and programs planned and envisioned under the UC MBEST Master Plan would not be accommodated and would have to be abandoned or the planned uses would have to be developed would require additional land development at MBEST. The latter might not be feasible due to water allocation and land use constraints, as discussed under Land Use, below.

5.4.1.2 Impact Analysis

Aesthetics

The development of the satellite campus would reduce the need for some of the new construction on the main campus. However, there would still be new buildings and facilities added on the main campus and this alternative would likely not reduce the need for buildings such as the new Event Center for the campus. By and large new development on the main campus under this alternative would occur in the same areas as under the 2005 LRDP. The two areas that would not be developed under this alternative would be a portion of a development area west of Heller Drive (Porter Meadow) and a development area in the central portion of the north campus. Because these areas that would not be developed are not within viewsheds of vantage points off campus, the views of the campus from off-campus locations in the City of Santa Cruz would be similar to the view under the 2005 LRDP. As discussed in Section 4.1, *Aesthetics* (Volume I), development envisioned under the 2005 LRDP would not significantly affect scenic vistas. It would, however, result in potentially significant impacts on scenic resources, and the visual character and quality of the campus, and would create new sources of substantial light or glare that could affect views. This alternative would reduce some of the potentially significant impacts of the 2005 LRDP but would not eliminate them. Some visual change and light and glare would also occur at UC MBEST associated with the construction of the satellite campus.

Agricultural Resources

Neither the proposed project nor the Satellite Campus Alternative would result in any significant impacts on agricultural resources.

Air Quality

Development of the satellite campus would shift some of air quality impacts from the Santa Cruz area to Monterey County. Because about one-third of the envisioned enrollment would be accommodated at UC MBEST and the rest would be accommodated at the main campus, the number of vehicles traveling to the main campus would be proportionally reduced, and emissions in the Santa Cruz area would be reduced. However, a one-third reduction in vehicular emissions would not reduce the significant impact of the proposed project related to criteria pollutants to a less-than-significant level.

At a regional or air basin level, the impacts from this alternative would be similar to or slightly lower than those from the proposed project because the total number of daily trips occurring in the air basin would be the same and therefore the emissions would be generally similar. As higher travel speeds may be possible for vehicles traveling to the satellite campus, the total emissions from those vehicles could potentially be lower compared to the emissions from the same number of vehicles traveling to the main campus on congested city streets. This air quality benefit may however be offset by the additional trips added to the roadways by students needing to travel between the two campuses.

The potentially significant impact from emissions of toxic air contaminants from routine campus operations would be reduced as about one-third of the new building space would not be constructed on the main campus under this alternative, and it is likely that the impact would be avoided under this alternative.

Biological Resources

As a result of moving one-third of the envisioned growth to UC MBEST under this alternative, development on the north campus would be reduced because at least one 13.5-acre development area on the north campus would not be developed. As a result of the reduced footprint of development on the north campus, biological impacts from development of facilities along the north campus loop road would be reduced but not eliminated. The potential sensitive habitat and species impacts that would be reduced are impacts to northern maritime chaparral and Santa Cruz manzanita and to jurisdictional wetlands; impact from the introduction or the spread of noxious weeds; impact to nesting and roosting habitat, and/or loss of active nest sites for special-status raptors; loss or degradation of suitable foraging and roosting habitat for special status bats; impact on wildlife movement corridor; impact on San Francisco dusky-footed woodrat nests; and cumulative indirect impacts to Ohlone tiger beetle populations on campus from increased bicycle and pedestrian traffic on trails that provide habitat suitable for this species.

With respect to biological resource impacts at UC MBEST from the development of the satellite campus, the project area supports 11 federal and state listed species that potentially would be affected by development. In 2001, UC MBEST obtained an endangered species take permit from the California Department of Fish and Game that allows development on nearly all UC MBEST lands planned for development. This was done through the preservation of nearly 600 acres in the Fort Ord Natural Reserve (FONR), which operates under the terms of the Fort Ord Habitat Management Plan (HMP) developed to protect unique natural resources after base closure. FONR protects 11 species of federal and state listed plants (including the endangered *Gilia tenuiflora arenaria*), and seven species of listed animals (including the endangered Smith's blue butterfly and the California legless lizard). Potential impacts to listed species

at the Fort Ord site would be potentially significant, but would be mitigated to less-than-significant levels by the conditions of the permit. .

Cultural Resources

Under both the proposed project and the Satellite Campus Alternative, development would have the potential to significantly affect archaeological resources and human remains. Although the development of one area on the north campus and Porter Meadow on the central campus would be avoided under this alternative, there are no known cultural resources in either of these areas. The development of other areas of the campus, where potentially significant cultural resource impacts could occur, would still take place under this alternative. The potentially significant impact of the project with respect to historic buildings would be eliminated at UC MBEST, where the development area does not include significant historic buildings. There are no known cultural resources in the proposed development areas at MBEST, although there is an increased potential for archaeological deposits to be buried, relative to the proposed project, due to the geomorphological setting at UC MBEST, and unanticipated impact to any such resources could occur as a result of development. However, such impacts generally would be reduced to less-than-significant levels through mitigation. The potentially significant impacts of the proposed project with respect to paleontological resources could be reduced under the alternative, dependent on specific locations of development, and impacts to unique geological resources would be reduced because there are no unique geologic resources at the alternative site.

Geology, Soils and Seismicity

Development of a satellite campus at UC MBEST would allow the Campus to avoid developing academic facilities on the north campus and thus reduce potential erosion impact which, however, would be less-than-significant after mitigation. The level of infill development on the central campus would be the same under both the proposed project and the alternative. As a result, this alternative would not reduce the potential impact of developing in areas with known karst hazard areas on the main campus; however, this impact is reduced to less-than-significant levels with mitigation. Impacts from campus development on expansive and unstable soils would also remain unchanged, and similar impacts, which would be less-than-significant with mitigation, would occur at the MBEST site.

Hazards and Hazardous Materials

The somewhat reduced level of development on the north campus under this alternative would not avoid the impact of the proposed project on the campus's emergency response plan or the impact related to increased risk from wildland fires. Development of the satellite campus at UC MBEST, under the alternative, would not result in an increased risk from wildland fires since it is not in a forested area.

Hydrology and Water Quality

Development of the satellite campus at UC MBEST would reduce the amount of new development that would occur on the main campus by about one-third. As a result of reduced construction on the main campus, the erosion and water quality impacts of the proposed project related to increased runoff from increased impervious surfaces and the impact related to potential for flooding, would be proportionally reduced but not avoided, and mitigation measures would still be needed to address those impacts.

Pressure grouting to stabilize building sites in karst areas would still be required as development would occur in the central campus and mitigation would be necessary to avoid impacts from that activity.

Land Use and Planning

The 2005 LRDP would not result in any significant land use impacts.

UC MBEST is not planned as a teaching campus. Rather, one of the UC MBEST's primary objectives is to develop alliances among business, government, and educational and research institutions to address economic opportunities, especially in agriculture and industry. Programs there are designed to facilitate knowledge transfer between business, government and educational institutions via research relationships and training/teaching programs. No classes are being offered by the University. Development of the UC MBEST as a satellite campus would be in conflict with the adopted UC plans for development of this site, which would be a significant impact unless the plan was modified. In addition, this alternative would be in conflict with the adopted plan of the City of Marina. As a State entity, the University is not subject to local land use plans, however, it is University policy to generally achieve consistency with local land use policies, where feasible. Currently UC MBEST in collaboration with the City of Marina, is working to attract companies that have existing links or potential links to UC Santa Cruz and/or regional educational institutions such as California State University Monterey Bay or the Naval Postgraduate School. Plans call for UC MBEST programs that will facilitate interactions between tenants and faculty, students and staff. Such interactions are aimed at facilitating collaborative research opportunities, adjunct faculty and consulting opportunities, hiring of students, internships, development of training programs that will support the workforce of the companies, and the opportunity to share equipment and facilities. Developing the site as a satellite campus could limit the opportunities for development consistent with these plans.

It would not be possible to accommodate both the building needs currently planned for UC MBEST and any significant portion of the development proposed under the LRDP. To simultaneously accommodate the development needs of a satellite campus and the planned MBEST development would require development of additional lands in the area, and possibly alteration of the existing HMP. This is likely would not be a feasible strategy for development, as it would conflict with land use plans and agreements already developed. Development of this satellite campus could have a potentially significant impact on the HMP for Fort Ord.

Finally, developing this site as a satellite campus to accommodate the main campus population growth would require revising the UC MBEST Master Plan approved by The Regents. This Master Plan was developed in coordination with the City of Marina, CSUMB, and the local community. In planning the reuse of the Fort Ord lands by the University of California and CSUMB, it was envisioned that the role of CSUMB was primarily in teaching, while the role of UC MBEST was primarily for research. Development of UC MBEST as a satellite teaching campus would not be consistent with the Fort Ord reuse plan, and would be redundant with CSUMB's higher education programs at the site.

Noise

With the reduction of construction on the main campus, exposure of nearby sensitive receptors to excessive construction noise under this alternative would be reduced, but the impact would not be avoided

because, even under this alternative, some projects would involve construction within 100 feet or less of a sensitive receptor.

Population and Housing

This alternative would reduce the number of new persons added to the main campus under the 2005 LRDP, and thereby reduce the project's impact related to population increase and the impact related to demand for housing in Santa Cruz County (as shown in Table 5-1). The increment of population growth would instead be added to the area near the satellite campus. Like the Santa Cruz area, that area is also experiencing a lack of affordable housing, and the alternative could contribute to an impact on regional housing supply.

Public Services

Neither the proposed project nor the UC MBEST Alternative would result in any significant impacts on public services. Development of a satellite campus at this site would simply replace the population proposed for UC MBEST with population that would otherwise have been located at the main campus. The less-than-significant impact of the proposed project with respect to environmental impacts that could result from the need to construct or expand public service facilities in the region would be slightly reduced in the Santa Cruz study area.

Recreation

The reduction in the main campus population that would result under this alternative would somewhat reduce the magnitude of the potentially significant impact related to deterioration of on- and off-campus recreational facilities in the Santa Cruz area that would occur under the proposed project, but would transfer the impact to the MBEST site and area. Because the existing facility there lacks the developed recreational facilities present on the main campus, MBEST development could result in increased demand for recreational facilities in the vicinity of that site. This demand could be met through development of additional recreation facilities at that site, but there would be a potential for this development to result in significant environmental impacts with respect to biological and cultural resources, depending on the location and type of facility developed. However, the same potential impact would be associated with development already planned for UC MBEST, and shifting part of the main campus population growth to the MBEST site would simply replace one projected population with another.

Traffic, Circulation and Parking

Under this alternative, about 32 percent of the new students would be accommodated at Ford Ord and therefore the new daily and peak hour trips by new students and campus employees on roads leading to the main campus would be proportionally reduced. This reduction, however, would not be adequate to reduce the significant traffic impact of the proposed LRDP at the two on-campus intersections to a less-than-significant level. With respect to 11 off-campus intersections that would be significantly affected under the 2005 LRDP, under this alternative the intersection of Swift Street and Delaware Avenue would not degrade to an unacceptable LOS. Impacts with respect to conflicts with alternative transportation programs would be reduced at the main campus but increased at the UC MBEST site. The impact from special event traffic would remain unchanged.

Students and employees traveling to the satellite campus and between the two campuses would increase impacts to the regional transportation system. Highway 1 would be the main access between the two campuses. The Draft Environmental Assessment/EIR for City of Marina, California, Airport Plans Permits, UC Technology Center, Airport Area General Plan and Zoning Amendments and Redevelopment Plan analyzed the traffic impacts of UC MBEST as currently planned (City of Marina 1995). According to that study traffic volumes on Highway 1 are forecast to operate at LOS E between Reservation and the southern Del Monte interchange, and LOS F further south under cumulative conditions in 2015 with development of the UC MBEST site and other redevelopment projects at Fort Ord. Highway 1 and Del Monte Boulevard may require the mitigation of widening to achieve acceptable levels of service. Similar traffic impacts would likely occur with development of the UC MBEST site as a satellite campus and would, therefore, be significant.

Utilities

Shifting some of the campus growth to Fort Ord would reduce the campus's demand for water from the Santa Cruz City's water supply, but would not reduce it enough to render the contribution to the water supply impact cumulatively inconsiderable. Water is in short supply, not only in Santa Cruz but also in Monterey County. UC MBEST has been allocated 230 acre-feet of water per year by the Fort Ord Reuse Authority, which would be adequate for the 1.3 million square feet of space that could be developed at Fort Ord under this alternative. However, the potential for future growth at this site could be constrained by limitations on the available water allocation, and additional water demand could result in similar significant and unavoidable water demand impacts to those of the proposed project.

5.4.1.3 Ability to Accomplish Project Objectives

This alternative would satisfy the University's objectives of accommodating the projected increase in enrollment demand through 2020-21, although it would not accommodate all of the increase on the main campus, as envisioned, but would require development of another site. The Satellite Campus at Former Fort Ord Military Base would distribute the campus community between the main campus and a remote site and, in this configuration, the Campus would be challenged to maintain the well-integrated intellectual and social community that is a key objective of the proposed 2005 LRDP. Locating some of the envisioned growth at a satellite campus, although it could provide new opportunities at the new site, would undermine the Campus's ability to expand existing high quality research programs on the main campus. UC Santa Cruz prides itself in its close-knit educational community environment. Co-locating the new programs and expanding the existing undergraduate and graduate programs is an important element of the 2005 LRDP, which is designed to build on the established foundation of human and physical resources already in place, and to encourage interdisciplinary collaboration. It would be difficult to establish and maintain this community environment, with a satellite campus 40 miles distant from the main campus.

An important goal of the University is to provide good stewardship of public monies. Expanding to a new satellite campus at UC MBEST would add additional costs both for the University and for the students, because some main campus programs and services would need to be duplicated in order to provide appropriate programs and services at the satellite site. Development of UC MBEST as a satellite campus

would be a challenge to good stewardship of funds, to the extent that services and infrastructure already available to the main campus had to be duplicated at UC MBEST in order to provide an academic community consistent with the goals of the 2005 LRDP. Further, a satellite campus that was not well served by alternative transportation would not support the University's important sustainability goals.

In summary, this alternative would not meet some of the key objectives of the LRDP and would require the abandonment of the University's plans for UC MBEST.

5.4.2 LRDP Alternative 2. Reduced Enrollment Growth

5.4.2.1 Description

Under the Reduced Enrollment Growth Alternative, future development of the campus would be planned to accommodate 19,500 FTE students on campus by 2020-21. This represents an increase of about 5,450 students over the 2003-04 enrollment level of 14,050 students. Assuming that the same student to faculty/staff ratio is maintained under this alternative as is represented by the proposed project, approximately 1,190 new employees would be added under this alternative. Therefore, a total of 6,640 new students and employees would be added to the campus under this alternative. This population increase would be about 22 percent less than the population increase that would result from the addition of the 8,470 new students and employees under the 2005 LRDP. The total on-campus population under this alternative (that is, existing population plus projected growth) would be approximately 25,030, which is approximately 6.7 percent lower than the 2020-21 population of about 26,834 anticipated under the 2005 LRDP.

This Reduced Enrollment Growth Alternative would equate to campus growth under the 2005 LRDP less one undergraduate college, as each college typically is planned to enroll 1,500 students and house 750 students. The 2005 LRDP building program would allow development of approximately 1.6 million asf (2.6 million gsf) of additional academic and support space on campus, and approximately 1.1 million asf (1.5 million gsf) of additional housing space by 2020. Under the Reduced Enrollment Growth Alternative, the building program for academic and housing space would be about 22 percent less than that proposed under the 2005 LRDP. Under this alternative, the envisioned housing and academic space west of College Ten (Porter Meadow) would not be developed, with the result that the development area proposed at that location under the 2005 LRDP would be reduced in size by about 50 percent. The main change in footprint of development compared to the 2005 LRDP is that there would be no development within Porter Meadow and less infill development within the campus core. Development areas along the north campus loop road that are proposed under the 2005 LRDP would remain unchanged in terms of size and location. The proposed expansions of the on-campus road network would still take place, and the new campus entrance and campus support area at the western margin of the north campus would still be developed under the alternative. [Figure 5-3](#), *Development Areas Under the Reduced Enrollment Growth Alternative*, shows the footprint of development on the main campus under this alternative.

5.4.2.2 Impact Analysis

Aesthetics

With the exception of the elimination of some of the development in the Porter Meadow area, this alternative would place new development in the same areas as the proposed LRDP. Therefore, the alternative would not reduce or avoid any of the visual resource impacts of the 2005 LRDP, and mitigation measures would also be required to reduce the impacts of this alternative.

Agricultural Resources

Neither the proposed project nor this alternative would result in any significant impacts with respect to agricultural resources.

Air Quality

As a result of the smaller increase in campus population, the increase in consumer products and traffic-related emissions in 2020 under this alternative would be about 22 percent lower than under the 2005 LRDP. This would reduce regional VOC impacts to less-than-significant levels. Regional NO_x impacts would also be reduced but not to less-than-significant levels.

The potentially significant impact from emissions of TACs from routine campus operations would also be reduced as some of the space would not be constructed on the main campus and the TAC emissions would be lower under this alternative and it is likely that the reduction in the magnitude of the impact would be adequate to reduce the impact to a less-than-significant level.

Biological Resources

Impacts to biological resources would be somewhat reduced under this alternative because there would be slightly less infill development and fewer persons on the campus. Impacts that would be reduced include those related to nesting birds, roosting and foraging habitat for special-status bats, and Ohlone tiger beetle. However, all of the significant biological resource impacts of the 2005 LRDP associated with the development of the north campus would also occur under this alternative.

Cultural Resources

Under this alternative, the area of Porter Meadow would be excluded from development. There are no recorded cultural resources in this area. This alternative would have a reduced footprint, so there would be a somewhat reduced potential for impacts to undiscovered archaeological resources under the alternative as compared with the proposed project. The alternative would have essentially the same potential as the proposed project to result in significant unavoidable impacts to those resources for which data recovery was not sufficient mitigation. Potential impacts to unique geological resources would be reduced to the extent that such impacts are related to increased population. Impacts to paleontological resources would be similar to the proposed project, because development could still occur in paleontologically sensitive areas.

Geology, Soils and Seismicity

The potential for impacts related to construction of facilities on sites underlain by karst features would be reduced with this alternative since there would be somewhat less infill within the campus core. Similar to

the proposed project, however, mitigation measures would still be needed to address the impact. The other impacts would also be reduced but mitigation measures would still be needed to address the impacts.

Hazards and Hazardous Materials

There would be no measurable change in impacts related to hazards and hazardous materials with development of this alternative compared to the 2005 LRDP. With the elimination of one college, the use of hazardous chemicals would be only slightly reduced as chemical usage on campus occurs mainly in academic buildings and laboratories that are separate from the colleges. The potentially significant impacts of the 2005 LRDP related to risk from wildland fires and the campus emergency response plan would not be reduced or avoided because similar to the proposed project, development on the north campus would occur under this alternative.

Hydrology and Water Quality

With the reduction in land area that would be developed under this alternative, the additional impervious surfaces that would be created would be slightly less, and the resultant increase in runoff also would be less. Therefore, the potential for erosion would be lower. However the reduction would not be large enough to avoid the impacts related to erosion, water quality and flooding, and the same mitigation measures would apply to this alternative as would to the 2005 LRDP.

Land Use and Planning

There would be no change in impacts related to land use and planning with development of this alternative compared to the 2005 LRDP.

Noise

Because the growth in campus population would be less, the building program for academic and housing space would be about 22 percent less than that proposed under the 2005 LRDP. However, construction would still take place within the north campus as well as within the campus core, and some construction activities would likely occur within 100 feet or less of receptors and result in a potentially significant noise impact.

Population and Housing

Reducing the enrollment growth on the main campus would lessen the Campus's contribution to population growth in the study area, but the impact would still be considered significant and unavoidable. The demand for regional housing resources would also be reduced (as shown in Table 5-1) but not sufficiently to avoid the significant impact.

Public Services

Neither the proposed project nor the Reduced Enrollment Growth Alternative would result in any significant impacts on public services.

Recreation

Because the growth in the main campus population under this alternative would be lower, it would reduce the impact related to deterioration of on- and off-campus recreational facilities but would not avoid the impact and mitigation would still be required.

Traffic, Circulation and Parking

Under this alternative, campus population would grow, but by a smaller number than under the 2005 LRDP. As a result, the peak hour trips would increase compared to existing campus-related trips but would be about 18 percent less than the trips under the 2005 LRDP (note that although the population growth would be about 22 percent less under this alternative, the peak hour trips would be about 18 percent less than under the 2005 LRDP because the relationship between enrollment and peak hour trips is not one to one). This reduction, however, would not be adequate to reduce the significant traffic impact of the proposed LRDP at the two on-campus intersections. With respect to the 11 off-campus intersections that would be significantly affected under the 2005 LRDP, one intersection, West Cliff/Bay Street, would not degrade to an unacceptable LOS under this alternative. Impacts with respect to the effectiveness of alternative transportation modes on campus and regionally in relation to transit, bicycle and pedestrian facilities, and upon parking facilities would be reduced but not to a less-than-significant level. The impact from special event traffic would remain unchanged.

Utilities

There would be no significant impacts from campus growth under the 2005 LRDP related to provision of utilities other than the impact related to the expansion of the campus heating system and the significant increase in demand that campus growth would place on the City's water supply. Although the increase in demand for water would be smaller (22 percent less than under the 2005 LRDP) because of the smaller increase in main campus population, the impact would still be significant and unavoidable.

5.4.2.3 Ability to Accomplish Project Objectives

Like the proposed project, the Reduced Enrollment Growth Alternative would support the University's Physical Planning Principles and Guidelines. However, because it would accommodate a smaller population increase than the proposed project, the Reduced Enrollment Growth Alternative would not satisfy the University's objective of accommodating anticipated enrollment growth through 2020-21. Under this alternative, it would not be possible for the University fully to realize its goal of responding to the increased demand for higher education in California through the 2020-21 planning horizon. The alternative thus would have a reduced ability to meet the University's goal of supporting educational opportunities for an increasingly diverse population.

Development under this alternative would provide a physical framework on the campus that would be similar to that produced by the development proposed by the 2005 LRDP, except that the space designated for development of new colleges would be reduced by half, relative to space development under the proposed 2005 LRDP. This suggests that, under the alternative, one fewer new college would be built. Since each college developed to date has added a program focus to the campus, the Reduced Enrollment Alternative, thus, could reduce the scope of opportunities for interdisciplinary collaboration,

and for addition and diversification of programs. Limitations on enrollment growth likely would limit program expansions, and new opportunities for collaboration, research and teaching would be similarly reduced, as well. The ability of the Campus to evolve over time to accommodate changing needs, new technological developments and new initiatives would be reduced commensurately with the reduced level of physical development and student enrollment included in the alternative.

5.4.3 LRDP Alternative 3. Southerly Expansion Alternative

5.4.3.1 Description

This alternative is a variation of Option D, the East-West Expansion Option that was considered during the development of the 2005 LRDP. This alternative would aim at accommodating the same population and building space as the 2005 LRDP but would not allow development in the north campus. The northern areas thus would remain essentially undeveloped and the facilities needed to serve the increased campus population would be provided by increased development within the central, south-central, and southeastern portions of the campus.

Under this alternate land use plan, the north campus loop road would not be developed, and there would be no new development in the north campus. The new entrance to the campus off of Empire Grade Road envisioned under the proposed 2005 LRDP would not be developed. Instead development would occur as infill in currently developed areas on the central and lower campus. The needed academic space would be developed as infill within the central campus with a small expansion of the Academic Core south of the Music facility area. The Colleges and Student Housing areas proposed on the north campus in the 2005 LRDP would be located at a site on East Field, and new athletic fields would be added in the area of the East Meadow rather than to the north of the existing campus core. Additional student housing would be provided by expanding the Colleges and Student Housing area south of Oakes College. Unlike Option D, which would have located new faculty and staff housing on Empire Grade Road in the upper campus north of Cave Gulch, under this alternative faculty and staff housing would be constructed in the lower portion of the East Meadow near the intersection of Glenn Coolidge Drive and Hagar Drive. Under this alternative, there would be no expansion of the Colleges and Student Housing area adjacent to the North Remote parking lot and the existing campus support functions would remain at their current locations near the main entrance. [Figure 5-4, Development Areas under the Southerly Expansion Alternative](#), shows the footprint of development on the main campus under this alternative.

5.4.3.2 Impact Analysis

Aesthetics

This alternative would increase development within the viewshed of the campus from Santa Cruz, and the views of Santa Cruz and the Pacific from vantage points on campus. Construction of facilities on the current East Field would disrupt the views from the forest edge, Cowell College, Baskin Visual Arts Center, and University House. Because of the high visibility of the East Meadow area from off-campus locations and the drop in elevation to the east of the campus, the significant visual impact of these

facilities could not be mitigated. The construction of employee housing at the intersection of Hagar Drive and Glenn Coolidge Drive on the lower portion of the East Meadow and the Great Meadow would also result in a significant visual impact as the views of the meadows that are a valued element of the landscape would be lost for persons approaching the campus from the south and for persons driving south on Hagar Drive and Glenn Coolidge Drive. Aesthetic impacts upon the historic visual character of the Cowell Ranch Historic District would be increased by increased development in this area.

Under this alternative the campus support functions would remain at their current locations near the main entrance to the campus and the visual impacts from construction and operation of the campus support facility on Empire Grade Road near Cave Gulch would be avoided.

Agricultural Resources

There would be no change in impacts to agricultural resources.

Air Quality

Because the increase in total campus population and the percentage of the new population housed on campus would be the same as it would be under the 2005 LRDP, the increase in traffic to the campus and traffic-related impacts to air quality under this alternative would be the same as under the 2005 LRDP. Emissions from stationary and area sources would also be the same as under the 2005 LRDP and would result in significant impacts. The potentially significant impact from emissions of toxic air contaminants from routine campus operations would also remain unchanged under this alternative.

Biological Resources

Because no development would occur on the north campus under this alternative, all of the significant biological resource impacts on northern maritime chaparral, Santa Cruz manzanita, jurisdictional wetlands, and special-status plant species would be avoided as these biological resources do not occur on the central and lower campus. Impacts on the San Francisco dusky-footed woodrat nests and the impact on special-status bat species would be avoided because suitable habitat for these species does not occur on central and lower campus meadows. The impact of campus development on nesting and roosting habitat, and/or loss of active nest sites for special-status raptors would be reduced but not avoided as these species also occur on the central and lower campus. The impact on Ohlone tiger beetle from trail use and on California red legged frog would remain unchanged under this alternative.

The shift of development to the grassland and meadow areas of the lower campus would increase the impact to foraging habitat of the special-status raptors and birds of prey, nesting habitat for the western burrowing owl, and potential breeding area for the coast horned lizard, although there is a lack of known occurrences within campus development areas. Development along most of the length of the East Meadow would have a potentially significant impact on migration corridors across the campus between Wilder Ranch State Park, the Great Meadow, and Pogonip City Park.

Cultural Resources

The Southerly Expansion Alternative would result in an increased potential for impacts to the historic character of the Cowell Ranch Historic District, as it would increase development in this area. Substantial development around the Cowell Ranch Historic District could cumulatively diminish the historic setting

of the resource, such that it might cease to be eligible to the CRHR. This would be a significant impact that likely could not be diminished to a less-than-significant level through mitigation. Increased development on the lower campus could also increase the potential for effects to significant historic and prehistoric archaeological sites in this area. No resources are presently known in the north campus area that would be developed under the proposed project and that would not be developed under the alternative. The proposed project and the alternative have similar potential to result in potentially significant impacts to undiscovered archaeological resources. Impacts to paleontological resources would be reduced under this alternative because development on the north campus in areas underlain by the Santa Margarita sandstone would be avoided. Impacts to unique geological resources would be the same under the proposed project and the alternative.

Geology, Soils and Seismicity

Unlike the central and lower campus, all of the north campus is an area with a low potential for karst hazards. The area is underlain by schist and no marble or evidence of sinkhole activity has been observed. The portions of the central and lower campus where the employee and student housing would be placed under this alternative on the other hand are underlain by marble. Shifting development from the north campus to the central and lower campus under this alternative would greatly increase the number of new campus facilities that would be built within areas with moderate to high karst hazards (karst hazard levels 3 and 4), and the severity of the significant impact would be increased under this alternative.

Hazards and Hazardous Materials

The impact related to increased risk from wildland fires, which is associated mainly with the north campus development in areas with chaparral vegetation, and the impact on the campus's emergency response plan also associated with north campus development would be avoided under this alternative. There would be no change with respect to impacts related to hazardous materials use on the campus.

Hydrology and Water Quality

There would be no change in impact on water quality from increased urban runoff because the same amount of development and campus growth would occur under this alternative. However, compared to the proposed LRDP, under this alternative more development would occur in the lower portion of the Moore Creek watershed, and the increased runoff created by this development could result in more erosion. Similarly, under this alternative, more campus facilities would be built on the East Meadow within the drainage areas of Gullies B and C, which could lead to more erosion in those areas and affect the Pogonip City Park. The increased runoff created by development in the Moore Creek watershed would also increase the potential for downstream flooding impacts. Therefore, all of the mitigation measures that are required for campus development under the 2005 LRDP would also be required for this alternative to address impacts from increased runoff. The effects of increased runoff on regional water quality and on caves would be the same as under the 2005 LRDP, although under this alternative, there would be no new development in the Cave Gulch watershed, reducing this to a less-than-significant impact.

Land Use and Planning

There would be no change to the less-than-significant impacts related to land use planning. Note though that under this alternative the campus support functions would remain at their current locations near the main entrance to the campus and the less-than-significant land use impact from locating these functions on Empire Grade Road near Cave Gulch would be avoided.

Noise

There would be no change in impacts related to noise.

Population and Housing

There would be no change in impacts related to population and housing because the total campus population and the number of persons housed on the campus would be the same as those under the 2005 LRDP.

Public Services

There would be no change in impacts to public services.

Recreation

There would be no change in impacts on recreational facilities.

Traffic, Circulation and Parking

There would be no change in impacts related to transportation and traffic.

Utilities

There would be no change in impacts to utilities.

5.4.3.3 Ability to Accomplish Project Objectives

The shift of development to the East Meadow and other grassland areas in central, south-central and southeastern portion of the campus would be in conflict with the Physical Planning Principles and Guidelines to maintain the unique character of the UC Santa Cruz campus. The open space and meadows of the lower and central campus impart the campus its unique character and visual quality. These areas would be severely altered under this alternative. This alternative would also conflict with other planning principles such as maintaining UC Santa Cruz's core configuration and developing a walkable campus. Although new housing for students would be at approximately the same distance from the campus core as under the 2005 LRDP, the employee housing area to the south would be farther from the core and at a considerably lower elevation making walking less desirable and infeasible for some. Respecting the natural environment and preserving open space as much as possible, respecting major landscape and vegetation features, and protecting historic and prehistoric cultural resources are additional objectives that would not be achieved under this alternative. Although it would provide a physical framework flexible enough to accommodate new initiatives, create a dynamic teaching environment and opportunities for collaboration, research and teaching, this alternative would have potentially significant aesthetic, cultural

resource, and land use planning impacts would that likely make this alternative unacceptable to students and faculty, and the Santa Cruz community as a whole.

5.4.4 LRDP Alternative 4. No Project

5.4.4.1 Description

As required by the CEQA Guidelines, the EIR's alternatives analysis must include consideration of the No Project Alternative. The "No Project" analysis discusses the existing conditions as well as what would reasonably be expected to occur in the foreseeable future if the project was not approved (CEQA Guidelines § 15126.6 (e) (2) and (3) (A)). Under the No Project Alternative, a new LRDP would not be adopted and, for land use planning purposes, the Campus would continue to operate under the previously adopted 1988 LRDP, as it does today.

Under the No Project Alternative, the Campus would increase enrollment to the 15,000 students which is maximum enrollment envisioned under the 1988 LRDP, and then would maintain student enrollment at that level. Because enrollment of 15,000 students likely will be attained at UC Santa Cruz by 2006-07 based on current planning, there would be a small increase in enrollment of about 950 students under this alternative above existing conditions (approximately 14,050 students in 20003-04). It is possible that the proportion of graduate students in the student population would increase under this alternative to about 15 percent of the total student enrollment but the total on-campus enrollment would not exceed 15,000 students.

It is anticipated that growth in faculty and staff, which was not estimated in the 1988 LRDP, would continue to occur under the No Project Alternative due to a number of factors. Factors that could result in faculty and staff increases include new program initiatives and changes in the academic program over time; additional regulatory requirements imposed by state and federal agencies; transformation of curriculum over time (e.g., employees needed to develop and integrate web-based learning, collaboration and other technology improvements); and opportunities for improving the faculty/student ratios on the campus. It is estimated that faculty and staff population could increase by approximately 880 persons by 2020-21, based on current rates of employee growth on campus; however, employee population growth could occur at a faster or slower rate.

The 1988 LRDP provides for the campus to develop up to 7.5 million gsf of space and up to 8,400 parking spaces, and grow to a total of 12 residential colleges. As of January 2005, approximately 4.8 million gsf of building space had been built, approved, or was under construction on the campus, and 10 colleges and about 5,200 parking spaces had been constructed. Under the No Project Alternative, based on the development planned under the 1988 LRDP, the Campus would be able to develop up to 2.7 million gsf of additional new building space, construct two new colleges and up to 3,200 net new parking spaces, provided the campus enrollment was not increased above 15,000 students by these actions. Development in the absence of additional student enrollment might be undertaken to relieve overcrowding in existing academic programs and facilities, provide additional on-campus housing to accommodate a larger portion of the student and employee population on campus, or to support new research initiatives.

Under the No Project Alternative, the land use designations included in the 1988 LRDP would continue to apply and guide campus development. The areas envisioned for development under the 1988 LRDP would continue to be considered for the designated land uses. Thus, campus development potentially could be extended to the north of existing development, and a north campus loop road and associated housing and academic development could be built, as described in the 1988 LRDP. To meet the housing goals set forth in the 1988 LRDP, additional housing to house up to 70 percent of undergraduate students and 50 percent of graduate students on campus could be considered for construction in the designated Inclusion areas, or in other areas designated for housing.

In the absence of enrollment growth, it currently appears that housing growth to the levels set in the 1988 LRDP would be financially infeasible. Campus Housing Services analyses suggest that the on-campus housing goals of the 1988 LRDP were not realistic, both because of the rising costs of housing construction and the University requirement that housing and associated programs be self-supporting, and because it does not appear at present that there is a student demand for housing at the levels set by 1988 LRDP goals. For many reasons, it appears that upper division and graduate students, in particular, often prefer to live off campus. Therefore, although substantial growth in student housing on campus would be permitted under the No Project Alternative, under current conditions it appears unlikely that this level of development would occur. For similar reasons—financial infeasibility in the absence of increased student enrollment—development of a north loop road, major expansion into the north campus, and development of two new residential colleges appears unlikely under current conditions.

It is somewhat speculative to consider where development might actually take place under No Project conditions, but it is anticipated that, in the near term, new student housing likely would be built as infill or by redevelopment of the existing Family Student Housing area and possibly as infill in the College Nine and Ten areas. In addition, new employee housing might be built in 1988 LRDP-designated Inclusion Area E. Additional academic and research development might proceed as infill in the Science Hill area, in response to on-going research initiatives. Expansion of parking facilities, such as the East and West Remote lots, also could proceed in the parking areas already developed as needed to manage transportation and parking demand. Other development included in the 1988 LRDP also potentially could occur, should conditions change in the future, providing that this development did not entail growth in student enrollment.

Setting aside speculation regarding where and how growth would actually occur, for purposes of analysis in this EIR it must be assumed that, under the No Project Alternative, any or all of the development growth included in the 1988 LRDP program could occur by 2020-21. Because the campus would remain subject to the 1988 LRDP land use plan under the No Project Alternative, any growth in building space, parking and housing would occur on lands designated for these uses under that land use plan.

5.4.4.2 Impact Analysis

Aesthetics

This alternative would permit construction of employee housing within Inclusion Area A, which would result in a significant visual impact, as the views of the Arboretum that are a valued element of the landscape would be lost for persons approaching the intersection of Empire Grade Road and Heller Drive.

Housing and other ancillary uses also could be built in Inclusion Area D, west of the main entrance to the campus, which could increase the potential for visual impacts to the historic character of the Cowell Ranch Historic District. Housing and other ancillary campus development could also occur in Inclusion Area E, south of the West Remote parking lot. Development of these areas would result in aesthetic impacts in meadow areas that would not occur under the proposed project. Aesthetically, other development under the No Project Alternative would be similar to development under the proposed project.

Agricultural Resources

There would be no impacts on agricultural resources under the No Project Alternative.

Air Quality

Because the student population would increase only slightly compared to 2003-04 enrollment levels, and the faculty and staff would increase by only 880 persons, the additional traffic generated under the No Project Alternative would be much smaller than under the proposed project (about 76 percent less than the increase proposed under the 2005 LRDP) and the vehicular emissions would be proportionally reduced. However, the growth in the number and size of stationary sources such as boilers and generators could be similar to that under 2005 LRDP and the emissions would be comparable. Area source emissions and total emissions, and related health risks, would also be comparable under this alternative compared to the proposed project.

Biological Resources

Because of limited enrollment growth, fewer additional facilities would be constructed under this alternative compared to the proposed project. As a result, overall impacts on biological resources would be reduced. However, significant biological resources impacts of the 2005 LRDP associated with removal of riparian habitat and maritime chaparral would also occur under this alternative, because many of the same area would be subject to development under both the No Project Alternative and the proposed project. Both would have similar potential for impacts to sensitive species, all of which could be mitigated to less-than-significant levels.

Cultural Resources

The No Project Alternative would permit a greater amount of development in close proximity to the Cowell Ranch Historic District, and this development would have the potential to adversely affect the historic character of the District. However, the Cowell Historic District Management Plan, presently in preparation, would manage development in the area in the same manner under both the proposed project and the No Project Alternative, so it is likely that potential effects to the District would be the same in each case. Levels of development on paleontologically-sensitive formation would also be similar under both the No Project Alternative and the proposed project, and would be mitigable to less-than-significant levels. Potential impacts to archaeological resources would be reduced under the alternative to the extent that development is reduced. Potential impacts to unique geological resources could also be reduced under the alternative, and there likely would be less growth in population, thus, less activity around the caves.

Geology and Soils

The proposed project and the No Project Alternative have similar potential to result in impacts with respect to construction on karst topography, unstable geologic units and expansive soils. In both cases, impacts would be mitigable to less-than-significant levels.

Hazards and Hazardous Materials

Research activities involving hazardous materials have similar potential to increase under both the proposed project and the No Project Alternative. Similarly, increases in fire hazards would probably be similar for both. In both cases, the impact would be mitigable to less-than-significant levels.

Hydrology and Water Quality

The proposed project and the No Project Alternative would have similar potential to result in significant impacts with respect to water quality and hydrology, because both would permit development that would result in increases in impervious surfaces in sensitive drainages, with potentially significant impacts to water quality and hydrology. However, to the extent that less development occurred on campus because of restrictions on enrollment increases, the No Project Alternative could have reduced impacts in this respect, relative to the proposed project.

Land Use and Planning

Neither the proposed 2005 LRDP nor the No Project Alternative would result in significant impacts related to land use. The No Project Alternative would avoid the less-than-significant land use impact from the development of campus support areas near Cave Gulch.

Noise

Because there would be limited growth in enrollment and a smaller increase in the number of employees, the additional construction on the campus, under this alternative, would be lower compared to the 2005 LRDP. Thus, to the extent that construction is reduced as the result of restrictions on enrollment growth, potentially significant construction noise impacts would also be reduced under the No Project Alternative. However, in both cases, construction noise would remain a significant and unavoidable impact for infill projects that included heavy equipment operations in proximity of existing sensitive receptors.

Population and Housing

Because there would be limited growth in student enrollment and a smaller increase in the number of employees under the No Project Alternative, the significant impact of the proposed project in relation to population increase and demand for housing in the study area, would be avoided. Table 5-1 presents the demand for off-campus housing under the No Project Alternative.

Public Services

The proposed project would result in less-than-significant impacts related to increase demand for public services. Under the No Project Alternative, this demand would be substantially reduced because the increase in population would be small.

Recreation

Because there would be limited growth in student enrollment and a smaller increase in the number of employees under the No Project Alternative, the proposed project's less-than-significant residual impacts on recreational facilities would be further reduced.

Transportation and Traffic

The limited growth in student enrollment and a smaller increase in the number of employees under the No Project Alternative would result in increases in traffic that would be approximately 76 percent smaller than under the proposed project. The significant traffic impacts of the proposed project at two on-campus intersections would be avoided. With respect to off-campus intersections, it is estimated that only three of the 11 intersections significantly affected under the proposed project--Empire Grade/Western Drive, Bay Street/King Street, and King Street/Storey Street--would still experience significant impacts under the No Project Alternative. Significant impacts with respect to conflicts with alternative transportation programs potentially would be reduced by the No Project Alternative, as reduced population on campus would pose fewer conflicts between transit and other vehicles and bicycle and pedestrian modes.

Utilities

Because population growth under the No Project Alternative would be substantially reduced relative to the proposed project, the less-than-significant impacts of the proposed project on most utilities would be further reduced. With respect to demand for water, the significant impact of the proposed project would be reduced, under the alternative, to a less-than-significant level.

5.4.4.3 Ability to Accomplish Project Objectives

The No Project Alternative has reduced ability, relative to the proposed project, to support the breadth and depth of undergraduate and graduate academic programs and professional degree programs or to allow the Campus to expand its contribution to the public cultural life and economic well being of the region through public programs, events and services. The ability to meet these objectives of the proposed project would be limited because of the restriction of student enrollment. It would be difficult to expand academic programs without expansion of student enrollment, and many other initiatives, supported in part by student fees, could also be restricted. The development permitted under the No Project Alternative is similar to that which would occur under the proposed project, and the alternative likely would have similar potential to accommodate the expansion of high-quality research programs as the proposed project, provided that the expansion did not require increases in student enrollment levels.

New facilities under the No Project Alternative would build on the established foundation of human and physical resources already in place and would encourage interdisciplinary collaboration to a similar extent as the proposed project, and would provide facilities and spaces that will enrich the collaborative learning environment for the on-campus student community and encourage academic, personal and social development. The No Project Alternative would develop a physical environment that will support educational opportunities for an increasingly diverse population, would allow continuing evolution of the campus over time, and would respect and reinforce the Physical Planning Principles and Guidelines.

Under the No Project Alternative, the Campus could meet the goal of managing campus lands and resources for future use.

However, the No Project Alternative, would have limited potential to achieve program growth; and would have limited ability to fulfill the teaching, research, and public service mission of the campus.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 5-2, at the end of this section, provides a summary comparison of the alternatives with the proposed LRDP with the purpose of highlighting whether the alternative would result in a similar, greater or lesser environmental impact than the proposed LRDP.

The No Project Alternative would avoid most of the significant environmental impacts of development under the proposed 2005 LRDP, because most of these impacts are population driven, and population would be reduced under the alternative relative to the proposed project. Because the increase in campus enrollment would be minimal and employee growth would be small under the alternative, the alternative would eliminate a number of significant traffic impacts, would substantially reduce significant and unavoidable impacts of the project with respect to housing, and would reduce the potential for campus development to result in significant unavoidable impacts with respect to water supply during normal and drought periods. Air quality and related health risk impacts would be reduced, relative to the proposed project, to the extent that these impacts relate to increased traffic; however, to the extent that construction continued on campus, and that the number of stationary emission sources increased, under the alternative, significant air quality and health risk impacts similar to those of the proposed project could also occur under the alternative. If development were reduced, under the alternative (which is uncertain, since a substantial amount of additional development would be allowed under the 1988 LRDP) there would be reduced potential for impacts to cultural and biological resources, and possibly with respect to water quality and hydrology. Therefore, this alternative would be the environmentally superior alternative. However, the No Project Alternative would not meet key project objectives of the proposed project with respect to program development.

If the environmentally superior alternative is the No Project Alternative, CEQA Guidelines Section 15126(d)(2) requires that the EIR shall identify another alternative as environmentally superior.

Of the remaining alternatives, the environmentally superior alternative is the Reduced Enrollment Growth Alternative because it would reduce the project's significant impacts with respect to air quality, impacts related to potential of erosion, housing, traffic and water use. This alternative would meet most of the objectives of the proposed project by providing a physical framework flexible enough to accommodate new initiatives, create a dynamic teaching environment and opportunities for collaboration, research and teaching. However, the reduction of population under this alternative would reduce the possibility for the University to fully realize its goal of responding to the increased demand for higher education in California through the 2020-21 planning horizon. Reduced enrollment growth would also limit program expansion. In that sense, this alternative would not support the objective of accommodating anticipated enrollment growth through 2020-21.

5.6 REFERENCES

City of Marina. 1995. City of Marina, California, Airport Plans Permits, U.C. Technology Center, Airport Area General Plan and Zoning Amendments and Redevelopment Plan. Draft Environmental Assessment/Environmental Impact Report. February 21.

**Table 5-2
Summary Comparison of LRDP Alternatives**

LRDP Impact	LRDP Impact Statement	Proposed LRDP (Before Mitigation)	Satellite Campus	Reduced Enrollment Growth	Southerly Expansion	No Project
Aesthetics						
AES-3	Development under the 2005 LRDP could substantially damage scenic resources on campus around the lower campus meadows.	PS	L	E/L	M	L
AES-4	Development under the 2005 LRDP could substantially damage the aesthetic quality of the Cowell Ranch Historic District as a scenic resource.	PS	L	L	M	L
AES-5	Development under the 2005 LRDP could substantially degrade the existing visual character of the campus and adjacent areas.	PS	L	L	M	L
AES-6	Development under the 2005 LRDP could create new sources of substantial light or glare on campus that would adversely affect daytime or nighttime views in the area.	PS	L	L	M	L
Air Quality						
AIR-2	Campus growth under the 2005 LRDP would result in daily operational emissions above the MBUAPCD thresholds, and therefore the proposed project may contribute substantially to a violation of air quality standards or hinder attainment of the regional air quality plan.	S	L	L	E	L
AIR-4	Growth associated with the 2005 LRDP would conflict with the Air Quality Management Plan.	S	L	L	E	L
AIR-5	Campus operations under the 2005 LRDP would not result in a substantial human health risk to campus occupants and other populations in the vicinity of the campus from long-term exposures to TACs, but would result in a substantial health risk to campus occupants at certain on-campus locations from short-term exposures to TACs.	S	L	L	E	L
Biological Resources						
BIO-1	Development on the main campus under the 2005 LRDP could result in a substantial adverse effect, directly and indirectly on northern maritime chaparral, a sensitive natural community identified by CDFG (CNDDB 2005), and Santa Cruz Manzanita, a special-status plant that generally occurs within northern maritime chaparral areas.	PS	L	L	L	L
BIO-2	Development on the main campus under the 2005 LRDP could result in a substantial adverse impact to coastal prairie, a sensitive natural community.	PS	L	E	L	L
BIO-3	Development under the 2005 LRDP could result in substantial, adverse direct and indirect impacts to jurisdictional wetlands.	PS	L	L	L	L

**Table 5-2
Summary Comparison of LRDP Alternatives**

LRDP Impact	LRDP Impact Statement	Proposed LRDP (Before Mitigation)	Satellite Campus	Reduced Enrollment Growth	Southerly Expansion	No Project
BIO-4	Construction of bridge crossings under the 2005 LRDP could result in a substantial adverse impact on riparian vegetation.	PS	L	L	L	L
BIO-6	Development under the 2005 LRDP has the potential to introduce or cause the spread of noxious weeds, which could reduce the abundance of native plants and sensitive communities.	PS	E	E	L	L
BIO-7	Development under the 2005 LRDP could result in a substantial adverse impact on Ohlone tiger beetle populations on the campus from increased bicycle use on trails and obstruction of potential movement corridors by trees planted in the Arboretum.	PS	L	L	E	L
BIO-9	Development under the 2005 LRDP could result in a substantial adverse effect on breeding or important movement habitat for California red-legged frog; direct impacts to California red-legged frog populations; or indirect impacts on the species from downstream hydrological changes in the Moore Creek watershed.	PS	L	E	M	E
BIO-11	Development under the 2005 LRDP could result in the loss or abandonment of active nests for special-status raptors.	PS	L	L	L	L
BIO-12	Development under the 2005 LRDP could potentially result in a substantial adverse impact on western burrowing owls.	PS	L	L	M	L
BIO-13	Development under the 2005 LRDP could result in a substantial adverse impact associated with the disturbance of roosting sites for special-status bats.	PS	L	L	L	L
BIO-14	Development under the 2005 LRDP could result in a substantial adverse impact associated with the loss of potential San Francisco dusky-footed woodrat nests.	PS	L	L	L	L
BIO-15	Development under the 2005 LRDP could interfere substantially with the movement of wildlife species or with established native resident or migratory wildlife corridors.	PS	L	E	M	L
Cultural Resources						
CULT-1	Implementation of the 2005 LRDP could damage or destroy an archaeological resource as the result of grading, excavation, ground disturbance or other project development.	PS	E	E	E/M	E/L
CULT-2	Implementation of the proposed 2005 LRDP could damage or destroy a historic building or structure as the result of alteration of the building or of the site, or other project development.	PS	L	E/L	E/M	E/L

**Table 5-2
Summary Comparison of LRDP Alternatives**

LRDP Impact	LRDP Impact Statement	Proposed LRDP (Before Mitigation)	Satellite Campus	Reduced Enrollment Growth	Southerly Expansion	No Project
CULT-3	Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA Guidelines 15064.5, and the values that contribute to the significance of the resource cannot be preserved through documentation and data recovery.	S	L	L	E	L
CULT-4	Implementation of the proposed 2005 LRDP could disturb human remains, including those interred outside of formal cemeteries.	PS	E/L	L	E	L
CULT-5	Development under the 2005 LRDP has the potential to disturb or destroy unique paleontological resources.	PS	L	L	L	E/L
CULT-6	Increased population on campus as a result of implementation of the 2005 LRDP could result in damage to the scientific value of unique geologic resources.	PS	L	L	E	L
Geology, Soils and Seismicity						
GEO-1	Development under the 2005 LRDP could occur on a geologic unit or soil that would become unstable as a result of the project and could result in on- or off-site landslides, lateral spreading, or liquefaction, creating potential risks to life or property.	PS	E/L	E	E	L
GEO-2	Development under the 2005 LRDP could result in construction of campus facilities on expansive soil, but this would not create potential risks to life and property.	PS	E/L	E	E	L
GEO-4	Development under the 2005 LRDP could result in construction of facilities on sites underlain by karst features, which could lead to settling or collapse beneath the structures.	PS	L	L	M	L
Hazards and Hazardous Materials						
HAZ-9	Campus development under the 2005 LRDP could potentially interfere physically with the campus's Emergency Operations Plan (EOP).	PS	L	E	L	L
HAZ-10	Campus development under the 2005 LRDP would result in increased risk from wildland fires.	PS	L	E	L	L
HAZ-11	Implementation of the proposed 2005 LRDP would increase use of hazardous materials by non-UC Santa Cruz entities on campus, which could create hazards to the public or the environment under routine and upset conditions.	PS	E	E	E	L

**Table 5-2
Summary Comparison of LRDP Alternatives**

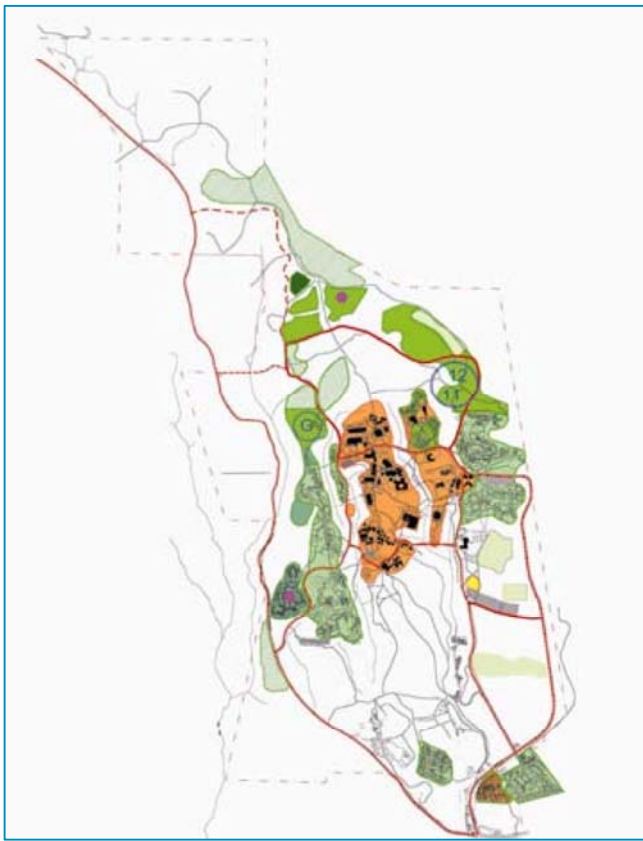
LRDP Impact	LRDP Impact Statement	Proposed LRDP (Before Mitigation)	Satellite Campus	Reduced Enrollment Growth	Southerly Expansion	No Project
Hydrology and Water Quality						
HYD-2	Campus development under the 2005 LRDP could result in storm water runoff during construction, which could substantially degrade water quality.	PS	L	L	E	L
HYD-3	Campus development under the 2005 LRDP would alter drainage patterns in the project area, and increase the rate or amount of surface runoff, which could result in substantial siltation or erosion on or off site, and increase the amount of urban pollutants in storm water runoff, which could affect water quality.	S	L	L	M	L
HYD-6	Implementation of the 2005 LRDP would alter drainage patterns on the campus, increase the rate and amount of surface runoff, potentially affect the quality of runoff, and therefore could cause flooding and water quality impacts in caves on or off site.	PS	L	L	E	L
Noise						
NOIS-1	Construction of campus facilities pursuant to the 2005 LRDP could expose nearby sensitive receptors to excessive airborne noise but not to excessive groundborne vibration or groundborne noise.	PS	L	E	E	L
Population and Housing						
POP-1	Development under the 2005 LRDP would directly induce substantial population growth in the study area by accommodating increased enrollment and additional employment.	S	L	L	E	L
POP-3	Growth of the campus under the 2005 LRDP, in conjunction with other regional growth, would create a demand for housing that combined with demand created by other growth in the county, would exceed the supply.	S	L	L	E	L
Recreation						
REC-2	Increased on-campus population under the 2005 LRDP would result in increased use of recreational facilities on campus and in the City of Santa Cruz, which could result in deterioration of the facilities.	PS	L	L	E	L
Traffic						
TRA-1	Campus growth under the 2005 LRDP would cause an increase in on-campus traffic that could result in unacceptable levels of service at two on-campus intersections if the growth in traffic outpaces the modifications to the on-campus circulation system proposed under the 2005 LRDP.	PS	E	L	E	L

**Table 5-2
Summary Comparison of LRDP Alternatives**

LRDP Impact	LRDP Impact Statement	Proposed LRDP (Before Mitigation)	Satellite Campus	Reduced Enrollment Growth	Southerly Expansion	No Project
TRA-2	Campus growth under the 2005 LRDP would cause unacceptable levels of service at 11 off-campus intersections.	S	L	L	E	L
TRA-3	If the development of planned parking does not keep pace with other growth on campus, or if parking supply is reduced as a result of development on existing parking lots, campus growth under the 2005 LRDP could generate demand for parking in excess of on-campus parking capacity.	PS	L	L	E	L
TRA-4	Campus growth under the 2005 LRDP would result in increases in circulation volumes (numbers of pedestrians, bicycles, and transit and other motor vehicles) that would conflict with and reduce the effectiveness of alternative modes of transportation, including transit, bicycle and pedestrian travel.	S	E	L	E	L
Utilities						
UTIL-7	Development under the 2005 LRDP would require the expansion of campus cooling water and heating water generation and conveyance facilities, which would result in significant environmental impacts.	S	L	L	E	E/L
UTIL-9	Development under the 2005 LRDP, in conjunction with other regional growth in the SCWD service area, would generate increased demand for water during normal and drought years, and the development of new water supplies and infrastructure to serve normal and drought year demand could result in significant environmental impacts. The contribution of the proposed project to this impact would be cumulatively considerable.	S	L	L	E	L

Note:

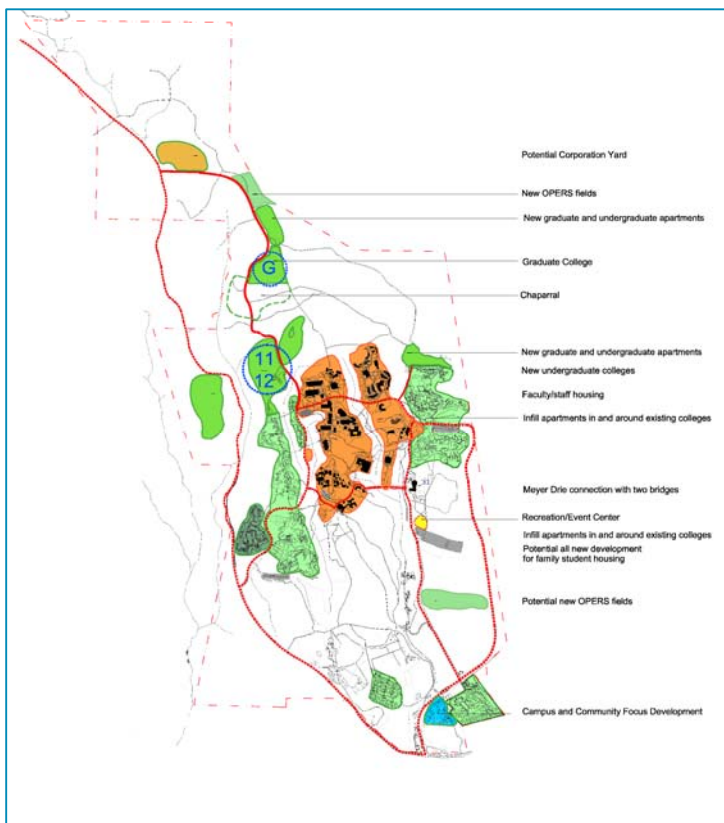
Project: PS=Potentially significant; S=Significant
 Alternatives: L=Less severe than project; E= Roughly equal to project; M=More severe than project



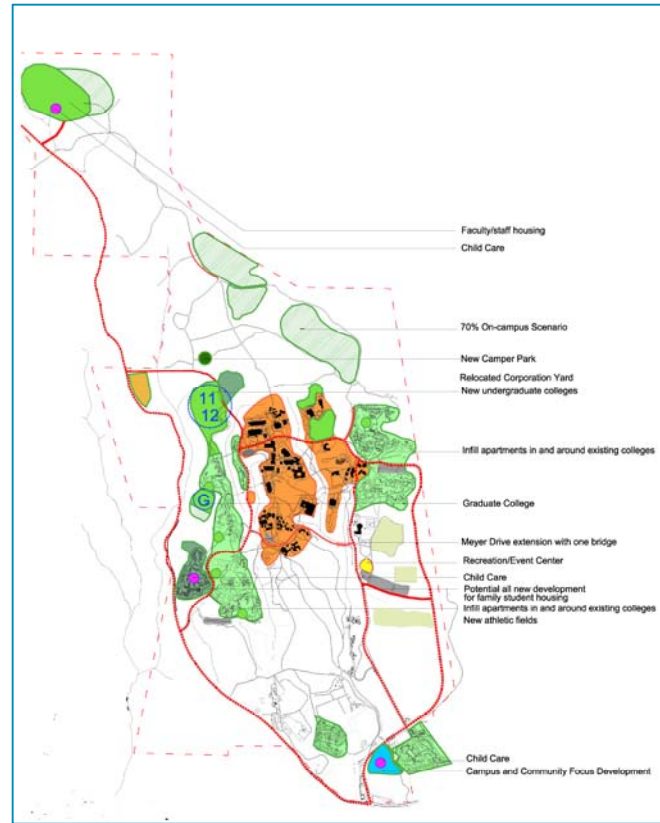
Option A



Option B



Option C



Option D'

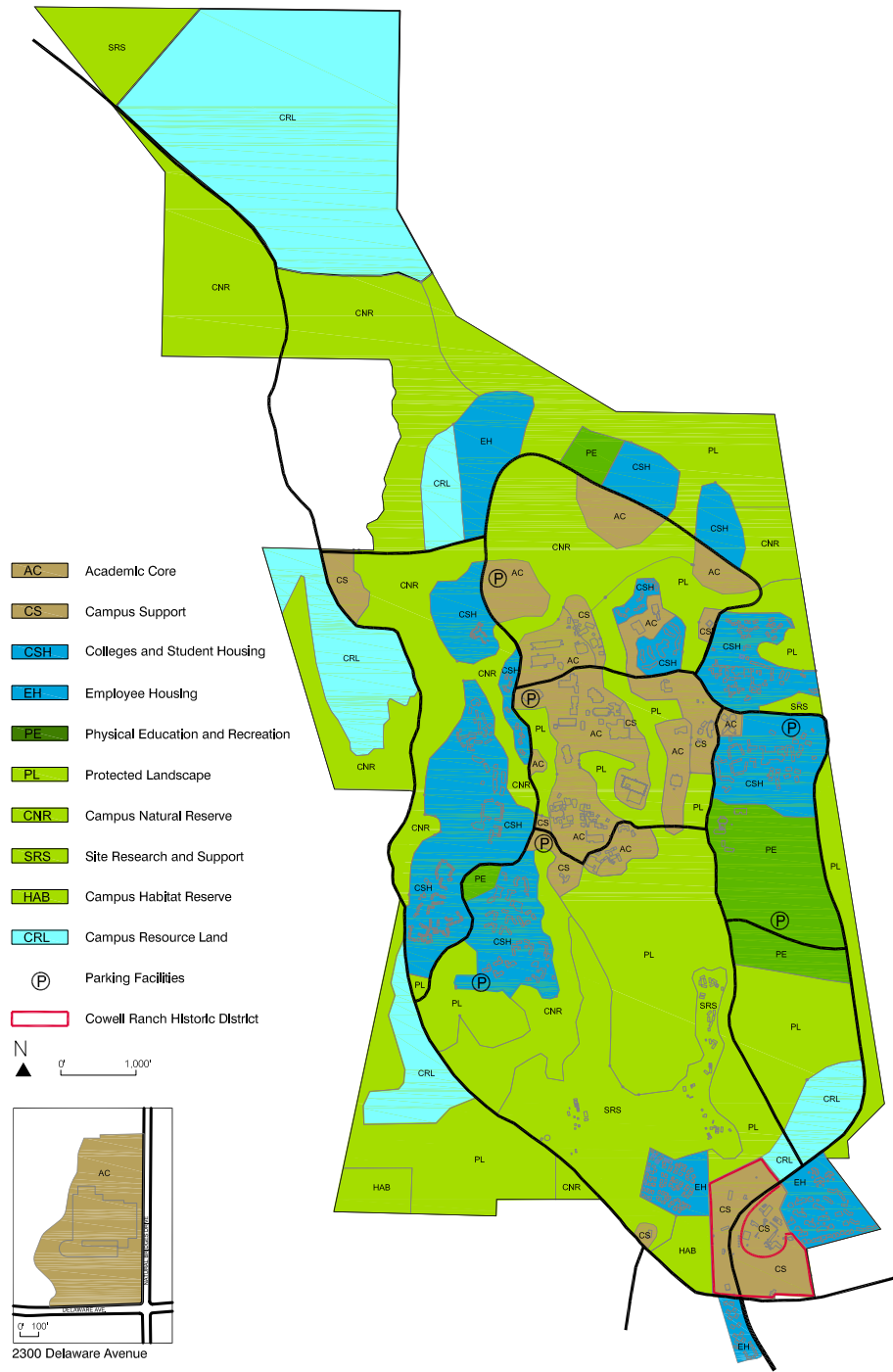
PREVIOUSLY CONSIDERED LAND USE PLANS

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Santa Cruz, California



FIGURE 5-1



Source: Cooper, Robertson & Partners

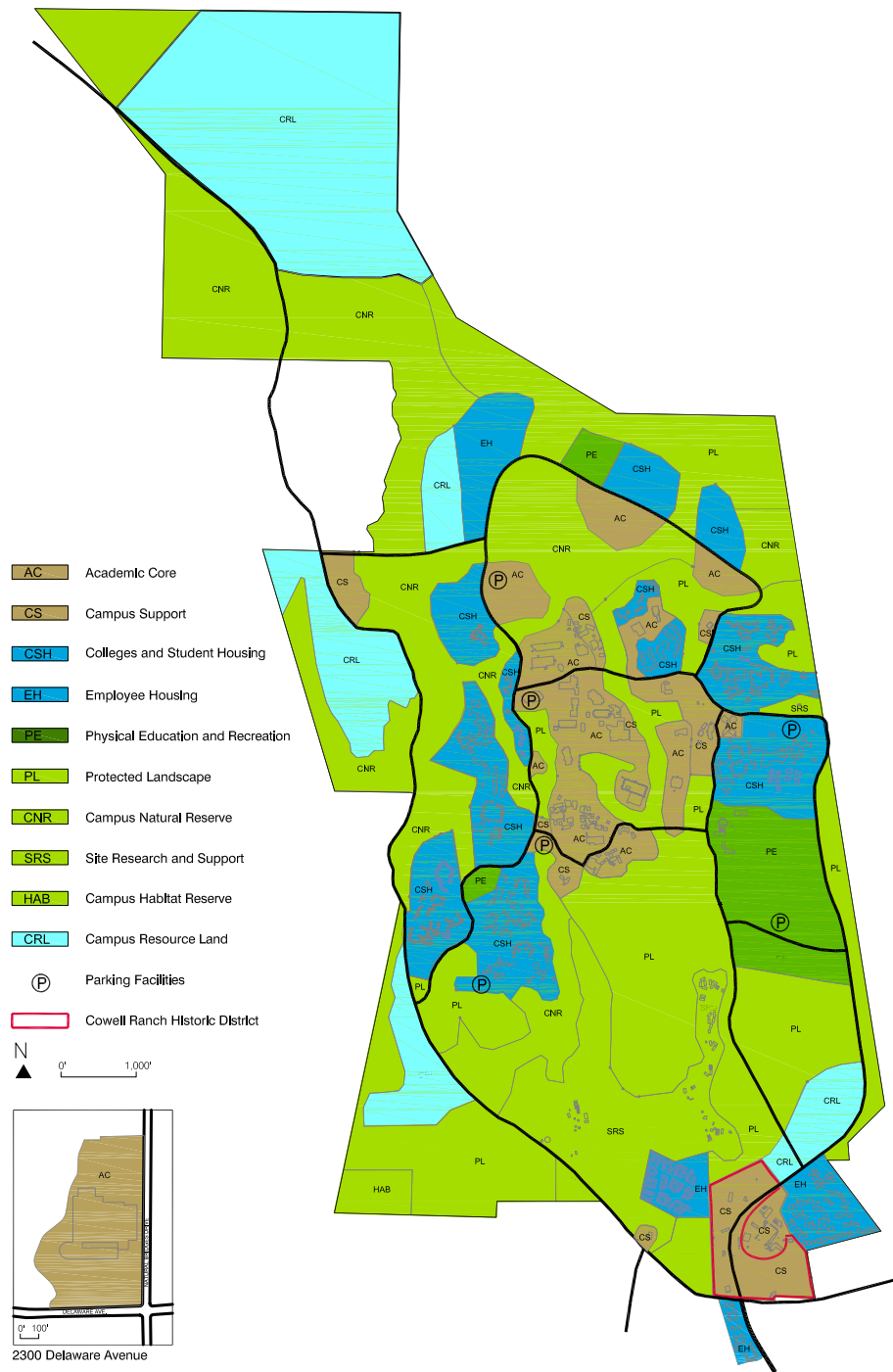
**DEVELOPMENT AREAS UNDER THE
 2005 LRDP**

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 Santa Cruz, California



FIGURE 5-2



Source: Cooper, Robertson & Partners

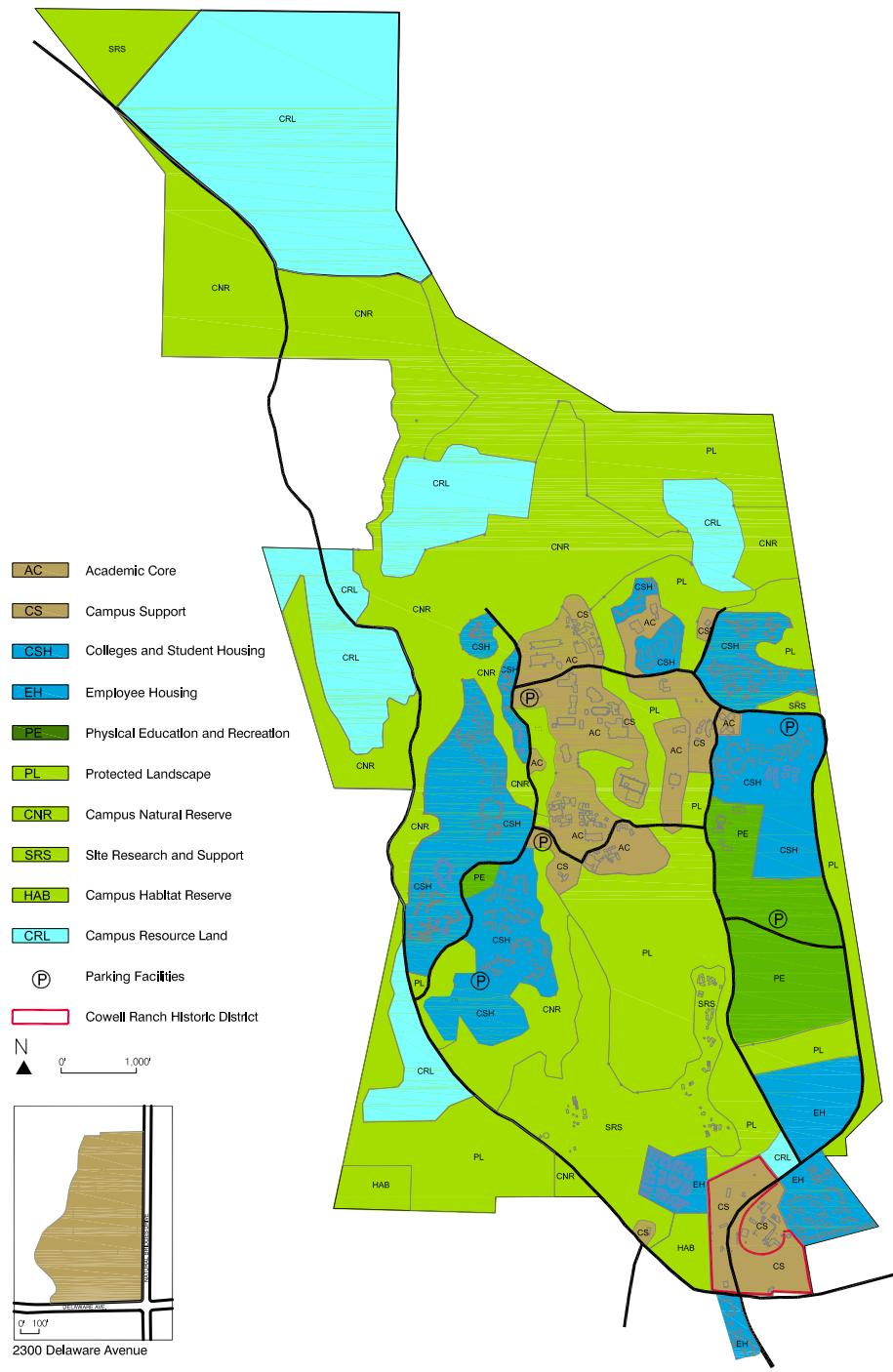
**DEVELOPMENT AREAS UNDER THE
REDUCED ENROLLMENT GROWTH ALTERNATIVE**

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Santa Cruz, California



FIGURE 5-3



Source: Cooper, Robertson & Partners

DEVELOPMENT AREAS UNDER THE SOUTHERLY EXPANSION ALTERNATIVE

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Santa Cruz, California



FIGURE 5-4