

# 2006-2007

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## Budget for State Capital Improvements



UNIVERSITY OF CALIFORNIA  
Office of the President  
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## OVERVIEW

### UNIVERSITY OF CALIFORNIA STATE CAPITAL IMPROVEMENT PROGRAM

The University of California is designated under the California Master Plan for Higher Education as the State's graduate education and research institution with related responsibilities for public service. It is to serve students from the top 12.5 percent of graduating California high school seniors. This three-fold mission of education, research, and public service determines the character of the institution and the education it provides for both undergraduate and graduate students. The students who receive degrees from the University are prepared to take leadership positions in science, industry, and our community. The University's research is not only an integral part of this educational process but also a vital support to the continued strength of California's economy.

Successfully meeting these responsibilities to students and the State requires that the University maintain its programs at the forefront of knowledge. Periods of rapid enrollment growth have always presented a challenge, but the issues currently facing the University are particularly difficult. University budgeted enrollment is expected to grow approximately 45 percent in the period starting in 1998-99 through 2010-11. The speed with which programs must be expanded, the number of new faculty at the top of their fields who must be hired, and the number of new buildings and related facility and infrastructure improvements to be constructed is daunting.

The challenge has been largely met during the first part of this growth period, although with significant strain, because of the dedicated efforts of the campuses and the support of the State. The California economy deteriorated significantly in 2000, diminishing State finances and private funding resources available to the University. At the national level, federal research funding is under pressure from the problems of Iraq and a widening deficit, now compounded by the need to address hurricane damage to the Gulf Coast. The University has benefited by a compact with the Governor that provided a basic level of support during this period of fiscal constraint, including funding for inflation and enrollment growth consistent with the Master Plan and \$345 million per year for capital needs.

During this period, the voters, State administration, and legislature so far have continued to approve bond measures essential in funding the facilities necessary to accommodate this great expansion of enrollment and new programs. State capital funding—supplemented by University funds and private donors—has supported the most critical facility needs. Constraints on State and federal funds for instruction and research, however, require that the University allocate its own resources primarily to operation of academic programs, leaving little for capital needs.

This reduction is made much more serious by recent changes in the construction market that have resulted in an extraordinary increase in building cost. This was dramatically highlighted when the price of structural steel increased in 2004, due in part to over-heated development of the economy of China and resumption of demand in the US. While steel prices have reduced somewhat in recent months, cement and a number of other construction materials have continued to increase, although at a more moderate rate than earlier. There is great concern, however, that the reconstruction effort required on the Gulf Coast may trigger a new round of increases in materials and labor costs. Contractor bid prices continue to be a substantial problem, reflecting a volume of construction work that has taxed the capacity of the construction industry and allowed bidders to increase prices far above what past experience would predict.

The inflationary problem is compounded by a major increase in the volume of construction in California. There has been a surge in hospital construction because of the State mandate to correct structural life-safety deficiencies by the end of 2007. Public construction in general is strong, and private construction has increased significantly as corporate revenues have revived. This increase in project volume has fully engaged the state's construction industry, resulting in fewer bidders and less competition for University construction contracts, much higher bid proposals, and great volatility in those bids. Contract bids started to exceed budgets in late 2003, and the University is continuing to experience extraordinary overages on particular contracts. The problem is not simply that bids are higher but that they do not correlate to basic materials and labor prices and are thus highly unpredictable.

In response, the University has dramatically increased its emphasis on management of cost and cost risk and the importance of improving the way projects are implemented. Limited State and University resources do not allow us to continue to address projects as in the past. We cannot pay

current higher bid costs without substantially reducing the number of projects completed and thus seriously harming our ability to support projected enrollment growth and essential seismic correction and renewal needs.

The greatest opportunities to control cost occur at the beginning of the design process. During initial project planning, decisions concerning detailed aspects of program and their implications for the facility can optimize what can be achieved within available funds. When design begins, an emphasis on simplicity in the physical design solution can reduce cost and, most important, increase flexibility to manage cost risk. At that time, additional program or physical design elements can be identified and managed as options to be implemented at bid if the necessary funds are available. The quality of a design and the support it provides for a positive campus environment usually are not dependent on complex design features. Long-term flexibility in occupant use, and control of operation and maintenance cost (particularly energy efficiency) must remain a high priority.

For projects already in the final steps of design, it is more difficult to achieve significant cost-saving modifications, but every effort is being made to that end, including addressing contract terms and bid processes in ways that improve contractor response to University projects. At bid, if submitted proposals substantially exceed budgeted funds, additional measures are investigated to further simplify the building and its scope for re-bid. The funds available to the University from State bond measure and campus resources limit the ability to augment project budgets under any but the most critical conditions, and such augmentation relies on demonstration that all measures have been taken from the beginning to reduce costs.

## **Enrollment**

The current cycle of student enrollment growth at the University of California began in the late 1990s, the start of a period that the California Postsecondary Education Commission (CPEC) refers to as “Tidal Wave II,” driven significantly by the children of the post-WW II “Baby Boom.” In 1997-98, the University’s campuses enrolled 145,534 full-time equivalent (FTE) students. UC’s 1999 enrollment plan, based on DOF demographic and student projections data, forecast a general campus enrollment in 2010-11 of 216,500 budgeted FTE students, a cumulative increase of about 49 percent. In fact, the University has experienced far more rapid enrollment growth than the 1999 plan envisioned, averaging closer to 8,000 FTE per year rather

than the projected 5,000 FTE growth. However, the compact with the Governor calls for the University to return to the earlier target for average annual enrollment growth, and it is expected that student enrollment in 2010-11 will be at the level envisioned in the 1999 plan.

### **Capital Need and Funding Availability**

As has been true of past enrollment growth cycles, the expansion of facilities has lagged significantly behind the rapid increase in student population. The current University Space Analysis reports that five University growth campuses have on average 20 percent less space in 2004-2005 than allowed by CPEC space guidelines for their level of enrollment. Moreover, the analysis fully discounts space allowances in accordance with the University's commitment to raise summer term enrollments to a level equivalent to 40 percent of the average fall/winter/spring term. Campus facilities are crowded, the recruitment of essential new faculty is constrained, and important actions to expand and innovate curricula are hindered.

The total capital need for State-supportable functions—including academic programs, academic support, student services and administration, and campus operational support—is estimated at more than \$700 million per year through this growth period. Of the total annual need, over \$400 million is for development of new facilities and expansion of campus infrastructure to accommodate enrollment growth. These figures include the cost of completing development of the first phase of the new Merced campus (for an enrollment of 5,000 FTE students by 2010-11). More than \$300 million is related to the renewal and modernization of existing facilities and correction of seismic hazards. In addition, the University has significant deferred maintenance problems because of funding shortfalls.

Legislation passed in the 2001-02 fiscal year authorized submittal of two new general obligation bond measures to the voters, one in 2002 and the second in 2004. The first was approved by the voters in November 2002 and provided \$1.65 billion for California's public institutions of higher education to fund capital appropriations in the 2002-03 and 2003-04 fiscal years. The University of California received \$90 million from this bond measure in 2002-03, with additional funding provided from lease revenue bond sources, and approximately \$311.7 million in 2003-04. The second bond measure was approved by the voters on the March 2004 ballot and provided the University with \$345 million per year for the 2004-05 and 2005-06 budget years. State costs for bond administration and issuance, currently estimated at two

percent, are deducted from these amounts. To support capital appropriations in 2006-07 and subsequent years, a new source of financing will have to be authorized, either a new general obligation bond requiring voter approval in 2006 or lease revenue bonds approved by the State. The compact provides for continued State capital support for the University at a level of \$345 million per year.

It is critical that this additional funding be provided if the University is to address current and projected space deficiencies, make essential seismic life safety corrections, and renew aging and obsolete facilities. Without those funds, campuses will not have the space to support the hiring of new faculty and the expansion of programs necessary to provide a high-quality education to increasing numbers of California students.

Even with annual State funding of \$345 million, there is a financial shortfall of over \$350 million per year. The University remains committed to making every effort to pursue gift and other potential fund sources to supplement State resources for construction; but, as noted above, reductions in State funds for operations severely limit the ability of the University to divert other resources to capital improvement at the level possible in past years. This loss is particularly difficult in the present situation when project budgets set in more stable years are being overtaken by extraordinary increases in construction market costs.

During the growth period of the 1980s, the University also experienced a significant shortfall of capital funds, and the availability of core academic facilities did not keep up with the pace of enrollment growth. This lag has been repeated in the current growth cycle. The period required for design and construction of major new academic buildings is between four and five years, and many projects funded for the start of design in 2006-07 will not be ready for occupancy until perhaps 2010-11.

As noted above, the current problem is particularly acute at the University's heavily impacted growth campuses—Davis, Irvine, Riverside, San Diego, and Santa Cruz—which are already operating at a significant space deficiency. It is essential that the State help the University minimize the shortfall of space and provide continued funding until the remaining deficiencies are corrected. Individual campuses and their faculty can cope with short-term problems if there is confidence that the necessary facilities will be provided within a reasonable period. If adequate funding is not provided, the University's ability to retain or hire faculty, support increased enrollment, and maintain

program quality will be seriously harmed. The financial challenge faced by the State and University at this time is critical.

### **Capacity for Enrollment Growth**

In 1999, the potential enrollment capacity of the existing nine campuses, as defined by their Long Range Development Plans, and of UC Merced was approximately 24,000 FTE less than the enrollment forecast for 2010-11.

All campuses have been actively pursuing programmatic and physical options for accommodating the increase in students. The last three campuses are completing the lengthy process of amending their LRDPs, addressing applicable environmental concerns, and engaging in the necessary public review. Summer term enrollments are rapidly expanding to make more efficient use of existing facilities. Establishment of new off-campus centers is under active consideration by Santa Cruz and other campuses, as is the expansion of off-campus study programs in general. The new campus at Merced opened in October 2005 and is scheduled to reach an enrollment level of 5,000 FTE students in 2010-11.

Maintenance of the quality of University of California academic programs and the education received by the students is critical if the University is to serve the State effectively in its designated mission of education, research, and public service. Modern facilities are an essential part of this effort. This is most clearly seen for science and engineering programs, heavily targeted by students in this surge of enrollment growth. Beginning in 1998-99, the University initiated an eight-year plan to expand enrollment in engineering and computer and information sciences by 50 percent, an increase of about 8,000 students by 2005-06. This plan was so successful that the University met its goal in 2001-02, four years ahead of schedule. Nevertheless, industry demand for these students continues to expand, and the University is continuing to increase enrollments in these economically important disciplines. Science and engineering programs present special demands on facilities because of their dependence on highly sophisticated laboratories and technologies to support the most advanced level of teaching and research.

The most effective learning at institutions of the level of the University of California, for undergraduates as well as graduates, occurs in participatory research settings rather than traditional formal classes. The scholars and researchers who are most effective with students—the first-rank faculty essential to producing the graduates and discoveries that drive the California

economy—will not come to the University of California unless facilities are available to allow them to be successful in their teaching and research efforts. Such facilities include state-of-the-art laboratories for teaching and research and modern computation, information, and communication resources and technologies.

However, the campus must have a balanced array of facilities and services to function effectively and meet education, research, and public service goals. A shortfall in one category reduces the functional success of the campus as a whole. These facilities include not only core academic buildings but also libraries and instructional/research support facilities, student services, housing and auxiliary enterprises, health science centers, utility plants and infrastructure, and off-campus centers for educational outreach, research, and public service.

### **Renewal and Modernization of Existing Facilities**

Unfortunately, the need to expand facilities to support enrollment growth is only one of several categories of issues that must be urgently addressed and balanced in the capital program.

The condition of the University's existing physical plant is in itself a serious problem, resulting from the wear and decline associated with age and intensive use. The importance of facility renewal is obvious at a campus as old as Berkeley or Los Angeles, but even the newer campuses, other than Merced, are nearly four decades old and experiencing most of the same problems. Funding cuts that reduced essential maintenance and repair have magnified the problem. The University's backlog of deferred maintenance grew dramatically during periods of budget reductions in the past three decades, and remains distressingly large. Deficiencies in existing facilities remain a major constraint to academic program quality and innovation. State actions to increase permanent maintenance funding have faltered because of fiscal constraints, and the University's efforts to finance deferred maintenance with its own bonds addressed only a fraction of the problem. Continuing State support for the deferred maintenance program and capital renewal is necessary to preserve the usefulness of the University's physical assets.

Another category of need is that of change and obsolescence. As science, industry, and commerce constantly change in response to new knowledge and opportunities, so also must the academic programs that are responsible for

preparing students and conducting the research that advances knowledge and creates economic opportunity. Instruction and research objectives evolve and change direction, as do the methods and equipment used. Academic programs must be at the frontiers of knowledge, developing and using innovative processes and technologies that support discovery, expand knowledge, and give competitive advantage to California. Unless academic facilities are renovated and updated to meet continually evolving program needs, they become constraints on the capability of the programs and ultimately limit the abilities of the graduates entering the California workforce.

This continued evolution is particularly evident in science and engineering fields. In many cases, boundaries are dissolving between science and engineering disciplines, and in other academic disciplines as well. This is demonstrated by the extraordinary expansion of “bioengineering” where research and education in a single laboratory (for example, development of diagnostic or medicine delivery devices using nanoscale technologies) may involve biology, chemistry, materials science, structures, fluid dynamics, infomatics/computer science, imaging technologies, and other once-separate fields of expertise. The proliferation of interdisciplinary programs is remarkable.

The convergence of previously diverse fields is strongly influenced by great advances in laboratory technologies now used across a multitude of disciplines. These often involve sophisticated instrumentation and analysis at a cellular or molecular level that demand equipment and controlled environments once common only in high-level physics and health science research. Many laboratories once satisfactory for engineering—or entomology, botany, agriculture, etc.—are now completely obsolete for work at the forefront of those disciplines.

Such functional obsolescence is exacerbated by the fact that many of the University’s older buildings were designed to meet building, fire, life safety, and accessibility codes written 40 or more years ago. Not only have regulatory and public expectations of appropriate design and essential safety changed; but, as noted above, the activities housed in the buildings (particularly science and engineering laboratory functions) also have become much more complex and demanding. Dramatic changes in laboratory methods and technologies, and particularly the great increase in chemical use, present safety concerns significantly greater than those in the past.

The University's capital program is seriously impacted by issues of life safety, particularly the critical need to ensure the safety of students, faculty, and staff in an earthquake. Devastating earthquakes in California and abroad have amply demonstrated the hazards inherent in buildings designed under earlier structural codes and practices, and the University has pursued an aggressive program of seismic corrections for many years. The Regents have given a high priority to completing the University's program of seismic and other life safety corrections as rapidly as possible.

The Northridge Earthquake of 1994 and the subsequent Kobe earthquake provided substantial new understanding of earthquake forces and building performance and initiated significant changes in structural design codes and practices in 1997. Prior to that date, approximately half of the University's buildings rated seismically "Poor" or "Very Poor" had received or were receiving structural correction. The University anticipated having almost all the pre-1997 deficiencies corrected or underway by the year 2000.

After the code changes resulting from the Northridge and Kobe earthquakes, the University re-evaluated many of its facilities and identified 208 additional structures that required action to protect the lives of occupants. Currently, the seismic hazards of 104 of those added buildings, containing about 67 percent of the space involved, have been addressed or are in progress.

Overall, about 325 facilities—72 percent of a total of about 454 "Poor" or "Very Poor" facilities containing 75 percent of all seismically hazardous space—have been corrected or are being corrected at this time, including all buildings identified as "Very Poor." At eight of the University's campuses, almost all seismically deficient buildings have been addressed. The magnitude of problems at two campuses, however—Berkeley and Los Angeles—presents a continuing challenge.

At Berkeley, the central campus is immediately adjacent to the Hayward Fault. It is now understood that forces experienced near such a perilous fault can behave differently and be much greater than previously thought. Of the 126 buildings that have been identified as seismically "Poor" or "Very Poor" at Berkeley, work on 43 structures with 58 percent of the total space at issue has been completed or is underway now. This includes all the buildings rated seismically "Very Poor." About 20 of the buildings recently added to the list of deficient structures are smaller facilities at the Richmond Field Station, rather than on the campus. Compounding the problem, however, is the fact

that many of Berkeley's buildings are relatively old and badly in need of renewal; the initiation of major structural improvements affects building infrastructure systems and adds significant cost. The campus estimates that another ten to fifteen years will be required before all the remaining seismically "Poor" buildings can be strengthened or replaced. The State funds available to address these needs have been limited. Unfortunately, the current reductions in State operations funding have significantly impacted the ability of the campuses to use non-state funds to supplement project budgets and pay for associated building renewal requirements and related costs.

At UCLA, almost all general campus facilities with seismic deficiencies have been corrected. Only ten of 47 structures remain to be addressed, but with roughly 2.4 million square feet of space at issue. Most of this work involves the Center for Health Sciences, which was damaged by the 1994 Northridge Earthquake. Replacement buildings are being completed for UCLA's hospitals and a number of health sciences buildings, but a large part of the older building complex that constituted the Center for Health Sciences will require several additional years to complete.

At both Los Angeles and Berkeley, the level of necessary additional funding presents a serious challenge that will require a level of campus investment and donor support that, in the current fiscal environment, is very difficult to achieve.

### **Capital Funding Strategies**

Over the past several years, the University has undertaken a number of efforts to assess its level of capital needs and to review funding strategies, assisted by internal task forces and campus management. Starting in 2002, the University has provided data to the State Department of Finance concerning the five-year funding needs for State-supported programs, supporting the Department's legislatively mandated task of developing an annual five-year infrastructure plan for the State. As noted above, the University has documented funding needs currently at more than \$700 million per year.

It is important to note that our five-year need is different from and greater than the five-year capital budget for State funds presented in this document. The five-year budget request is based on our understanding of the level of State capital funding that may be available during this period, and it

presents specific campus projects in priority order based on that estimate of available funding. The budget request does not display or address our total funding need.

### **The Capital Planning Process**

Each campus annually updates its five-year capital program based on a practical assessment of facility needs and on realistic expectations of the amount of capital funding that can be expected. This encourages careful allocation of limited funds to the highest priority campus needs. It also allows planning effort to be focused on those projects which are most important and avoids wasting resources on unproductive funding requests. Campus staff are continually assessing the changing requirements of programs relative to available facilities, identifying serious deficiencies, and analyzing options for addressing those deficiencies. Although many problems are resolved by adjustments within existing buildings, the level of enrollment growth across the University clearly requires a major increase in available space. The critical question at the campus level is how the construction of new buildings can best address the most critical needs—how the investment of limited State and campus funds can be optimized for the benefit of campus academic programs. The campus judgment is reflected in the list of projects scheduled in its five-year State and Non-State capital programs.

Projects proposed for State funding in the current budget year are based on intensive, detailed planning and pre-design analysis that typically occurs in the year before submittal to the State for initial funding. This process supports effective internal decision-making about the specific aspects of the project, works to ensure that scope and budget commitments can be met (barring extraordinary changes in construction market conditions such as currently exist), enables the University to explain the proposed projects effectively during State review, and improves project management during design and construction.

### **Organization of The Regents Budget for Capital Improvements**

This budget document responds to the requirements of the State budget process and focuses on projects for which State funding is requested in 2006-07. In addition, the document includes the five-year capital improvement program for State-funded projects, reflecting anticipated funding requests through 2010-11, and a summary of other unfunded campus capital needs (including both State and non-State-supportable facilities).

As in previous years, the non-State-funded capital improvement program is addressed separately. A capital program document is prepared for The Regents that reflects projects anticipated from both non-State and State resources. However, approval actions on projects funded exclusively from non-State sources are managed as a continuing process, amending the program as required at bi-monthly Regents meetings to include new projects. In contrast, the State-funded capital improvement program reflects the once-per-year funding cycle of the State Budget process.

This State-funded capital budget document is organized as follows:

**1. 2006-07 Budget for Capital Improvements: State Funds**

The basic request for State capital outlay funds in 2006-07 totals \$340 million. It is anticipated that the State will secure these funds from either a new general obligation bond measure on the 2006 ballot, or legislatively approved lease revenue bonds. The request is presented in summary form for the University as a whole in the following section of this document. That section lists only those projects for which State funding is requested in 2006-07.

**2. Campus Five-Year Capital Improvement Programs**

The five-year capital improvement program planned for State funding, covering the years 2006-07 through 2010-11, is presented in more detail in individual sections for each campus (including UC Merced), Agriculture and Natural Resources, and universitywide facilities and programs. Each campus section begins with an introduction that outlines the goals and problems which shape the capital program for the campus. It is followed by a table presenting the five-year program for State funding and by a descriptive summary of each project in the five-year program. Each campus section concludes with a review of the capital needs of the campus beyond those addressed in the State-funded five-year program and approved non-State-funded projects; this includes both long-term needs that the University may propose for State funding in the future and needs that will be addressed from other funding sources.

Projects that are listed in the five-year programs for initial funding in the second and subsequent years of the program have already received substantial internal consideration and are expected to continue to be

included in future capital budgets. However, it must be noted that these five-year programs are planning documents and changes will occur as needs, opportunities, and funding decisions unfold.

**Regental approval is requested only for projects for which State funding is proposed in 2006-07—summarized in the following section.**

## **2006-07 BUDGET FOR CAPITAL IMPROVEMENTS STATE FUNDS**

The 2006-07 Capital Budget requests \$340 million in State funds for the University's capital outlay program. This level of funding is essential to expand and upgrade academic facilities to support enrollment growth and to maintain progress on seismic and other life-safety improvements while also addressing essential infrastructure and building renewal needs.

The attached summary budget table displays the complete 2006-07 State-funded capital budget request. A total of \$336.7 million is requested to support twenty-nine major capital projects for preparation of preliminary plans, working drawings, or construction, presented in campus order. Also requested is \$3.3 million to equip one project for which construction has already been approved and funded by the State.

### **Summary**

Of the twenty-nine major capital improvement projects, State funds are requested to support construction or complete design and undertake construction for eighteen projects, and to begin or continue design on eleven projects.

Nineteen projects are focused on urgent program improvements to accommodate past and projected enrollment growth and the modernization of facilities to address current program needs. Of these, eight will provide new buildings to expand instruction, research, and academic support facilities; and one will replace an obsolete and deteriorated academic facility with a new building. Four will expand and renovate existing academic buildings; four will renovate existing building space for growing academic programs; and two will renew and upgrade the infrastructure of existing laboratory buildings to address current academic program needs.

Life safety continues to be a critical priority for the University, and two of the twenty-nine project funding requests are proposed to address serious seismic life-safety hazards. Essential infrastructure renewal and expansion is the focus of eight other projects, required to provide the services necessary to accommodate the demands of enrollment growth and associated campus development.

## **New Facilities**

The requirements of program improvement and enrollment growth will be supported by funding for construction of a new Social and Behavioral Sciences Building at Irvine, a Student Academic Support Services Building at Riverside, and a Digital Arts Facility at Santa Cruz. A new Life Sciences Replacement Building at Los Angeles will replace an existing facility that cannot be cost-effectively renovated to support laboratory science.

Funds are requested for both design and construction of Veterinary Medicine 3B at Davis and a Structural and Materials Engineering Building at San Diego.

In addition, academic program improvements and enrollment growth will be supported by three new building projects for which funds are requested to begin or conclude design: a Humanities Building at Irvine, a Social Sciences and Management Building at Merced, and a Biomedical Sciences Facility at Santa Cruz.

## **Expansion and Renovation**

Four projects will address the space deficiencies and deterioration of aging buildings to support evolving academic program needs. Construction funding is requested for Mayer Hall Addition and Renovation at San Diego. Design and construction funding is requested for King Hall Renovation and Expansion at Davis and the McHenry Addition and Renovation Project at Santa Cruz. Funding for design of new space and building renovations is requested for the Davidson Library Addition and Renovation at Santa Barbara.

## **Renovations**

Six projects address deficiencies within existing buildings. Construction funding to address deterioration of building infrastructure is requested for Medical Sciences Building Improvements Phase 2 at San Francisco. Funding of both design and construction is requested for Birge Hall Infrastructure Improvements at Berkeley and for Geology Building Renovations Phase 2 and the Culver Center for the Arts at Riverside. Funding for the design of building renovations is requested for Boyce Hall and Webber Hall Renovations at Riverside and Phelps Hall Renovation at Santa Barbara.

## **Seismic Corrections**

Two projects included in the 2006-07 State-funded Capital Budget will correct serious seismic and other life-safety hazards. Funds are requested for construction of Seismic Safety Corrections Giannini Hall at Berkeley and for preliminary plans and working drawings for Arts Building Seismic Correction and Renewal at Santa Barbara.

## **Infrastructure**

Critical infrastructure deficiencies will be addressed with funding requested to complete design or construction of renewal and expansion work in eight projects. These include five new projects at Irvine, San Francisco, Santa Barbara, Santa Cruz, and Agriculture and Natural Resources and three continuing projects at San Diego, Santa Barbara, and Santa Cruz.

## **Bond Funding**

The University's 2006-07 State-funded capital budget request relies on financing to be provided by a new general obligation bond measure that the Governor and legislature would authorize for placement on the 2006 election ballot or by State lease revenue bonds. This financing is essential to the ability of the University to address existing and projected facility deficiencies. University enrollment has increased by approximately 29 percent since the current cycle of growth began in 1998-99, and the expansion of facilities has lagged the increase in enrollment. Student demand is forecast to continue to grow dramatically through 2010-11, for a total enrollment increase of approximately 49 percent. In addition, the existing buildings and infrastructure of the campuses are aging and present serious problems of deterioration, obsolescence, and life safety. The new financing measure is essential if these problems are to be addressed, maintaining the quality of UC academic programs in support of a resurgent economy and the vital demographic demands of the State.



**University of California  
2006-07 BUDGET FOR STATE CAPITAL IMPROVEMENTS**

CCCI: 4632  
EPI: 2726

<u>Cam- pus</u>	<u>Project</u>	<u>Prefunded</u>		<u>2006-07 Budget</u>			<u>Future Funding Requirements</u>		<u>Total Project Cost</u>	
		(\$000)		(\$000)			(\$000)		(\$000)	
Berk	Seismic Safety Corrections Giannini Hall	P	1,055	WC C	24,616 [2,498]	RB X	----		25,671 [2,498]	
Berk	Birge Hall Infrastructure Improvements			PWC	10,350	*	----		10,350	
Dav	Veterinary Medicine 3B			P	3,100		WC CE	62,400 [24,450]	65,500 [24,450]	
Dav	King Hall Renovation and Expansion			PWC PC	17,925 [3,924]	* G	----		17,925 [3,924]	
Irv	Biological Sciences Unit 3	PWC PWCE	53,712 [17,372]	* LB	E E	3,268 [3,268]	X	----	56,980 [20,640]	
Irv	Social and Behavioral Sciences Building	PW	2,850	*	C	37,582	*	E E	2,780 [2,780]	43,212 [2,780]
Irv	Primary Electrical Improvements Step 3				PWC	2,571	*	----	2,571	
Irv	Humanities Building				PW	1,749	*	CE	24,762	26,511
LA	Life Sciences Replacement Building	PWC PWCE	54,242 [45,500]	LB	C	38,576	*	----	92,818 [45,500]	
Mer	Social Sciences and Management Building				PW	2,667		CE	39,164	41,831
Riv	Student Academic Support Services Building	PW	1,650		C	18,035		E	887	20,572
Riv	Geology Building Renovations Phase 2				PWC	9,025	*	----	9,025	
Riv	Culver Center for the Arts	P	[500]	G	WC C	8,065 [4,300]	G		8,065 [4,800]	
Riv	Boyce Hall and Webber Hall Renovations				P	900		WC	30,100	31,000

Campus	Project	Prefunded		2006-07 Budget		Future Funding Requirements		Total Project Cost
		(\$000)		(\$000)		(\$000)		(\$000)
SD	Mayer Hall Addition and Renovation	PWCE	29,100	C	13,126		----	42,226
SD	Structural and Materials Engineering Building			PWC	75,057 *	E	3,000	78,057
						E	[4,000] X	[4,000]
SD	Chilled Water and Electrical Distribution Improvements	P	[150] X	WC	3,157		----	3,157 [150]
SF	Medical Sciences Building Improvements, Phase 2	PWC	18,351	C	16,379		----	34,730
SF	Electrical Distribution Improvements Phase 2			P	525	WC	12,587	13,112
SB	Electrical Infrastructure Renewal, Phase 2	WC	7,305 *	C	6,328 *		----	13,633
		PW	[782] X	C	[2,367] X			[3,149]
SB	Arts Building Seismic Correction and Renewal			PW	1,855	C	19,145	21,000
SB	Davidson Library Addition and Renovation			P	1,250	WCE	58,350	59,600
SB	Phelps Hall Renovation			PW	1,100	C	9,300	10,400
SB	Infrastructure Renewal Phase 1			P	489	WC	9,511	10,000
				P	[251] X	W	[4,899] X	[5,150]
SC	McHenry Addition and Renovation Project	PWC	38,845	WC	6,821	CE	36,258	81,924
SC	Digital Arts Facility	PW	2,218	C	19,751	E	1,037	23,006
SC	Infrastructure Improvements Phase 1	P	777	WC	7,833		----	8,610
SC	Biomedical Sciences Facility			PW	6,490	CE	67,710	74,200
SC	Infrastructure Improvements Phase 2			P	367	WC	6,320	6,687
ANR	Kearney REC Pressure Irrigation System			PWC	998 *		----	998
<b>TOTAL</b>					<b>339,955</b>		<b>383,311</b>	

\* "Streamlined" State processing during implementation.



**KEY TO SYMBOLS AND COST INDICES**  
**2006-2011 CAPITAL IMPROVEMENT PROGRAM**

**Project Phase Symbols**

P	=	Preliminary Plans
W	=	Working Drawings
C	=	Construction
E	=	Equipment

**Fund Source Symbols**

No Symbol	=	State Funds
HR	=	Hospital Reserves
LB	=	Long-Term UC Financing
F	=	Federal Funds
G	=	Gift Funds
GF	=	State General Fund
RB	=	State Lease Revenue Bond Fund
U,X	=	University Funds

**Abbreviations**

asf	=	assignable square feet
gsf	=	gross square feet
ogsf	=	outside gross square feet
FTE	=	Full Time Equivalent
kV	=	Kilo Volts
MVA	=	Million Volt Amperes
LRDP	=	Long Range Development Plan
DGS	=	State Department of General Services
*	=	“Streamlined” State processing during implementation

All unfunded project costs for State-funded facilities in this Budget are based on California Construction Cost Index (CCCI) 4632 and moveable equipment costs on Equipment Price Index (EPI) 2726, as projected for **July 2006**. Since these indices are associated with the 2006-07 Budget, individual project costs estimated for years beyond 2006-07 do not include an adjustment for inflationary increases.



# BERKELEY CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1873
ENROLLMENT 2004-2005 (ACTUAL)	23,811 FTE undergraduates 8,184 graduate students 733 health science students
LIBRARY COLLECTION	10 million volumes
CAMPUS LAND AREA	1,290 acres
CAMPUS BUILDINGS	9.1 million assignable square feet

# **BERKELEY CAMPUS 2006-2011 STATE PROGRAM**

## **INTRODUCTION**

Since its doors first opened in 1873, the Berkeley campus and its facilities have continuously evolved to accommodate the University of California's mission of instruction, research, and public service. Early planners designed and built the Berkeley campus on undeveloped lands. As the University grew in size and importance, its development choices became more complicated and its constituencies more numerous. Today, to provide the facilities needed to support the University's academic mission within the bounds of available resources, the campus must address the diverse interests of its faculty, students, and staff, as well as those of neighboring communities, regional jurisdictions, and the State of California.

### **The State of the Campus**

The Berkeley campus has made a number of changes over the past two decades enabling it to continue to recruit the best faculty and to attract a highly qualified and diverse student body, nationally and internationally. Significant actions taken by the campus include the following:

- substantial additional or replacement student housing completed or under way at several sites near campus and at University Village
- reorganization of the biology faculty and curriculum and completion of an ambitious program to build or renew five biology buildings
- construction of new buildings for business, computer science, space science, chemical engineering, student health, and athletics; major additions for humanities, law, and optometry; and several new branch library facilities
- successful completion of two major fund-raising initiatives, "Keeping the Promise" and "New Century Campaign"
- establishment of an ambitious, ongoing seismic safety corrections program, with corrections made in over 30 buildings and coordinated with program improvements
- launching of the "Health Sciences Initiative," a bold new effort to understand and solve today's major health problems that includes two major buildings, one of which is already under construction

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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- comprehensive review of all campus organized research units, recommendation of eight new campus organized research units, and increased support for sponsored research
- restructuring and expansion of program reviews to improve the quality and efficiency of academic and administrative units
- establishment of two California Institutes for Science and Innovation
- establishment of new degree programs such as American Studies, Bioengineering, Asian Studies, Information Management and Systems, Ocean Engineering, Urban Design, Financial Engineering, and Environmental Science, Policy, and Management
- identification and funding of new interdisciplinary programs critical to the State's economy and to campus growth, including computational biology, nanoscience, and nanoengineering
- development of Summer Sessions and Extension programs to accommodate increased enrollments
- implementation of new policies and services to improve graduation rates and decrease time to degree
- expansion of outreach programs to increase enrollment of underrepresented groups
- enhancement of undergraduate education including increased undergraduate research opportunities, more student engagement with faculty, enhanced instructional technology tools, and regular assessment of undergraduate education
- improvement of business and information systems (e-Berkeley, Berkeley Financial System, Human Resources Management System).

The campus continues to meet the challenge to sustain and strengthen the institution in the face of serious financial constraints. A dominant element of the Berkeley campus capital program in the current decade is a series of projects intended to correct seismic life-safety hazards. New seismic studies undertaken in 1997 in light of code changes and information from the 1994 Northridge and other earthquakes indicated that nearly 100 campus structures, accounting for 27 percent of campus space, required structural improvement. Therefore, despite significant past progress in correcting buildings with "Poor" or "Very Poor" seismic ratings, there was much additional work to be accomplished. The campus prepared the comprehensive "SAFER" Plan (Seismic Action Plan for Facilities Enhancement and Renewal) to guide its planning in light of this information, and it recognizes this program as essential to protect lives and ensure UC

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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Berkeley's continued viability as a premier educational institution. Specific projects necessary to correct the remaining seismic deficiencies must be scheduled over a 15-year time frame with the most critical life-safety work to be completed within the next ten years. Funding available from the State will cover only part of the cost of this program, and every possible fund source is being explored to make this effort successful.

To maintain academic quality while carrying out seismic repairs, the campus continues to pursue concurrent opportunities to renovate, replace, and expand its buildings to meet programmatic needs, as well as to renew building systems that have reached the end of their useful lives. The campus has placed great emphasis on the need to address its extensive backlog of deferred maintenance and to schedule this work in tandem with seismic corrections and program improvements, although the recent reduction in funding for deferred maintenance puts continued progress in jeopardy. A systematic, ongoing capital renewal program is critical to keep the capital assets of the campus up to date. In a limited number of cases, new construction will be the most cost-effective and appropriate solution. Examples of the latter are new buildings in the northeast precinct for two California Institutes for Science and Innovation (the California Institute for Bioengineering, Biotechnology, and Quantitative Medicine [QB3] and the Center for Information Technology Research in the Interest of Society [CITRIS]), and in the northwest precinct for the School of Public Health and other elements of Berkeley's Health Sciences Initiative.

Projections of enrollment demand for the University made in the mid-1990s by the State Department of Finance indicated a significant growth in the college age population from 1998 to 2010 ("Tidal Wave II"). In response, the University developed plans to support an increase in enrollment of almost 50 percent systemwide between 1998 and 2010, with approximately 4,000 more students at the Berkeley campus. To minimize the environmental consequences of this growth, including the construction of additional space, the campus has sought to accommodate a significant number of the students in summer sessions and off-campus programs and continues to study how to accommodate the remainder while minimizing the effects on campus infrastructure and the surrounding community. Additional academic, administrative, and research space will clearly be needed, particularly in the more popular programs, to accommodate the additional students and the faculty and administrative staff they will require. The total on-campus headcount enrollment for the 2004-05 academic year was 30,778.

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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### **Campus Development**

For many years, campus development has been guided by two major planning efforts that provided comprehensive descriptions of facility needs and capital improvement plans: the Berkeley Campus Space Plan (1981) and the 1990 Long-Range Development Plan (LRDP). A new 2020 LRDP has been adopted that will guide campus development through 2020-21, but many guiding principles of the previous LRDP will be continued. The Berkeley campus will accommodate its facility needs by optimizing space assignments, renovating or modifying existing facilities, constructing new infrastructure and a limited number of new buildings, and enhancing environmental resources. Berkeley aims to accomplish these goals while preserving the important historic fabric of the campus. The new LRDP draws on the “New Century Plan,” a facilities master plan to guide the continuing “SAFER” program and to account for new, critical program initiatives that were not predicted when the previous LRDP was prepared. The LRDP also relies on the campus Strategic Academic Plan, a joint academic-planning effort of the administration and the Academic Senate that provides the necessary academic foundation for the new LRDP.

1. **Capital Needs:** Improvements to the physical plant are essential to ensure the safety of building occupants, to support state-of-the-art education and research, to meet new facility standards, and to continue to attract the best faculty, students, and staff. Capital needs at the Berkeley campus are driven by several factors:
  - **Seismic Corrections:** The campus needs to complete the program of seismic corrections. The Berkeley campus is located in an area of extensive seismic activity, with many of its buildings close to the Hayward Fault and in need of strengthening. Given the magnitude of the problem still remaining at this time, a program is required that will draw on multiple fund sources and address the most critical life-safety needs in the next ten years.
  - **Changing Academic Needs:** The campus needs to rectify crowding in existing facilities, support emerging new instructional methods and technologies, accommodate new research subjects and technologies, and incorporate new approaches to management of computing services and information systems. Particularly critical

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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for the campus are initiatives in the life and physical sciences, with strong emphasis on the biomedical field, on nanoscience, and on interdisciplinary connections.

- **Facility Age and Obsolescence:** The campus needs to modernize buildings that have become obsolete, complete the upgrade of buildings with life-safety and other code deficiencies, make existing buildings more accessible to disabled users, and provide adequate space for activities still housed in substandard facilities.
  - **Infrastructure Needs:** The campus needs to complete its communications network to accommodate new computing and communications technologies. It must also rehabilitate and expand its aging and inadequate utilities systems and optimize access and circulation through development and reconfiguration of roads, parking areas, bicycle routes, and pedestrian ways.
  - **Changing Support Needs:** The campus needs to provide adequate facilities for specialized student services, improve sports and recreational facilities, and continue to address the need for faculty and student housing at affordable prices in a tight housing market.
  - **Environmental and Historical Needs:** The campus needs to take advantage of opportunities to improve its open space and to preserve the natural features of the central campus, the hill area, and outlying properties. Among the most important campus features are a number of historically significant buildings and other elements that require preservation and restoration.
  - **Transportation Needs:** The campus needs to continue its work with local community agencies to provide reliable and affordable mass transportation for the campus community. The high cost of living in the Bay Area causes many faculty, staff, and students to live at some distance from the campus. As available parking spaces are limited, mass transportation and other alternatives need to be encouraged.
2. **Development Strategy:** Since the Berkeley campus is densely developed, a dual strategy of conservation and development is being

## **BERKELEY CAMPUS INTRODUCTION (continued)**

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pursued. When feasible, academic and administrative facility needs are met through more intensive space use and selective renovation of existing facilities. When this approach is inadequate, the campus considers using its few remaining building sites for new construction. The Berkeley campus has a long and successful history of supplementing State resources with private gifts for capital improvements. This reliance on private generosity will continue, but the magnitude of the expanded seismic program, in particular, will require new revenue sources. The use of long-term debt will remain the primary means to finance projects for auxiliary and self-supporting programs.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

BERKELEY CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Seismic Safety Corrections Giannini Hall (912051)	P 1,055	W 1,518 RB C 23,098 RB C [2,498] X					25,671 [2,498]
Birge Hall Infrastructure Improvements (912249)		P 350 * W 550 * C 9,450 *					10,350
Physical Sciences Seismic and Program Improvements (912017)			P 2,410 P [1,365] G W 2,575 W [1,525] G C 27,900	C 27,900 C [23,475] G		E [2,060] G	60,785 [28,425]
Hearst Gymnasium Academic Building Seismic Corrections (912179)			P 2,390	W 2,575	C 38,465		43,430
Davis Hall Seismic Corrections (912025)				P 2,600	W 4,200	C 13,100	56,900
Mulford Hall Seismic Corrections (912045)						P 1,575	45,570
<b>CAMPUS TOTAL</b>		<b>34,966</b> <b>[2,498]</b>	<b>35,275</b> <b>[2,890]</b>	<b>33,075</b> <b>[23,475]</b>	<b>42,665</b>	<b>14,675</b> <b>[2,060]</b>	

**BERKELEY CAMPUS  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Seismic Safety Corrections**

**Giannini Hall..... WC \$ 24,616,000 RB  
C \$ [2,498,000]X**

State funds are requested for working drawings and construction for a project to implement seismic corrections to Giannini Hall, a 46,009 asf building constructed in 1930 that serves programs in the College of Natural Resources, including the Department of Agricultural and Resource Economics, and the Department of Environmental Science, Policy, and Management. The building is rated seismically “Poor” (DGS level VI) and is a serious life-safety hazard. Deficiencies include a discontinuous perimeter wall above the first floor to the west, an irregular shear-wall layout, lack of shear-wall support, and nonductile connections. The project will improve the lateral force resisting system to a “Good” rating by adding new shear walls, collector beams, grade beams and footings, and other structural elements. The proposed reinforcing scheme will preserve the historical integrity of this important campus structure while providing the needed seismic corrections. Mandatory correction of fire and life-safety and accessibility-code deficiencies also will be completed.

**Birge Hall Infrastructure**

**Improvements ..... PWC \$ 10,350,000**

State funds are requested for preliminary plans, working drawings, and construction for a project to upgrade and improve building utility and infrastructure systems in Birge Hall. This 53,132 asf building, completed in 1964, houses the primary laboratories for the Physics Department and needs improvements to its infrastructure systems to support contemporary laboratory research. The project will upgrade the electrical power supply and distribution system, HVAC system, research equipment cooling water system, data riser and distribution system, and other building systems. Code-mandated improvements for disabled access and fire and life safety will also be completed.

## **BERKELEY CAMPUS CAPITAL PROGRAM (continued)**

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### **Physical Sciences Seismic**

**and Program Improvements..... PWC \$ 60,785,000**  
**PWCE \$[28,425,000]G**

Campus physical sciences departments are currently housed in aged facilities that seriously constrain instruction and research. In particular, the research of faculty and students in the world-renowned Physics Department must contend with obsolete laboratory space that can no longer support the functional requirements of modern science in this field. Related physical science disciplines such as the Astronomy Department are located in deficient structures, including the seismically “Poor” Campbell Hall facility, that do not provide adequate space for current programs or opportunities for expanding academic endeavors. This phased project will address existing life-safety and code hazards and provide new facilities to accommodate growing academic programs and advanced research.

### **Hearst Gymnasium Academic Building**

**Seismic Corrections..... PWC \$ 43,430,000**

Hearst Gymnasium is an 83,742 asf facility built in 1927. It provides space for teaching programs in the biological and social sciences in the College of Letters and Science (the Physical Education Program and the Departments of Integrative Biology and Anthropology), research collections of the Hearst Museum of Anthropology, and a general assignment classroom. The building is rated seismically “Poor” (DGS level V) and is a serious life-safety hazard. Its structural weaknesses include many discontinuous interior and exterior shear walls as well as supporting beams and columns that provide little or no resistance to seismic forces. In addition, skylight openings impede the transfer of seismic forces from the roof and floor diaphragms to the shear walls. The project will upgrade the building by filling in openings below discontinuous shear walls and strengthening openings in the roof, resulting in a rating of “Good”. Mandatory correction of fire and life-safety and accessibility code deficiencies also will be completed.

**Davis Hall Seismic Corrections..... PWC \$ 56,900,000**

“New” or “South” Davis Hall is an 81,285 asf facility built in 1966. It houses part of the Department of Civil and Environmental Engineering, an open computer laboratory, and two general assignment classrooms. The building is rated seismically “Poor” (DGS level V) and is a life-safety hazard. It has

## **BERKELEY CAMPUS CAPITAL PROGRAM (continued)**

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discontinuous shear walls on three sides; the shear-wall supports and piers are inadequate to resist seismic forces; and the building lacks adequate diaphragm strength above the 56-foot-wide open high-bay testing laboratory. The project will include strengthened vertical structural elements to increase the building's ability to resist lateral forces and attain a rating of "Good". Mandatory correction of fire and life-safety and accessibility code deficiencies also will be completed.

### **Mulford Hall Seismic Corrections ..... PWC \$ 45,570,000**

Mulford Hall is a 47,212 asf building constructed in 1948 that houses part of the Department of Environmental Science, Policy, and Management, selected programs of the School of Public Health, and four general assignment classrooms with a total of 229 seats. The building is rated seismically "Poor" (DGS level VI) and is a serious life-safety hazard. It has inadequate shear-wall area, perimeter bearing walls that are too stiff, and inadequate diaphragm integrity at the eastern re-entrant corner. The project will strengthen the lateral system to reduce stress on the perimeter shear walls, add new interior shear walls, and add new collector paths to attain a rating of "Good". Mandatory correction of fire and life-safety and accessibility code deficiencies also will be completed under this project. The campus is studying the need for program-related improvements, to be funded from non-State sources and coordinated with this project for cost-effective implementation.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS**

The Berkeley campus capital program emphasizes renewal and limited new construction. Paramount among campus needs is the completion of necessary seismic safety corrections for many campus buildings; the SAFER Plan is a key document to guide campus planning in the coming years. The other principal current sources of guidance are the recently approved 2020 Long Range Development Plan; the Strategic Academic Plan and New Century Plan, which provide a framework for the LRDP; and additional specialized studies such as the Landscape Master Plan and Landscape Heritage Plan.

Retrofitting will be the dominant approach to seismic corrections, and the campus intent is to take the opportunity to carry out needed building renovation and renewal in coordination with structural work. Although there are limited building sites left on the Berkeley campus, some replacement and expansion through new construction is also necessary to resolve particular campus space and facility problems, including replacement of seismically unsafe structures where retrofit is not economically prudent and expansion is required to accommodate campus growth. A strategy to use multiple fund sources is essential to finance this capital program.

Because of the high proportion of older buildings, current crowding, and the dispersed locations of some departments, a very strongly coordinated building renewal and seismic corrections program is a necessity. This requires space in which to relocate units during renovation. The renewal process has been planned to effect a more efficient use of campus facilities while preserving the park-like qualities of the campus.

### **1. Core Academic Facilities**

Capital needs for particular teaching and research units are presented in alphabetical order and do not reflect campus priorities.

**Classrooms:** Ongoing capital projects and an intensified deferred maintenance program have significantly improved existing classrooms and seminar rooms, but additional work is needed. As modes of instruction have changed, many classrooms have not been fully adapted to modern teaching technologies. Needs include new or improved audiovisual facilities; upgrade of lighting and ventilation; improvement of seating, other furnishings, and equipment; acoustical

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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corrections; code corrections and physical rehabilitation; and, in some instances, expansion or subdivision of rooms to provide an optimum balance of classroom sizes and types for contemporary instruction methods. Phasing of improvements is necessary to bring classrooms up to date without disrupting instruction.

**Humanities, Social Sciences, and Professions:** A number of units in the humanities, social sciences, and professions suffer from lack of space or are housed in buildings that—because of age, wear, and obsolescence—are inadequate and hamper academic programs.

- Inadequate and fragmented facilities of the **Department of Anthropology**, the **Department of Art Practice**, and the **Hearst Museum of Anthropology** may require expansion of Kroeber Hall or additional space at another site.
- Phase two of the Tien Center for East Asian Studies facility, totaling approximately 25,000 asf, is planned to address the space needs of the **Department of East Asian Languages and Cultures** and the **Institute of East Asian Studies**.
- The **Department of Music** requires additional space for performance, ethnomusicology, composition, and other specialized programs, as well as redesigned and expanded practice, office, and teaching facilities. These needs will be partly met by renovation of space in Morrison Hall formerly occupied by the Music Library, and by renovation of the old Art Gallery.
- Several older buildings need rehabilitation for the arts, humanities, and social sciences. Durant Hall, one of Berkeley's earliest buildings, requires extensive rehabilitation to correct serious heating, ventilation, electrical, and accessibility problems. Dwinelle Annex, home of the **Department of Theater, Dance, and Performance Studies**, requires major refurbishment and upgrading for changing uses as well as correction of seismic deficiencies.
- The space needs of the **School of Social Welfare** will be addressed by renovations and space reassignments in Haviland Hall.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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- The need of the **UC Berkeley Art Museum** for improved and expanded space for visual arts collections will be addressed in conjunction with planning to address the seismic deficiencies of the Museum's current building.
- Unmet space needs of the **Haas School of Business** and the **School of Law** will be addressed by a planned Academic Commons building in the southeast precinct as well as by renovations in those units' existing facilities. An executive education residential and teaching facility for the **Haas School of Business** is also under study.

**Libraries:** Besides the East Asian Library, which will be assigned 46,000 asf in phase one of the Tien Center for East Asian Studies facility, a number of library branches have problems of overcrowding and obsolescence. They require redesign, upgraded technology, and in some cases expansion.

**Life and Health Sciences:** Berkeley's programs in the life sciences are housed in 20 major buildings on the central campus, as well as in off-campus facilities. The academic reorganization of the biology disciplines at Berkeley and the accompanying building program were highly successful in what they accomplished, but unmet facilities needs remain, and new needs have arisen.

- New facilities totaling 130,000 asf as well as renovations to existing space in the northwest precinct are planned for the biomedical program including laboratories, offices, and support space for the **School of Public Health**, the **Wills Neuroscience Institute**, the **Cancer Research Laboratory**, and **Biological Sciences** units. The programmatic objectives for the new building will include stem cell research, cancer biology, neuroscience, and infectious diseases.
- Most of the campus buildings occupied by the **College of Natural Resources** need renovation to respond to program changes in the life sciences, which now place heavier emphasis on sophisticated chemical, physical, and biological methods in research and teaching and require more wet-laboratory bench space, utilities, fume hoods, and environmental controls.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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An important example is the growing program in microbial biology. Program upgrades will be coordinated with seismic corrections where needed.

- The **School of Public Health** remains split among six campus buildings and various off-campus rental sites, and Warren Hall, rated seismically “Poor” and near the end of its useful life, is targeted for removal. The School’s need for wet laboratories will be primarily addressed in a new building to replace Warren Hall, and additional and replacement office space is being provided in University Hall.
- The upgrade and expansion of facilities at the **Botanical Garden** is required to meet the Garden’s growing role in teaching and research in addition to its public service mission.
- The **Department of Plant and Microbial Biology** and the **Department of Environmental Science, Policy, and Management** need more experimental growing space for plants, including modern greenhouse space and additional field areas.
- The campus manages fourteen field stations, mostly under the aegis of the **California Biodiversity Center** or the **Center for Forestry**, which have significant needs for improved or expanded facilities.

**Physical Sciences and Engineering:** The physical sciences and engineering departments need improved laboratory space because of changes in the nature of these academic disciplines, the advance of technology, obsolescence of buildings, deterioration of building systems, and increasing need for protection from environmental hazards connected with research and instruction.

- In addition to replacement of Campbell Hall with a new physical sciences building for the **Departments of Physics and Astronomy**, opportunities for dual-use facilities shared with Lawrence Berkeley National Laboratory are also being explored.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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- The problem of inadequate power capacity for modern laboratories is keenly felt by the **Physical Sciences** and **Engineering** programs. Increased use of computers and other sophisticated equipment strains building power systems, and in some cases the installation of additional research equipment is limited by the power available. Plans to upgrade building power systems where the problems are greatest will be coordinated with other campus infrastructure and seismic projects.
- Facilities of the **College of Chemistry** require continuation of an ongoing program of major renovation and expansion, particularly for synthetic chemistry. Upgraded ventilation and utilities are particularly important to provide greatly increased fume-hood capacity. Special attention will be given to expanding capacity while increasing energy conservation. The campus will continue its phased laboratory renovation of Latimer Hall and extend this program to other buildings.
- Several **College of Engineering** buildings—particularly Hesse Hall, McLaughlin Hall, and Cory Hall—require replacement or major upgrading and modernizing to improve utility systems, accessibility, and life safety, and to provide program improvements. The Naval Architecture Building, constructed in 1914 as a temporary building and now considered of historical significance, requires rehabilitation to solve a variety of seismic, code, heating and ventilation, and sound-insulation problems.

**Richmond Field Station:** Significant new construction, infrastructure improvements, hazard remediation, site upgrading, and other work at this off-campus location are necessary to realize its potential as a research center and to create a suitable environment for programs for which there is insufficient room on the central campus. Third-party development options are being explored.

### **2. Administrative and Support Facilities**

**Alumni and Visitor Affairs:** Expanded and renovated space for the Alumni Association is under consideration to accommodate expanded

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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activities and possibly to provide a permanent location for the Visitor Center. Improved visitor parking also is needed.

**Campus Computing:** Unit-level computing centers located in substandard facilities and buildings targeted for seismic upgrading will be evaluated for relocation to the campus's central computer facility, which is housed in a seismically sound, well-designed space that provides reliability for campus computing systems and other critical services.

**Relocation of Administrative and Service Activities:** Further relocation of selected administrative and support units is expected to consolidate functions, reduce leased space, and release central space for other programs. Alterations to existing facilities will be needed to accomplish this.

**Recreational Sports:** Expansion, improvement, rehabilitation, code correction, and safety projects are needed for the **Department of Recreational Sports** at the Strawberry Canyon Recreational Area (SCRA), the Clark Kerr Campus, and the Recreational Sports Facility. Indoor recreation facilities are overcrowded, and improvements are badly needed for the pools at the SCRA. Existing outdoor playing fields and courts are heavily used and cannot meet present demand. Hearst Athletic Field will continue to be used for some time for temporary facilities supporting the seismic program, and tennis and outdoor basketball courts have been removed by new construction. Renovation of existing fields and the planned restoration of Underhill Field will partially address these problems.

**Student Services:** Despite improvements, several student services remain in inadequate space or continue to lease space off the campus. Alternatives are under review to correct crowded conditions and to provide improved, consolidated space for efficient, effective, and convenient delivery of student services. A redesign of lower Sproul plaza and environs is expected to provide the foundation for a plan to improve personal safety and provide programmatically enhanced, seismically safe facilities for student programs and services.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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### **3. Auxiliary Enterprise Facilities**

**Child Care:** Additional facilities for child care for students, faculty, and staff are needed. As funding sources for services are developed and new projects are planned, child care facilities will be considered for inclusion in the capital program.

**Housing and Dining Services:** Even with the recent easing of the rental market, the student housing situation remains challenging, given the general high cost of housing in the Bay Area as well as students' strong preference to live as close to the central campus as their budgets allow. In Fall 2004, the campus was able to provide rooms to all incoming freshmen and transfer students who met the housing application deadline and to accommodate all continuing-student applicants and a majority of applicants from the UC Extension Fall Program for Freshmen. The campus has set a further objective of accommodating more sophomores and first-year graduate students in campus housing. An increase of up to 2,600 beds in the campus housing inventory is projected from future projects, including possible third-party development projects, to meet campus housing goals.

Changes also are needed to existing University-owned student housing at University Village, the Clark Kerr Campus, and Bowles and Stern Halls. The first phase has been completed of a plan to replace 920 units of student family housing at University Village in Albany, and two additional phases are expected to be complete in four to five years. However, projects are currently constrained because rising costs of construction and a lack of additional revenue-generating spaces mean that housing rates must be increased to meet the debt obligations for renovation projects. Given the magnitude of what is needed, renovation or replacement projects must be carefully prioritized and phased.

Housing is also a critical problem for new faculty and staff. The shortage of affordable housing for sale or rent near campus impacts the academic program by affecting the ability of the Berkeley campus to recruit and retain faculty, particularly young professors.

**Intercollegiate Athletics:** A plan to correct seismic deficiencies in California Memorial Stadium will be implemented in phases and

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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coordinated with needed program upgrades. Major improvements are also needed at the Spieker Aquatics Complex.

### **4. Utilities, Site Development, Transportation, and Parking Improvements**

**Accessibility:** The Berkeley campus is committed to making its educational program and facilities accessible to persons with disabilities. Campus programs open to the wider public, such as conferences, performing arts, and sports activities, must also be accessible. Though much work already has been done and is currently in progress to provide primary access to programs, the campus is continually identifying additional work necessary to comply with ADA (federal) and Title 24 (State) access requirements. Given the work done, access improvements are now focused on campus pathways, specialized program spaces, and peripheral sites and other properties. Older buildings also present special accessibility challenges.

**Building Mechanical Systems:** Mechanical systems require a program of systematic replacement and upgrades to extend their lives and meet codes. Many buildings have major heating and ventilation deficiencies, especially in relation to current health and life-safety code requirements and indoor air quality. Some systems are unsuited to current needs or have exceeded their useful lives, and others cannot accommodate the demands of energy-conservation measures and more intensive use. These factors can create health hazards and excessive noise, dirt, discomfort, and inefficiency in space assignments. Many of the faulty and outdated systems waste energy and need up-to-date equipment or redesign.

**Campus Communications Infrastructure:** Electronic communication in a variety of technologies has become critical to almost all campus programs and activities, and demand is expected to increase rapidly over the next decade. The current campus infrastructure is unable to support the required physical cabling and distribution topologies. The campus has carried out five steps of a phased, multi-year program to build a new Interbuilding Campus Communications System (ICCS) linking all campus buildings. As much as 40 percent of the campus community still relies on communications systems housed in an old, seismically “Poor” facility. As part of the

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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campus disaster management and emergency preparedness plan, communications equipment will be moved to seismically safe locations around the campus to provide more redundancy and resiliency for critical communications services and thus remain operable in an emergency. The need to complete this work is heightened by the increased reliability and functionality of the new central computer facility, which would lose connectivity to a significant portion of the campus if a failure in the old facility were to occur.

**Landscape Improvements:** Major construction on the Berkeley campus during past periods of development has overshadowed, to some degree, the need for judicious preservation and enhancement of existing open space and landscape resources. Now, limitations on campus density require that capital development give careful consideration to the impact on outdoor space. Specific projects will be developed to redesign critical areas, improve public circulation, enhance environmental quality, and install, upgrade, and coordinate campus lighting, signs, furnishings, and outdoor art. Some examples are the redesign of major campus entrances and core-campus spaces such as the western terminus of Campanile Way, the southern campus entrances at College and Telegraph Avenues and Dana Street, and lower Sproul and Dwinelle Plazas. Major landscape and circulation improvements are planned in the southeast precinct as part of a plan to link Memorial Stadium to the main campus.

**Parking:** The campus needs additional parking spaces, owing to regional and campus factors that have increased demand for vehicle access. These factors include not only continued growth in campus enrollment and employment, but also restrictions by the city on nearby street parking and the displacement of existing spaces by new campus buildings. Expansion of attendant parking has alleviated some of this need, as have a broad range of campus incentive programs for alternative travel modes, including discounted transit fares for students and campus employees. However, a significant percentage of the present parking inventory is located in surface lots; and, given the scarcity of buildable land on and around the campus, most of these surface lots are prospective sites for future buildings. In accord with University parking principles, the campus has established a policy to provide for replacement of parking spaces displaced by new buildings, and it is expected that these displaced spaces will be replaced in

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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structure parking. Under the new campus LRDP, the campus parking inventory could increase to a maximum of approximately 10,000 spaces to accommodate both unmet demand and future campus growth.

**Site Development:** Potential land slippage caused by underground water at hillside sites is a serious problem, and a hill dewatering and stabilization project is needed to correct this problem. As part of an overall environmental plan for the campus, restoration of the native flora and the deteriorated banks of Strawberry Creek is also a priority.

**Utilities Modernization and Expansion:** The network of underground utilities is in severe physical decay. Breakdowns are not uncommon in water, steam, sewage, and electrical lines; and increased demand has brought utility systems to the limits of their capacity. A continuing and systematic program to overhaul utility systems is needed to support normal operations, provide for the increasing needs of research and instruction, and address code requirements in order to maintain service. The main campus steam tunnel is seriously deteriorated and requires repair or replacement. Studies are continuing to promote increased energy conservation and greater reliability in supplies of electricity and heating fuel. Capital investment also may be required to address restrictions on currently used refrigerants that will require alternative cooling methods for campus buildings. Ongoing improvements to the systems for gas, water, sanitary sewerage, storm drainage, and steam are being coordinated with each other and with planned electrical and communications projects.

### **5. Code Corrections for Health and Life Safety**

**Asbestos:** The danger of airborne asbestos fibers has been recognized for several decades. Asbestos was formerly used extensively as a building material, and large quantities were incorporated into campus buildings and underground utilities. When asbestos is found in the course of a maintenance or renovation project, it is handled with special precautions and removed from the immediate workplace. These precautions add considerable project cost. Abatement has been undertaken in both non-State-funded and State-funded facilities, and the highest priority problems have been addressed. It is anticipated that, given the scope of planned construction and the extensive

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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presence of asbestos-containing materials on campus, abatement activities will continue as a component of maintenance and renovation projects.

**Lead:** Although its application was effectively banned in 1978, lead-containing paint is still present in many campus buildings. The dangers of exposure to lead paint chips, contaminated soils, and lead-containing dust and debris have been known for many years. Regulatory agencies impose certification requirements for contractors disturbing most lead-containing materials. Paint sampling and airborne monitoring are frequently required during abatement activities, and lead debris often must be disposed of as hazardous waste. In child care facilities, disturbance of lead-containing materials requires exposure controls, notification, and clearance criteria beyond the requirements applicable to general construction and renovation projects. These requirements can add significantly to project costs. Because lead-containing paint is so common in older buildings, proper abatement of lead-containing materials will continue to be a component of many campus renovation projects.

**Fire:** It is necessary to complete the program to correct or mitigate campus fire and life-safety code deficiencies, particularly within high-rise buildings and high-hazard facilities. A significant number of deficient and obsolete building fire-alarm systems need to be upgraded or replaced to meet current codes. Since the obsolete systems cannot be adequately maintained, frequent false alarms have caused numerous unnecessary building evacuations, risked diverting emergency responders from real emergencies, and reduced building occupants' confidence in the fire alarm systems.

**Underground Storage Tanks:** Groundwater monitoring will continue at some locations where corrective action has already taken place to ensure there are no further problems, although monitoring of current sites of concern is expected to be completed within the next year. Cleanup of any newly identified contaminated sites will need to be prioritized and funded. Recent regulatory changes have made design and installation of new underground storage tanks significantly more expensive.

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Storm Water Quality:** Federal storm water regulations require that the campus operate under a National Pollutant Discharge Elimination System Permit and develop a Storm Water Management Plan. The campus submitted this plan to the water quality board in March 2003 and is awaiting designation and approval. The permit will require development and implementation of best management practices and new programs for campus facilities operation, maintenance, and construction activities to reduce the discharge of pollutants into Strawberry Creek and San Francisco Bay to the maximum extent practicable. Implementation and monitoring programs will establish new responsibilities and require additional funding.

**Richmond Field Station Site Remediation:** The campus is required by the California Health and Safety Code and state Superfund law to investigate and remediate pollutants at the Richmond Field Station that pose a threat to human health and ecological receptors. Industrial activities at the Station and adjacent properties have resulted in significant widespread pollution. The Regional Water Quality Control Board has issued a Cleanup and Abatement Order that is driving a costly, multi-year remediation, restoration, and monitoring program. Regulatory oversight of this project has recently transferred to the state Department of Toxic Substances Control, which may impose modified or new cleanup requirements.

### **6. Corrections for Seismic Safety**

Because of the age of buildings on the Berkeley campus and because a major earthquake fault runs beneath a portion of the campus, the risk to human life and property from earthquakes is severe. An early study of buildings occupied by State-supported programs indicated that a significant proportion of the most hazardous buildings in California were on the Berkeley campus. Many of these structures were seismically strengthened in the 1980s and 1990s. However, new information from the Northridge and Kobe earthquakes led to more stringent building code requirements in the late 1990s, and a consequent re-examination of campus buildings identified additional structures as deficient. In total, this re-examination effort confirmed a seismically deficient rating for nearly 100 structures, comprising 27 percent of Berkeley's assignable space. The severity of the hazard is accompanied by a high cost for structural renovation. This large

## **BERKELEY CAMPUS OTHER CAPITAL NEEDS (continued)**

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amount of work is being accomplished under the SAFER Plan, with the most severe hazards scheduled for correction in the next ten years. Corrections for 43 structures have already been completed or are in progress, as well as work to mitigate nonstructural hazards.

### **7. Energy Conservation Improvements**

Since the advent of energy conservation programs, the campus has made considerable progress in reducing energy consumption and reforming patterns of energy use. The campus anticipates further projects involving the central control system and cogeneration plant. The campus is actively addressing UC's green building and clean energy policy. Expansion of the successful central control system, which now reaches 63 buildings, is an important goal. Further retrofit projects involving more energy-efficient cooling systems and variable-speed fans are likely. Of particular importance will be replacement of failing steam lines, which cause energy loss throughout the campus.

# DAVIS CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1905
ENROLLMENT 2004-2005 (ACTUAL)	22,655 FTE undergraduates 4,124 graduate students 2,181 health science students
LIBRARY COLLECTION	3.5 million volumes
CAMPUS LAND AREA	5,993 acres
CAMPUS BUILDINGS	5.3 million assignable square feet
HOSPITAL AND CLINICS	1.6 million assignable square feet
VETERINARY HOSPITAL	155,504 assignable square feet

## **DAVIS CAMPUS 2006-2011 STATE PROGRAM**

### **INTRODUCTION**

Founded in 1905 as the University Farm, UC Davis became a general campus of the University of California in 1959. While the campus is an acknowledged longstanding international leader in agricultural and environmental sciences, veterinary medicine, and biological sciences, it has in recent years gained similar recognition for excellence in the arts, humanities, social sciences, engineering, health sciences, law, and management. UC Davis now offers more than 100 undergraduate majors and 70 graduate programs in the College of Agricultural and Environmental Sciences, the College of Engineering, the College of Letters and Science, and the College of Biological Sciences. These programs, and the five campus professional schools—the School of Law, Graduate School of Management, School of Medicine, School of Education, and School of Veterinary Medicine—combine to provide the most diverse program offerings of any campus within the University of California system.

Through this distinctive tradition, UC Davis teaches students to think critically, objectively, and creatively. They are taught to be lifelong learners, engaged leaders, and productive citizens.

The UC Davis campus strategic plan emphasizes learning, discovery, and engagement. Learning is enriched through high-caliber instructional programs, quality faculty/student interaction, and the expansion of research, internship and international experiences for undergraduates. Discovery is pursued through excellent research, enhancing the role of graduate students and postdoctoral fellows in research efforts. Engagement of the university in the lives of the broader community, locally and globally, contributes to solutions of society's most pressing problems.

To accomplish these goals, many campus programs require specialized land and building resources. The 5,200 acres of the main campus include not only core instruction and research buildings but also major structures for animals, greenhouses, and other academic support facilities, as well as agricultural land used for teaching and research. Because the Davis campus evolved within a rural setting where basic urban infrastructure was not available, the campus operates its own domestic and utility water systems, wastewater treatment plant, and solid waste landfill site in addition to electrical systems

## **DAVIS CAMPUS INTRODUCTION (continued)**

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and central steam and chilled-water services. The campus also operates its own airport that serves the campus community and surrounding area.

During the current period of rapid enrollment growth, a critical shortage of space has strained the ability of the campus to maintain campus infrastructure and support systems, to correct safety and code deficiencies, and to renew or replace old and obsolete buildings. Additionally, the campus continues to have significant space deficiencies in basic research, office, and teaching spaces. There is also a continuing need to adapt existing facilities to meet the ever-evolving needs of instruction and research and to maintain the vitality of the academic programs they support.

General-campus enrollment grew by 19 percent (from 22,700 to 27,050) in the period 2001-02 to 2005-06 and is projected to reach 28,500 FTE (including summer-term and off-campus enrollments) by 2010-11.

### **Long Range Development Plan**

The 2003 Long Range Development Plan (LRDP) is the comprehensive policy and land use plan that will guide development of the Davis campus through the horizon year 2015-16 in support of the teaching, research, and public service mission of the University. The LRDP responds to anticipated growth in student enrollment, faculty and staff employment, and UC affiliated activities on the campus.

The 2003 LRDP addresses a campus three-quarter-average headcount enrollment of 32,000 in 2015-16. The LRDP proposes general types of campus development and land uses to support this campus population and enable expanded and new program initiatives. To accommodate this growth, the plan provides flexibility for up to 2.5 million square feet of new facilities to meet the core mission. The provision of student, faculty, and staff housing is addressed through a proposed new campus neighborhood. In response to increased needs for athletics and recreation space, the plan includes new recreation fields and facilities. A planned research park will provide space for a variety of private, public, and nonprofit organizations that have an affiliation with the campus. Finally, due to the significant expansion of academic, administrative, and housing programs, various support and ancillary facilities and services, such as parking and facilities services, will need to be relocated from the core campus to more appropriate locations.

## **DAVIS CAMPUS INTRODUCTION (continued)**

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### **Campus Development**

It is clear that because of growth in the number of students and faculty the campus will need additional teaching, research, and support facilities, administrative support space, auxiliary enterprise facilities, infrastructure expansion, and transportation and parking improvements. To meet the needs of campus academic programs, key priorities for the State capital improvement budget will include the following types of new construction and facilities upgrade projects:

- **Expansion of Facilities:** Additional academic and support facilities will be needed both to correct existing deficiencies and to accommodate projected increases in campus enrollment. Existing facilities also require improvement to address the needs of science laboratories and support space, classrooms, and computer laboratories that must be compatible with current programs and technologies.
- **Modernization of Existing Facilities:** A large portion of campus facilities constructed in the 1960s is now experiencing the effects of age and heavy use. Many facilities require renewal and modernization. Capital funds have been targeted to upgrade these aged facilities and improve their operational efficiency. Capital projects for the sciences will upgrade and replace unsuitable laboratory facilities currently used by programs in the agricultural and environmental sciences, health sciences, biological sciences, and physical sciences. Capital projects for non-scientific academic programs and for professional and graduate schools also are needed to modernize obsolete space.
- **Improvement of Health Sciences Facilities:** Major facilities improvements are needed to ensure the quality of programs of the School of Veterinary Medicine. New and expanded facilities are needed to appropriately house current and planned veterinary medicine programs and to correct the problem of clinical facilities that are physically remote from the teaching, research, and central administration functions of the School. Major facilities improvements also are needed for the School of Medicine. Upgraded facilities are needed for teaching programs, and the School has a significant shortage of research facilities.
- **Seismic Corrections:** The program to correct seismic deficiencies at the campus and at the UC Davis Medical Center will be finished, with the

## **DAVIS CAMPUS INTRODUCTION (continued)**

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completion of the Seismic Correction Phase 4 project and the AB1953 compliance project at the medical center.

- **Campus Infrastructure:** Campus infrastructure development has not kept pace with the addition of new and more demanding academic facilities. The electrical service, chilled water, steam, and campus wastewater utility systems will require expansion to ensure that the campus infrastructure does not limit the goals of academic programs.

State funds have not been sufficient to meet the capital improvement needs of the campus. To provide the academic and support facilities required to meet essential needs of the campus, non-State funds have been used to complement State funds in several projects, including Veterinary Medicine 3B, the Music Building, and Engineering 4. Other major projects currently programmed that will be funded entirely from non-State resources include the Neuroscience Building and the Veterinary Medicine 3C project.

Additionally, projects like Hunt Hall Renovations, Warren and Leita Giedt Hall, and the Advanced Materials Research Laboratory are funded from non-State resources. The amount of available non-State funds is limited, however, constraining options to support enrollment increases and still maintain program quality without additional State support.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

DAVIS CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Veterinary Medicine 3B (954140)		P 3,100	W 4,500	C 57,900 C [22,950] G	E [1,500] G		65,500 [24,450]
King Hall Renovation and Expansion (950340)		P [500] G P 500 * W 925 * C 16,500 * C [3,424] G					17,925 [3,924]
Electrical Improvements Phase 4 (936074)			P 275 W 275 C 3,785				4,335
Thurman Laboratory Seismic Corrections (954120)			P 30 GF W 20 GF C 350 GF				400
Music Building (932160)				P [535] X W 535	C 10,805 C [3,150] G	E [500] X	11,340 [4,185]
Engineering 4 (950360)				P 900 P [903] G	W 900 W [903] G	C 30,375 C [8,878] G	32,175 [10,684]
Building Fire/Life Safety and Renewal (950700)				P 700	W 700	C 15,075	16,475
Haring Hall Renovations (950980)				P 800	W 800	C 15,250	16,850
Chilled Water System Improvements Phase 7 (950970)				P 1,140	W 1,140 C 20,540		22,820
Academic Building Renewal (950070)					P 400	W 400	11,490
Science Library						P 780	24,465
<b>CAMPUS TOTAL</b>		<b>21,025</b> <b>[3,924]</b>	<b>9,235</b> <b>[1,240]</b>	<b>61,975</b> <b>[24,388]</b>	<b>35,285</b> <b>[5,553]</b>	<b>61,880</b> <b>[9,378]</b>	

**DAVIS CAMPUS  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Veterinary Medicine 3B..... PWC \$ 65,500,000**  
**PWC \$[24,450,000]G**

State funds are requested to prepare preliminary plans for the Veterinary Medicine 3B project. This project will continue a phased program of new construction and renovation to provide state-of-the-art facilities needed to sustain the vitality of the School of Veterinary Medicine’s teaching, research, and service programs. This project will provide research laboratory, laboratory support, office, and clinical space in a new 99,000 asf building at the site of the Veterinary Medical Teaching Hospital. This new space will replace obsolete and inadequate space in Haring Hall, allowing reassignment of that facility to academic programs in the core campus where it is located.

**King Hall Renovation and Expansion ..... PWC \$ 17,925,000**  
**PC \$ [3,924,000] G**

State funds are requested for preliminary plans, working drawings, and construction for the King Hall Renovation and Expansion project. This will provide an addition of approximately 18,800 asf and renovate about 14,300 asf of the existing Law School facility to address serious deficiencies resulting from a near doubling of enrollment and consequent crowding over the past four decades. The improvements will expand and consolidate teaching and research space, office and student/faculty support space, and the law library.

**Electrical Improvements Phase 4 ..... PWC \$ 4,335,000**

Completion of the currently funded Electrical Improvements Phase 3 project will provide the campus with sufficient electrical service capacity to meet needs until 2010. To allow for capacity beyond 2010, this fourth phase of electrical service expansion will be needed. The Electrical Improvements Phase 4 project will provide a 30 MVA expansion of campus substations to meet projected demand, including appropriate system redundancy to ensure reliable electrical service.

**DAVIS CAMPUS CAPITAL PROGRAM (continued)**

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**Thurman Laboratory**

**Seismic Corrections..... PWC \$ 400,000 GF**

Seismic corrections for Thurman Laboratory (also known as the California Animal Health and Food Safety Veterinary Diagnostic Laboratory) are required to address life safety hazards. The structure is rated seismically “Poor”. This 26,497 asf facility houses diagnostic laboratories, laboratory support space, offices, and conference rooms that are managed by the campus for the California Department of Food and Agriculture. The project will correct the seismic deficiencies and improve the lateral-load-resisting system of the building to achieve an acceptable level of life safety.

**Music Building.....P \$ [535,000]X**  
**WC \$ 11,340,000**  
**C \$ [3,150,000]G**  
**E \$ [500,000]X**

The Music Building project will provide modern music recital space for the Davis campus, advancing the campus commitment to the fine arts. The approximately 12,000 asf project will include a recital hall, recital hall support space, and instructional and administrative space for the Department of Music, whose existing facilities are inadequate to support current instruction and research.

**Engineering 4 ..... PWC \$ 32,175,000**  
**PWC \$[10,684,000]G**

This project will provide approximately 50,000 asf of new teaching and research facilities for the College of Engineering, including space for the Department of Chemical Engineering and Materials Science, the Environmental Engineering Program, and a portion of the research activities of the Department of Electrical and Computer Engineering. The additional space provided by the project will be needed to meet projected enrollment and program growth of the College of Engineering.

**Building Fire/Life Safety and Renewal..... PWC \$ 16,475,000**

Several older campus buildings—including Briggs Hall, Chemistry, and the Chemistry Annex—have significant fire, life safety, and renewal issues that

**DAVIS CAMPUS CAPITAL PROGRAM (continued)**

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require upgrade. Improvements will bring these buildings into compliance with health and safety code requirements.

**Haring Hall Renovations..... PWC \$ 16,850,000**

At the completion of Veterinary Medicine 3B, Haring Hall will be vacated by the School of Veterinary Medicine and prepared for other core campus uses. Renovation of the building will include upgrades to the building systems, fire and life safety improvements, and conversion of wet laboratory space to dry laboratory and office uses. After renovation, the building is expected to be occupied by departments within the College of Letters and Sciences where programs are in need of additional space to address enrollment growth.

**Chilled Water System**

**Improvements Phase 7..... PWC \$ 22,820,000**

This project will expand the campus chilled water system to provide additional cooling capacity to serve new buildings and other improvements expected to be completed after 2011.

**Academic Building Renewal..... PWC \$ 11,490,000**

This project will undertake the renewal of aging academic buildings on the core campus.

**Science Library..... PWC \$ 24,465,000**

The existing Science Library requires expansion of stacks, student seating, and administrative areas to support future needs of science and engineering disciplines.

## DAVIS CAMPUS OTHER CAPITAL NEEDS

### 1. Core Academic Facilities

**Veterinary Medicine:** A phased program of new construction and renovation of existing facilities is underway to provide the School of Veterinary Medicine with state-of-the-art facilities needed to sustain the vitality of its instruction, research, and service programs and maintain full accreditation of the School. In addition to the Veterinary Medicine 3A and the Veterinary Medicine Instructional Facility projects (currently under construction) and the proposed Veterinary Medicine 3B project, the School will need the research laboratories and other facilities planned in Veterinary Medicine 3C, and related campus-funded projects, to meet the full needs of veterinary medicine programs.

**Agricultural and Environmental Sciences:** Agricultural and Environmental Sciences academic programs have become increasingly complex since the 1940s and 1950s when many of the buildings that house these programs were constructed. Today's science requires more sophisticated laboratory facilities and support spaces than are currently available in these buildings. Capital projects are needed to renovate existing buildings and provide additional space to meet the requirements of expanded enrollment. After completion of the Robert Mondavi Institute for Wine and Food Science, renovations will be needed in space released in several buildings by the Department of Viticulture and Enology and the Department of Food Science. These projects will provide modern teaching and research facilities for the Departments of Wildlife, Fish, and Conservation Biology; Environmental Horticulture; Environmental Science and Policy; Pomology; and the Graduate School of the Environment. Renovation of Veihmeyer Hall will be needed for the hydrology program of the Department of Land, Air, and Water Resources.

New facilities to replace obsolete existing spaces, accommodate program changes, and provide for growth will need to be constructed for several academic and support programs with specialized needs, such as dairy teaching and research, in the agricultural and environmental sciences. Agricultural research land near the central campus that has been relinquished for the construction of new facilities will require

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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replacement, and necessary infrastructure will have to be provided to support agricultural operations.

**Biological Sciences:** Programs in the biological sciences require technology-intensive facilities to support instruction and research. The biological sciences will need improvements to existing facilities in Storer Hall, Briggs Hall, and Hutchison Hall, and new space to accommodate growing programs.

A new building is proposed to provide space for the Center for Neuroscience and to improve research support facilities. In addition, there is currently a lack of space on the campus for multidisciplinary programs in biology, engineering, bio-informatics, and biotechnology. New research facilities will be needed for these programs.

**Engineering:** Existing facilities do not meet the needs of the Department of Chemical Engineering and Materials Science, the environmental engineering program, and the research activities of the Department of Electrical and Computer Engineering. Approximately 50,000 asf of new facilities is needed for these programs. When this replacement space is built, released space in Bainer Hall will need renovation for use by the Departments of Biological and Agricultural Engineering and Mechanical and Aeronautical Engineering.

**Visual and Performing Arts:** The space deficiency in the fine arts and performing arts disciplines is limiting the effectiveness of instruction. New construction and modifications are needed to correct existing deficiencies and to provide adequate teaching facilities, support space, and performance and gallery facilities. The Art Building and Art Annex will need to be remodeled to provide modern and more efficient facilities for the Art Department, and new space will be constructed to replace temporary facilities and provide much-needed student and faculty studio space. The Environmental Design program has recently joined the Humanities, Arts, and Cultural Studies Division. The crowded and obsolete facilities of the Environmental Design program will need to be replaced.

**Social Sciences:** After completion of Veterinary Medicine 3B, space in Haring Hall will be released to the campus and renovated for programs in the Division of Social Sciences. Released space in Young

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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Hall also will need to be renovated to provide modern facilities to accommodate growth in the teaching and research programs of the social sciences.

**School of Medicine:** The School of Medicine occupies facilities on the Davis campus and in Sacramento at the UC Davis Medical Center. Major facilities improvements are needed in both locations because the existing facilities do not meet the needs of current teaching and research programs. A new Education Building in Sacramento will provide technologically appropriate teaching facilities, including a state-of-the-art teaching auditorium, computer learning center, replacement teaching laboratories, small-group patient examination/instruction rooms, student support facilities, and a permanent library at the Medical Center.

The School of Medicine also continues to experience a significant shortage of high-quality research space. While the newly completed Genome and Biomedical Sciences Facility will provide some replacement research space, there will continue to be a deficiency of research laboratories and laboratory support space. The School needs additional facilities, both in Davis and in Sacramento, to correct this deficiency. The Sacramento facilities would accommodate the School's rapidly expanding clinical research programs. The Davis facilities would provide expansion space and replacement space for programs currently accommodated in maintenance-intensive and technologically deficient temporary buildings.

**Graduate School of Management and School of Education:** New facilities needed to accommodate the Graduate School of Management will be constructed together with the Hotel and Conference Center project planned for the campus. The subsequent release of space will trigger a need for minor renovation of current Graduate School of Management facilities in Academic Office Building 4 for reassignment to the expanding School of Education.

**Libraries:** The Physical Sciences and Engineering Branch Library has reached full capacity and can add a print volume only if one is removed. A larger branch library for the sciences is needed to accommodate the collections of the life sciences in addition to the physical sciences and engineering. The vacated Physical Sciences and Engineering Branch

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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Library would then be remodeled for use by academic programs in the physical sciences.

**Animal Facilities:** Existing animal facilities require expansion and upgrading to meet current accreditation requirements and support the instruction and research programs of the campus. These include the California Regional Primate Research Center, which supports AIDS research and other research activities. The Primate Center requires substantial infrastructure upgrades to allow continued program growth.

### **2. Administrative Support Facilities**

**Relocation of Service Units:** Many administrative support units have outgrown their existing building space and need improved facilities. These units occupy core campus building sites identified in the campus LRDP for academic program growth. To support the reassignment of central campus space to academic functions, service units such as Operations and Maintenance, Environmental Health and Safety, and a portion of Information Technology will be moved from the central core to expanded facilities in outlying campus areas. An initial phase of relocation is underway, and a new Service Unit Park is planned on the West Campus.

### **3. Health System Needs**

Significant non-State resources have been expended in past years to make needed improvements to clinical, medical education, and research facilities. There is a continuing need for substantial additional investment to upgrade and replace outdated facilities, expand programs, and renew infrastructure.

The Medical Center Master Plan identifies work totaling more than \$300 million for these needs. The Davis campus has received \$120 million of State funds to address acute-care facility seismic deficiencies, and the medical center is implementing three SB 1953 seismic projects that include additional improvements funded from hospital reserves. Additional projects are identified in the Medical Center Master Plan for funding from hospital reserves and other non-State sources. These include rehabilitation and renewal, or demolition, of several existing

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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facilities that are outdated and in poor condition; relocation of selected functions to space in Tower II that has been left unfinished in anticipation of these moves; construction of new facilities; and infrastructure improvements to support new and renovated facilities.

### **4. Auxiliary Enterprise Facilities**

**Campus Neighborhood:** The campus is proposing to construct a new residential neighborhood to provide student, staff, and faculty housing in response to expected growth at the campus. The neighborhood site, known as the West Village, is located on University-owned land on the West Campus bordered by Russell Boulevard to the north, SR 113 to the east, and Hutchison Drive to the south. Adjacency to both the campus and the City of Davis provides for links between home, work, and school. At full build-out, West Village could provide up to 475 faculty and staff housing units and 1,080 student and mixed-use units. Additionally, the West Village will provide for open space, recreational fields, a community education center, and an elementary school. Transportation corridors that provide for pedestrian, bus, auto, and bike uses will also be included.

**Student Housing:** Additional student housing will be needed as enrollment increases. Infill projects at the Tercero complex are planned, in addition to the development of student apartments in the new West Village.

**Research Park:** A Research Park is proposed to create a framework to accommodate and encourage the growing public, private, and University research relationships at UC Davis. The Research Park will be developed with the primary goal of enhancing academic programs and enriching the University's research environment. The goals of this new Research Park include the encouragement of appropriate research partnerships between UC Davis and private, public, or non-profit organizations; expansion of the range of educational internship, employment, and career opportunities near the campus; enhancement of campus recruitment; and promotion of regional economic development.

The Research Park will be developed on two parcels, one to the north and one to the south of Interstate 80. The north parcel development

## **DAVIS CAMPUS OTHER CAPITAL NEEDS (continued)**

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will be approximately 135,000 square feet, and the south parcel is expected to be approximately 345,000 square feet at build-out.

### **5. Transportation and Parking Improvements**

**Campus Road Improvements:** New roads, bike paths, and pedestrian paths are needed to safely handle the demands of a larger campus community and an increased number of pedestrians and vehicles. Plans include improvements to the campus loop road to provide direct access to the Buehler Alumni and Visitors Center and other new developments.

**Parking:** New parking facilities will be needed to accommodate the growing campus population and displacement of existing surface lot parking by future building projects.

### **6. Corrections for Seismic Safety**

As noted above, the UCD Medical Center in Sacramento has substantial seismic deficiencies and must upgrade many of its facilities to meet the requirements of SB 1953. The Master Plan for the Medical Center includes a series of projects that are underway to structurally correct or replace seismically deficient space to meet SB 1953 requirements, as well as projects to renew or replace obsolete hospital facilities and infrastructure and to support necessary program expansion. Campus seismic corrections will be near completion with conclusion of the Seismic Phase 4 and the Thurman Laboratory Seismic Corrections projects.

### **7. Campus Utilities Infrastructure**

UC Davis is different from other UC campuses because, of necessity, it must provide significant utility infrastructure which is usually provided by outside agencies. The campus has its own wastewater treatment plant, a landfill, and chilled water and steam facilities. These utilities will require additional capacity and renewal. Additionally, capacity and reliability improvements are needed for the campus electrical system.



# IRVINE CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1965
ENROLLMENT 2004-2005 (ACTUAL)	19,169 FTE undergraduates 3,019 graduate students 1,119 health science students
LIBRARY COLLECTION	2.5 million volumes
CAMPUS LAND AREA	1,543 acres
CAMPUS BUILDINGS	5.3 million assignable square feet
HOSPITAL AND CLINICS	661,664 assignable square feet

## **IRVINE CAMPUS 2006-11 STATE PROGRAM**

### **INTRODUCTION**

Since its opening in 1965, the University of California, Irvine has attained national and international distinction in its faculty and academic programs. As indicated by the award of Nobel Prizes for physics and chemistry in 1995 and for chemistry in 2004, UCI is one of the nation's fastest-rising universities, ranked well within the top 50 research universities according to various measures. The academic structure upon which these achievements are based focuses on fundamental areas of knowledge while at the same time providing for interdisciplinary and professional study. This structure is reflected in the organization of UCI academic units, which includes the Schools of the Arts, Biological Sciences, Engineering, Humanities, Information and Computer Science, Physical Sciences, Social Ecology, Social Sciences, and Business; the Department of Education; and the College of Health Sciences.

The campus LRDP that was approved in 1989 defines a long-term enrollment target of 24,600 FTE general campus students and 1,050 FTE students in health sciences programs (26,050 headcount students). Current forecasts of student demand over the decade, however, far exceed earlier projections. The University has revised enrollment projections for all campuses to respond to this increased demand, and the Irvine campus is currently in the process of amending the LRDP to increase the target enrollment to at least 30,000 FTE students.

UCI's general campus enrollment has increased approximately 36 percent in the last five years, from 16,350 FTE in 1999-00 to a budgeted total of 22,170 FTE in 2004-05. This growth has resulted in a serious shortfall in facility capacity, creating many problems for programs and the campus. By 2010-11, projections indicate a total of 28,540 FTE, an increase of approximately 29 percent. This level of additional growth, even with planned increases in summer enrollments, will result in a wide variety of needs—not only for additional instruction and research space but also for new support facilities, housing, recreation, childcare, and campus administration. Just as urgent as the need for additional space is the need to expand the campus infrastructure system to accommodate these new facilities. UCI's capital needs as now defined include the following:

## **IRVINE CAMPUS INTRODUCTION (continued)**

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- **New Space**

All UCI programs are experiencing growth. In recent years emphasis was placed on the sciences in response to workforce demands from California's high-technology industries. With projects such as Computer Science Unit 3, Biological Sciences Unit 3, and Engineering Unit 3 either in construction or scheduled to bid this year, the campus is turning attention to other needs. The Social and Behavioral Sciences Building, currently proposed for construction funding, will accommodate growth in the Schools of Social Sciences and Social Ecology, which together comprise more than 33 percent of all majors at UCI and approximately 30 percent of the total campus workload. The newly proposed Humanities Building will address the growth-related needs of the School of Humanities, which accounts for approximately 22 percent of UCI's total workload. Projects planned later in the five-year program address other high-priority needs, including additional space for the Arts and the School of Business, while other new buildings in the program would address the projected continued growth of sciences programs by providing space for Engineering, Physical Sciences, and Biological Sciences. In the longer term, further enrollment growth will continue to generate need for additional space throughout the campus.

- **Renewal and Replacement of Existing Facilities**

The facilities at the Irvine campus are beginning to show their age: 33 academic buildings on the main campus are at least 20 years old, and a number have seriously deteriorated. Building systems have become inefficient or obsolete and more difficult to maintain, and some are unable to provide the level of service currently required. Moreover, academic and research programs are extremely dynamic, constantly evolving to stay at the forefront in a world of rapidly changing technology and increasing information requirements. Projects to renovate existing instruction, research, and academic support facilities will be needed to accommodate new programs and technology as well as to respond to building deterioration and code-related deficiencies. The currently proposed capital program includes two renovation projects: a classroom renovation project to correct code deficiencies and to provide adequate acoustics, lighting, and HVAC, as well as updated technology, in a number of existing general assignment classrooms and a project to renovate Steinhaus Hall, UCI's original science building. In addition, there is a continuing need to replace

## **IRVINE CAMPUS INTRODUCTION (continued)**

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approximately 53,000 asf of inadequate trailers and other interim facilities used for instruction and research-related activities.

The functions of UCI's medical center also are restricted by the age of its facilities. When the medical center was purchased in 1976, it was recognized that many of the structures on the site were severely deficient and would need to be replaced or upgraded. Since then, several new buildings and renovation projects have been completed, and a new hospital is under construction to replace the existing seismically deficient facility, but major deficiencies still remain in clinical and support facilities.

- **Correction of Seismic Deficiencies**

Since 1985, seismic upgrade or replacement of 29 structures has been completed or is underway. Construction of the final State-funded seismic upgrade will commence in Fall 2005. Non-State-supportable facilities, including some buildings at the medical center, are being upgraded as funding is identified.

- **Infrastructure**

As new buildings are constructed, campus electrical capacity will require expansion in several phases. The proposed State capital program includes two projects to address existing deficiencies in the system and to provide adequate electrical capacity through 2013. Expansion of campus cooling capacity also will be required, as will upgrade and extension of telecommunication services, sewers, storm drains, and roadways, both to remedy deficiencies in sections of the existing systems and to accommodate expansion into new areas such as the East Campus. Storm drain and sewer capacity studies have been completed, and detailed studies of other infrastructure components will be undertaken in the near future to better assess these needs and to update the campus utilities master plan that was completed a decade ago.

Given the current and projected rate of enrollment growth, State funds cannot meet all of the capital needs of the Irvine campus. As a partial response to these growth imperatives, the campus has supplemented the budgets of several State-funded projects, including Natural Sciences Unit 2, Computer Science Unit 3, Biological Sciences Unit 3, and Engineering Unit 3

## **IRVINE CAMPUS INTRODUCTION (continued)**

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from non-State sources in order to provide additional space in a timely and cost-effective manner. In addition, non-State funds—including gifts and campus funds—have been used to construct new academic buildings for both the general campus and the health sciences. Even with these additional measures, however, the campus will be unable to provide all of the space needed to accommodate growth, and funding reductions will make it difficult to maintain this level of funding for capital projects from campus resources.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

IRVINE CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Biological Sciences Unit 3 (991835)	P 2,350 * P [415] LB W 1,242 * W [250] LB C [16,077] LB C 50,120 * E [630] LB	E 3,268 E [3,268] X					56,980 [20,640]
Social and Behavioral Sciences Building (991268)	P 2,280 * W 570 *	C 37,582 *		E 2,780 E [2,780] X			43,212 [2,780]
Primary Electrical Improvements Step 3 (996046)		P 100 * W 106 * C 2,365 *					2,571
Humanities Building (991077)		P 1,225 * W 524 *	C 22,712 *		E 2,050		26,511
Engineering Unit 3 (990073)	P 2,218 * W 1,222 * C [8,591] LB C 47,347 *		E 3,270 E [3,270] X				54,057 [11,861]
Arts Building			P 1,775 W 585	C 27,145		E 2,060	31,565
Classroom Renovations			P 145 W 140 C 2,665				2,950
Steinhaus Hall Renovations and Seismic Improvements			P 670 P [300] LB W 225 W [100] LB C 10,220 C [4,600] LB				11,115 [5,000]
Primary Electrical Improvements Step 4				P 390	W 440	C 9,365	10,195
Physical and Engineering Sciences				P 3,350 W 850	C 51,500		59,300 [3,600]
Instruction and Research Building					P 945 P [914] G W 525 W [494] G	C 21,630 C [20,790] G	23,100 [24,272]
Science Laboratory Building						P 3,465 W 945	57,225
<b>CAMPUS TOTAL</b>		<b>45,170</b> <b>[3,268]</b>	<b>42,407</b> <b>[8,270]</b>	<b>34,515</b> <b>[2,780]</b>	<b>55,460</b> <b>[1,408]</b>	<b>37,465</b> <b>[20,790]</b>	

**IRVINE CAMPUS  
2006-11 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Biological Sciences Unit 3.....E \$ 3,268,000**  
**E \$ [3,268,000]X**

State funds are requested to equip Biological Sciences Unit 3, which will provide a total of approximately 91,400 asf of space for the School of Biological Sciences, a 400-seat lecture hall, and interim space for the School of Humanities until completion of the proposed new Humanities building. Rapid enrollment growth is increasing many needs around the campus. Even with completion of Natural Sciences Units 1 and 2, the School of Biological Sciences will not have adequate space to accommodate projected growth. Space also will be needed for general assignment lecture halls and for the School of Humanities. This project will meet these needs by providing approximately 70,000 asf for research laboratories, faculty and administrative office space, and research support space for the School of Biological Sciences; approximately 5,700 asf for a new 400-seat general assignment lecture hall; and approximately 15,600 asf of interim space for the School of Humanities.

**Social and Behavioral Sciences Building..... CE \$ 40,362,000**  
**E \$ [2,780,000]X**

State funds are requested to construct the Social and Behavioral Sciences Building, a project that will provide a total of 64,100 asf of space for the Schools of Social Sciences and Social Ecology. The campus has experienced significant growth in the last several years and is expected to continue to grow at least through the end of the decade. The Schools of Social Sciences and Social Ecology already are experiencing shortages of all types of space. The Schools have a severe shortage of computer class laboratories, and research and office spaces are overcrowded. The proposed project will help address these needs by providing instructional and research laboratories and academic and administrative offices to support growth in these disciplines.

**Primary Electrical Improvements Step 3..... PWC \$ 2,571,000**

State funds are requested for preliminary plans, working drawings, and construction of upgrades to the campus electrical distribution system in order to expand capacity to accommodate new buildings and to improve the

**IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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efficiency of the system. Over the last decade, UCI has grown significantly, but the 40-year-old electrical infrastructure has not kept pace and is almost at maximum capacity. The configuration of the distribution system is also problematic, in that there are no direct connections from the main campus substation to high-load areas dense with laboratory buildings. The proposed project will provide an additional 200 amps of capacity by installing two new feeders that will directly connect these high-load areas to the main substation. Project elements also include the construction of ductbank, the installation of wiring, switches, and other related electrical hardware, and the replacement of deteriorated cable as necessary.

**Humanities Building .....PWCE \$ 26,511,000**

State funds are requested to prepare preliminary plans and working drawings for the Humanities Building project, which will provide approximately 34,600 asf of space to address the growth-related needs of the School of Humanities. Although the Humanities Instructional Building was completed in 1997, this facility addressed primarily existing need, including replacement of approximately 11,000 asf of trailer space. Since that time, Humanities enrollments have increased by more than 1,500 students, and the number of departments in the School has grown from eight to twelve. As a result, existing space is fully occupied, and there is no space available to accommodate growth. This project will address these needs by providing approximately 33,340 asf of instructional, research, and academic and administrative office space for the School of Humanities. In addition, the project will provide 720 asf to replace two general assignment classrooms, and 540 asf to provide four testing rooms for the Disability Services Center.

**Engineering Unit 3.....E \$ 3,270,000**  
**E \$ [3,270,000]X**

This project will provide approximately 86,900 asf of space for the Henry Samueli School of Engineering, a general assignment lecture hall, and campus-funded surge space. The Irvine campus has made a commitment to increase enrollments in the sciences, particularly engineering and computer science, to provide the workers required by California's high-technology industries. As a result, Engineering enrollments are projected to increase 45 percent by 2010-11. While several current projects will accommodate some of this growth, more space is needed. To address these needs, this project will provide 68,800 asf of instructional and research laboratories and academic

**IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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and administrative space for the School of Engineering, 5,400 asf for a 350-seat lecture hall, and 12,700 asf of dry laboratory and office surge space to meet other high-priority campus needs.

**Arts Building .....PWCE \$ 31,565,000**

This project will provide approximately 35,000 asf of additional space for the Claire Trevor School of the Arts. Although recent projects included a Music Building and a Studio Building, completed in 1999 and 2002 respectively, these facilities primarily met existing need and addressed the School’s requirements for specific program space. Developing programs and enrollment growth will require the construction of additional space. By 2010-11, enrollments in the Arts are expected to grow by approximately 28 percent. This project is aimed at keeping pace with this level of growth by providing teaching studios, research facilities, faculty and administrative offices, and other needed facilities.

**Classroom Renovations ..... PWC \$ 2,950,000**

In 2003, the Irvine campus initiated a phased plan to renovate and upgrade its existing inventory of general assignment classrooms. Many older rooms are in poor condition and do not have the technological capabilities required by modern instructional practices. This project will help remedy these deficiencies by addressing ADA, fire, and life-safety issues; providing improved acoustics, lighting, and HVAC; and installing technology such as video and computer projection, computers, and sound systems.

**Steinhaus Hall Renovations and**

**Seismic Improvements ..... PWC \$ 11,115,000**

**PWC \$ [5,000,000]LB**

Steinhaus Hall, completed in 1965, is UCI’s first science building. In the early 1990s, the building underwent some limited interior and building system modifications; however, much of the building requires further repair or replacement to continue to provide safe and functional space to the School of Biological Sciences. The HVAC, exhaust, and air distribution systems in the building do not have adequate capacity to keep pace with the rapid advances in scientific techniques. The building’s steam system and security systems also are obsolete. Water damage is causing the precast concrete cladding around the building’s windows to break and fall off, resulting in

**IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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falling hazards and reduced structural resistance to seismic forces. The proposed renovation project will include removing and replacing the precast concrete cladding around the building’s windows, renovating the HVAC system, upgrading the steam distribution system, and replacing the building security system panel. In addition, the project will address code-required ADA and fire and life-safety improvements, including path-of-travel upgrades and removal of hazardous materials such as asbestos.

**Primary Electrical Improvements Step 4..... PWC \$ 10,195,000**

This project will expand campus electrical substation capacity to accommodate the campus’s projected electrical load. The campus is expected to grow substantially through the decade in response to increasing enrollments. Construction forecasts indicate that by the end of the decade the campus electrical load will exceed the existing substation service capacity. The proposed project will help meet increased electrical demand by installing an additional 66 kV-to-12 kV transformer, by implementing switchyard improvements and installing new 12 kV feeders and switchgear at the University Substation, and by installing additional underground ductbank extensions.

**Physical and Engineering Sciences.....PWCE \$ 59,300,000  
E \$ [3,600,000]X**

This project is required to provide additional space to accommodate long-term enrollment and program growth in the Schools of Physical Sciences and Engineering. Both Schools will be provided near-term growth space through scheduled capital projects; however, this space will not adequately accommodate all of the growth projected. The proposed project will provide approximately 65,000 asf to accommodate teaching laboratories, research facilities, faculty and administrative offices, and other instruction and research program requirements.

**Instruction and Research Building ..... PWC \$ 23,100,000  
PWCE \$[24,272,000]G**

The Paul Merage School of Business is taking steps to strengthen and expand its undergraduate minor program by increasing the number of undergraduate courses the school offers, increasing the number of students eligible to participate in the minor, and adding faculty. In the last five years,

**IRVINE CAMPUS CAPITAL PROGRAM (continued)**

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enrollment in the minor has increased by nearly 60 percent. Projections indicate further growth in total enrollment of more than 30 percent by the end of the decade. Current space assignments for the School total approximately 41,000 asf, more than one-third of which is an interim assignment in a campus surge building. All of this space is fully occupied; to accommodate all the projected growth, the School requires additional space. The proposed project will provide approximately 65,000 asf of consolidated space for the School of Business in a separate area of the campus. In addition to providing growth space, the proposed project will provide replacement space for the School's existing assignments, thus releasing space in the Social Sciences Quadrangle for reassignment to other academic units. Spaces to be provided will include classrooms and other instructional facilities, research and graduate student space, and faculty and administrative office space.

**Science Laboratory Building ..... PWC \$ 57,225,000**

This project is required to provide additional space to accommodate long-term enrollment and program growth in the School of Biological Sciences and to help accommodate new campus programs. Biological Sciences is being provided growth space in two new buildings, Natural Sciences Unit 2, scheduled for completion in Fall 2005, and Biological Sciences Unit 3, due to be completed in 2008. However, these projects will not accommodate all the projected growth in the School: by 2010-11, enrollments are expected to grow by more than 700 student FTE, an increase of 33 percent; and approximately 40 additional faculty will be required to accommodate this growth. Even with the new buildings underway, additional space will be required. The proposed project will provide a total of approximately 66,000 asf of teaching and research laboratories and faculty and administrative offices to address the facility requirements of the School of Biological Sciences.

## **IRVINE CAMPUS OTHER CAPITAL NEEDS**

### **1. Core Academic Facilities**

**Engineering and Computer Science:** To meet California’s demand for well-trained engineers and computer specialists, growth in the School of Engineering and the School of Information and Computer Science over the next decade will be greater than that of the general campus. Even after completion of projects currently included in the campus capital program, additional instruction and research facilities will be required to accommodate this rapid growth.

**Humanities and the Arts:** Over the next decade, both enrollment growth and development of new program areas—such as Literary Journalism in the School of Humanities and Digital Arts and the interdisciplinary graduate program in Arts, Computation and Engineering in the Claire Trevor School of the Arts—will result in increased requirements for instruction, research, and support space. New Humanities and Arts facilities are included in the current five-year program; however, additional space will be needed to accommodate all anticipated growth in these two Schools.

**Social Sciences and Social Ecology:** The School of Social Sciences has both the greatest number of majors and the highest undergraduate workload on the campus. Together, the Schools of Social Sciences and Social Ecology are projected to enroll over 1,900 additional student FTE by 2010-11. Although a new shared facility is included in the current five-year program, still more instructional, research, and office space will be required to accommodate anticipated growth.

**Biological and Physical Sciences:** The School of Biological Sciences has the second-highest number of majors on the campus, while the School of Physical Sciences has one of the largest workloads. Even after the completion of Natural Sciences Unit 2 and Biological Sciences Unit 3, these schools will continue to need additional space to keep pace with enrollment increases.

**Merage School of Business and Department of Education:** Demand for the Paul Merage School of Business programs is growing, and MBA programs are planned to expand significantly. The

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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Department of Education is developing graduate programs at both the masters and doctoral levels that will focus on math and science education. Significant growth is projected in the teaching credential program over the next few years in response to California's workforce needs. To support the program and enrollment growth anticipated by these academic units, additional facilities will be required beyond those addressed in the current five-year program.

**Library:** The rapid advance of information and educational technology, coupled with expansion of enrollment and academic programs defined in the LRDP, require continued improvement and expansion of the information systems and library facilities of the campus. The capacity of the Main Library—which houses the entire campus collections in the fields of social sciences, humanities, and the arts—is of particular concern. A project to install compact shelving in the basement of the Main Library was completed in 2004; however, the additional capacity provided by this shelving will provide only short-term relief of space problems. In the long-term, an addition to the library will be needed to accommodate general book stacks, student and faculty use facilities, and library staff work space and to complete technological modernization associated with advances in library information access.

**Health Sciences Instruction and Research:** Additional instruction and research space is required for health sciences programs. In addition, in an effort to facilitate collaborative research between basic and clinical research on human diseases, space is needed to support interdisciplinary studies related to areas such as cardiopulmonary medicine and biomedical engineering. The School of Medicine envisions the construction of a complex of facilities in the Health Sciences Quad accommodating interdisciplinary research, as well as additional research facilities at the UCI Medical Center.

**Instruction and Research Space in Trailers:** The campus has a continuing need to replace approximately 53,000 asf of inadequate interim and trailer facilities, some of which have been in place since 1966. As new building projects are added to the capital program, they will include replacement space for activities currently housed in trailers and other temporary facilities.

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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### **2. Administrative and Support Facilities**

**North Campus:** In the future, the campus intends to develop the North Campus with facilities for research and development, office, and residential uses. This plan may require relocation of campus departments currently on that site, including Facilities Management, Garage and Fleet Services, Printing and Reprographics, Materiel Management, and Mail Division. Appropriate facilities for these units will need to be constructed on the main campus or another suitable location.

**Recreation, Athletics and Student Services:** To accommodate the needs of current and future enrollment, the campus plans to improve and expand existing athletic and recreation facilities, including facilities for baseball, aquatics, tennis, and strength and conditioning. The campus is also considering eventual expansion of the Bren Events Center, a multipurpose facility that accommodates sporting and other events, to provide more seating capacity, additional support spaces, and new facilities for intercollegiate athletics.

Other support facilities also are envisioned, including additional space for student services, student health services, student center activities, international student activities, and child care services for faculty, staff, and students.

**Campus Administration:** A number of administrative units have been moved to off-campus leased space in recent years in order to accommodate growth of academic units on campus. Currently the campus is leasing over 70,000 asf to accommodate these activities. Construction of new office facilities is required to provide adequate space on campus for administrative functions.

### **3. Health Sciences Clinical Facilities**

Improvements to clinical facilities in the Health Sciences are needed in response to evolving needs in patient care, instruction and research programs, and life-safety requirements. In addition to the SB 1953-mandated replacement hospital that is currently in construction, renovations to selected inpatient and outpatient facilities at the UCI

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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Medical Center will be required to enhance patient care and service and to upgrade them to current health and safety requirements.

Additional clinical space will be needed on the main campus to support research activities in the areas of ophthalmology, cardiopulmonary diseases, cancer, organ transplantation, and human genetics.

### **4. Auxiliary Enterprise Facilities**

The update to the LRDP that is currently under way includes a goal of providing on-campus housing for 50 percent of the total campus enrollment. To meet this goal, additional residence halls and apartments will be needed as growth occurs. Existing housing complexes also will require phased renovation and refurbishment. In addition, faculty/staff housing inventories will be increased to accommodate growth. New food service venues and retail facilities such as bookstores will be required to support enrollment growth as well.

### **5. Utilities, Site Development, Transportation, and Parking Improvements**

To support current needs, anticipated enrollment growth, and program development, several utility systems and the campus roadway system require expansion. These infrastructure improvements are vital to UCI's continued ability to grow.

**Chilled and High Temperature Water:** Most of the major buildings on campus rely on chilled and high-temperature water supplied from the Central Plant for general air-conditioning, research process control, computer cooling, and other environmental requirements. To meet continuing increases in campus demand, cooling capacity will be expanded in phases, which may include the addition of a satellite plant facility.

**Domestic Water:** An additional source of high-pressure domestic water is needed to serve the higher elevations of the campus, such as the University Hills housing development, where it is becoming more difficult to maintain adequate water service.

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Reclaimed Water:** Many areas of the east portion of the campus currently use the potable domestic water supply for irrigation. New reclaimed water irrigation lines, connected to the Irvine Ranch Water District pipeline, would be constructed to supply irrigation to individual housing projects in the East Campus. In addition, upgrades to the existing reclaimed water system are needed to maximize the use of reclaimed water, add significant capacity to the existing on-site distribution system, and reduce consumption of more expensive domestic water.

**Sanitary Sewer:** Monitoring has confirmed that several sections of the existing backbone sewer system are deficient and require upgrade to serve current demand and future enrollment growth. The campus has developed a phased implementation strategy, the first phase of which would address existing system deficiencies as the highest-priority utility capital need of the campus. Subsequent phases of the implementation plan will be needed within the next decade and include system extensions serving the West Campus and Central Campus collectors.

**Storm Drains:** The campus will require substantial improvements to the existing storm drainage system to serve development identified in the LRDP. In addition to improvements to increase the capacity of deficient sections of the system in the central academic core and new facilities to serve the East Campus and other outer-campus areas, this work will include significant campuswide improvements required to meet State and federal storm water regulations that became effective in March 2003.

**Natural Gas:** To accommodate future campus growth, the natural gas system will be expanded by creating a high-pressure loop starting near California Avenue and University Drive and terminating near Campus Drive and East Peltason Drive.

**UCI Medical Center Electrical and Site Utilities:** Upgrades to existing electrical and heating and cooling systems are required to achieve reliable, energy-efficient services and to provide for anticipated growth in existing and new facilities.

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Electrical and Telecommunication Services:** To develop the southern portion of the campus, electrical and telecommunication services must be extended. As new areas are developed, equipment will be needed to distribute power from the 66/12 kV substation. Telecommunication services will be extended from the existing central plant facility around the outer campus loop.

**Campus Roadways:** To accommodate increased traffic demand, the campus roadway system must be expanded. The most critical need is the widening of Peltason Drive, the primary loop roadway serving the central campus. It is currently at or near maximum capacity and must be widened from two to four lanes to accommodate future enrollment growth. In addition to the Peltason loop, the existing roadway system includes five radial roads linking to adjacent off-campus roads. Expansion of this system includes the extension of the Arroyo Drive loop to California Avenue, which will complete the outer campus arterial roadway system. Projects aimed at improving bicycle and pedestrian traffic, including grade-separated crossings and off-street bikeways, also will be needed as the campus grows.

**Campus Parking:** Existing physical constraints and academic space needs limit the amount of land within the central campus that can be dedicated to parking. This premium on land precludes the use of extensive surface parking lots in the central core. The long-range plan for parking is to construct several parking structures strategically located around the perimeter of the campus core.

**Medical Center Parking:** Adequate on-site parking for patients, visitors, faculty, and staff remains an important objective at the UCI Medical Center. Additional parking facilities, associated roadway improvements, and removal of older buildings will be required to accommodate future demand.

### **6. Code and Safety Corrections**

A 1989 study identified asbestos in several campus buildings. The most hazardous situations have been addressed, and other corrections will be carried out during renovation projects or as other funding opportunities occur.

## **IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)**

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In addition to code-required corrections, there are a number of safety issues that also need to be addressed, including installing fire sprinklers in selected science buildings, replacing deficient fire alarm systems in six buildings, and upgrading exterior lighting along major pedestrian ways where illumination levels are below the campus standard. The campus is currently working to identify funding sources to address the most urgent of these safety issues.

### **7. Corrections for Seismic Safety**

All State-supportable buildings known to be seismically hazardous have been upgraded, or are being upgraded. Several non-state secondary structures at the medical center will require seismic correction.

# LOS ANGELES CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1919
ENROLLMENT 2004-2005 (ACTUAL)	25,133 FTE undergraduates 7,593 graduate students 3,834 health science students
LIBRARY COLLECTION	8.0 million volumes
CAMPUS LAND AREA	419 acres
CAMPUS BUILDINGS	10.4 million assignable square feet
HOSPITAL AND CLINICS	1.7 million assignable square feet

## **LOS ANGELES CAMPUS 2006-2011 STATE PROGRAM**

### **INTRODUCTION**

The Westwood campus opened its doors in 1929 with a Teacher's College and the College of Letters and Science occupying the first four permanent campus buildings in the undeveloped rolling hills of Bel Air. The master's degree was authorized in 1933, and the doctorate followed in 1936. In the intervening years, the University of California, Los Angeles campus has continued to expand and evolve to meet the diverse needs of the students, faculty, and staff, as well as the neighboring community, the region, and the State.

The formal academic structure of UCLA includes the College of Letters and Science with six divisions, seven general campus professional schools, and four health-science professional schools. In addition, there are 37 formally established interdepartmental programs, 24 organized research units, and many less-structured interdisciplinary efforts.

Campus facilities require renovation and replacement as obsolescence and normal aging of building systems occur. Disciplines with sophisticated research requirements, such as those in the physical and life sciences, have increasing difficulty conducting their instruction and research activities in inadequate and inflexible facilities. Renewal and upgrade of existing facilities is a continuing need.

An aggressive program of seismic structural corrections has been underway since the mid-1980s, and most of the general campus buildings rated seismically "Poor" or "Very Poor" have been structurally upgraded or are being upgraded. The need for strengthening of older buildings was accentuated when the January 1994 Northridge Earthquake caused significant damage to a number of campus structures. Campus work with the Federal Emergency Management Agency and with State disaster recovery efforts has been largely successful, and the seismic correction of core campus buildings is now nearing completion, with planning in process for the remaining buildings. Work is underway on two replacement hospitals and on other replacement facilities for the Center for the Health Sciences (CHS), and further projects to complete seismic corrections and mitigations at CHS are in the planning stages. Completing these final seismic corrections remains a high priority for the campus.

## **LOS ANGELES CAMPUS INTRODUCTION (continued)**

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### **Campus Enrollment**

The 2002 LRDP sets forth a 2010-11 enrollment projection of 37,829 FTE for the Los Angeles campus (general campus and health science students enrolled in both regular and summer sessions on- and off-campus). This projection includes growth of general campus enrollment to 34,110 FTE by 2010-11.

Student enrollment growth also will result in a need for additional faculty space, housing, and parking. Academic and ancillary units will require facility improvements to address (1) deficiencies in the amount and type of existing space, (2) technological or functional obsolescence of existing facilities, and (3) modernization of the instruction and research programs.

### **Campus Development**

To accommodate the diverse interests of the UCLA/Westwood community—including students, faculty, staff, visitors, and others—campus planning will need to manage increasingly scarce resources wisely while pursuing the University’s academic and community service mission. Resource management includes not only fiscal and facilities concerns but also land resources (campus building sites, LRDP/EIR constraints and opportunities, etc.). Future facilities requirements may be met through alternative approaches such as intensification of use, reallocation, and selective renovation of existing facilities. New facilities will be considered when this approach is insufficient or not cost-effective.

To address continuing facility needs, the campus has found that it must pursue a process similar to urban renewal: rehabilitation and upgrade of existing facilities and, as appropriate, the development of new facilities to accommodate specific program or renovation-staging requirements. Implementation of technological innovations and pedagogical advances often require facility renovation or replacement.

The campus continues to be committed to long-term comprehensive planning efforts that focus on program priorities and address the most critical campus capital needs. The needs remain significant and diverse. The campus State-funded capital program for the next few years will continue to be focused on seismic and life safety corrections, both for the main campus and for portions

## **LOS ANGELES CAMPUS INTRODUCTION (continued)**

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of the Center for Health Sciences. Non-state resources will be used to address most needs for general upgrades, renewals, and new construction.

**Seismic Deficiency Corrections:** The campus has a commitment to correct all buildings with “Very Poor” and “Poor” seismic ratings and to complete repairs needed after the Northridge earthquake while also minimizing the negative impacts of extensive and disruptive construction activities on the academic program. These corrections include the few remaining deficient general campus buildings, completion of the Westwood and Santa Monica hospital replacements and repairs, and repair of remaining deficiencies in Center for Health Sciences facilities.

**Campus Infrastructure Renewal and Expansion:** Renewal and expansion of primary utilities and fire alarm and sprinkler systems remain a necessity for the campus.

**Building Renewal:** Upgrade of obsolete building systems such as heating, ventilation, air-conditioning, water, and power distribution, as well as other renovations and improvements, are needed to support programs in older facilities.

### **Completion of “in-progress” Academic Facilities Improvement**

**Master Plans:** The campus maintains a commitment to the implementation of space plans initiated in the early 1980s in the Physical and Life Sciences divisions of the College of Letters and Science and in the School of Engineering and Applied Science.

**Academic Program Facilities Requirements:** The campus will continue to identify capital improvement projects needed to support general campus programs including professional schools, health sciences, and fine arts.

The campus capital program development strategies will be directed first to completion of the seismic life-safety program, but in the long-term there will be a continued emphasis on (1) a balanced capital program of life safety corrections, primary and building infrastructure renewal and upgrades, and academic program improvements, (2) continued use of private funds to supplement limited State funds, and (3) continued urban renewal of the campus.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

LOS ANGELES CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Life Sciences Replacement Building (943500)	P 2,200 P [2,469] LB W 4,740 W [1,362] LB C 47,302 * C [38,169] LB E [3,500] LB	C 38,576 *					92,818 [45,500]
CHS South Tower Seismic Renovation Phase A (948717)				P [5,985] LB W 6,240 C 63,145 C [40,430] LB			69,385 [46,415]
CHS South Tower Seismic Renovation Phase B (948717)				P 3,325	W 4,875	C 39,900 C [46,950] LB	58,510 [46,950]
Engineering Addition					P 3,000	W 2,640	35,640 [28,000]
<b>CAMPUS TOTAL</b>		<b>38,576</b>		<b>72,710</b> <b>[46,415]</b>	<b>7,875</b>	<b>42,540</b> <b>[46,950]</b>	

**LOS ANGELES CAMPUS  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Life Sciences Replacement Building .....C \$ 38,576,000**

State funds are requested for construction of a 106,457 asf replacement building for academic programs occupying non-code-compliant and obsolete space in the Life Sciences Building. The Life Sciences Building was constructed in phases between 1954 and 1964. It has never undergone a major renovation or upgrade and is considered a high-risk scientific research environment. The new building will accommodate portions of the Department of Molecular, Cell, and Developmental Biology; the Department of Physiological Science; and the Department of Ecology and Evolutionary Biology, programs currently located in the Life Sciences Building. It will support new life sciences faculty (needed for increasing enrollment) whose emphasis is in the study of complex systems in the biological and biomedical sciences. The replacement building will accommodate research laboratories, offices, special collections, scholarly activity, vivarium, and related building support space.

**CHS South Tower Seismic**

**Renovation Phase A.....P \$ [5,985,000]LB**  
**WC \$ 69,385,000**  
**C \$[40,430,000]LB**

This project will seismically upgrade the 427,500 gsf Center for Health Sciences (CHS) South Tower which has a seismic rating of “Very Poor”. This project is the first phase of a program that will upgrade the South Tower to house School of Medicine and School of Public Health wet laboratory functions, following the relocation of current hospital functions to UCLA’s new Westwood and Santa Monica Hospitals under the CHS Facilities Reconstruction Plan. Phase A will upgrade the building to achieve a seismic rating of “Good”. The work will also include the installation of new building infrastructure and fire and life safety systems, hazardous materials abatement, and correction of accessibility code deficiencies.

**LOS ANGELES CAMPUS CAPITAL PROGRAM (continued)**

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**CHS South Tower Seismic**

**Renovation Phase B..... PWC \$ 58,510,000**  
**C \$[46,950,000]LB**

This project is the second phase of a program to upgrade the existing CHS South Tower to house School of Medicine and School of Public Health wet laboratory functions. This Phase B project will renovate 186,000 asf on floors 1 through 10. The project will construct wet laboratory, laboratory support, and office space. Interior improvements will include installation of mechanical, electrical, and plumbing systems, partitions, finishes, fixtures, and casework.

**Engineering Addition ..... PWC \$ 35,640,000**  
**C \$[28,000,000]G**

The anticipated growth in Engineering enrollment will require additional space for instruction and research. In the proposed project, a new building will be built adjacent to the Engineering 1 Replacement Building, currently under construction.

## LOS ANGELES CAMPUS OTHER CAPITAL NEEDS

Due to the age and density of the Los Angeles campus and the limited number of new building sites available, there will continue to be a significant emphasis on building renewal after completion of the seismic safety corrections program. The renewal effort will focus on appropriate use and selective renovation of existing facilities. New construction, however, also will be required to meet programmatic and technical needs which cannot be accommodated in existing facilities.

The following information reflects critical immediate and long-term campus capital needs beyond those in the preceding description of the State-funded five-year program. The order of the list is not reflective of campus priorities or of specific fund sources.

### 1. Core Academic Facilities

**College of Letters and Science:** This College is the oldest and largest academic unit on campus, occupying approximately 85 percent of core academic space. It offers instruction in 34 departments and 40 specialized programs. Programs in the College are organized into four academic divisions under the overall direction of a Provost.

- **Humanities:** This division includes English, Classics, Linguistics, Philosophy, Art History, Musicology, Speech, and foreign languages. There are a variety of needs for renewal and reallocation of facilities involving instruction, research, and academic support functions. Consolidation of these areas into a cohesive whole is a high priority for the division.
- **Life Sciences:** This division includes Microbiology, Immunology, and Molecular Genetics; Molecular, Cell, and Developmental Biology; Ecology and Evolutionary Biology; Physiological Science; and Psychology. Appropriate instruction and research space is needed to continue the development of comprehensive programs in cellular, molecular, and developmental aspects of neurobiology, biotechnology, and plant sciences. The undergraduate curriculum also is changing rapidly to provide greater exposure to contemporary laboratory technology. Obsolete and inadequate facilities will be

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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addressed through continued renovation of existing space and the construction of new space. Some of these deficiencies are being addressed with current projects; however, future projects will be required to resolve space inadequacies for Psychology and other Ecology and Evolutionary Biology programs.

- **Physical Sciences:** This division includes Physics/Astronomy, Atmospheric Sciences, Chemistry and Biochemistry, Earth and Space Sciences, and Mathematics and Statistics. Particular attention is being given to strengthening instruction in the core physical sciences of chemistry, mathematics, and physics. The division must continue to update facilities to integrate recent advances in technology into the instructional program. Although some needs have been addressed, other divisional program needs remain.
- **Social Sciences:** The largest segment of the College of Letters and Science, this division includes Anthropology, Economics, Geography, History, Political Science, and Sociology. These programs are continuously evolving and require facilities appropriate to their changing needs. A variety of needs exist for renewal, reallocation, and additional space for instructional and research uses.

**The Arts:** Two professional schools—the School of the Arts and Architecture and the School of Theater, Film, and Television—add a professional orientation to graduate education in the arts and offer the opportunity to relate the scholarly aspects of the arts to their creative, performing, and applied aspects. Capital needs for these Schools include program-related renovations and the addition of studio and performance spaces.

- **School of the Arts and Architecture:** The School of the Arts and Architecture includes the Departments of World Arts and Cultures, Art, Design | Media Arts, Music, Ethnomusicology, and Architecture and Urban Design. The School has identified a significant need for practice, rehearsal, and recording studios and for renovation of instructional, office, administrative, and support space. Although recent projects are providing some of the space needed for the School,

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

other programs such as Music and Architecture and Urban Design continue to have space that is insufficient or inadequate to their needs.

- **Theater, Film and Television:** The School of Theater, Film and Television includes the Department of Film, Television, and Digital Media and the Department of Theater. The School has identified a need for space appropriate for instruction in the technologies of theater, film, and television. Outdated and unsafe facilities require upgrades.
- **Cultural Facilities:** Cultural facilities serve the UCLA academic programs in applied and performing arts as well as the wider campus and community. With one of the largest university-based performing arts programs in the nation, UCLA provides an important public service and contributes to Los Angeles' growing reputation as a major cultural center. The campus continues to seek ways to expand its arts programs and make them more accessible to the public with performance, exhibition, and archival space.

**General Campus Professional Schools:** The following general campus professional schools have long-term unmet capital needs.

- **Graduate School of Education and Information Sciences:** Established in 1939, the Graduate School of Education and Information Sciences had its roots in the State Normal School with the primary mission of training teachers. With today's strong faculty and research programs, the broader mission of the School is to advance scholarship and train scholars and practitioners, influence educational practice and policy, and develop model training programs. The School has identified needs for expanded teacher training facilities and program support space.
- **School of Engineering and Applied Science:** The six departments within the School of Engineering and Applied Science serve as centers of activity for study and research in engineering disciplines. The School also provides continuing education to practicing engineers to keep them abreast of changes in their fields. The School has identified an ongoing need to update obsolete and

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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inadequate facilities to keep pace with technological change. Although some space deficiencies are being addressed, other program needs remain.

### **Health Sciences**

- **School of Dentistry:** The School has implemented an innovative vertical-tier curriculum which combines patient care with the flexibility for students to pursue research fellowships, interdepartmental programs, or state-of-the-art curricular offerings in geriatric dentistry, pain and anxiety control, aesthetic dentistry, implant prosthodontics, and computer technology. Replacement of portions of obsolete and inadequate space will be needed to support program improvements.
- **School of Medicine:** The School of Medicine will continue to place high priority on medical education and on the preparation of students for careers in biomedical research. Clinical training will be provided increasingly in ambulatory settings and more teaching will be done in small groups. These and other developments will require more faculty time, space, and operating resources.
- Other high priorities of the School include psychiatry, medical genetics, and medical education. The faculty also is mindful of the need to respond quickly to innovative medical developments such as AIDS treatments, magnetic resonance imaging, positron emission tomography, and organ transplantation.

Reconstruction of the Center for the Health Sciences to address seismic hazards will also replace or upgrade the obsolete and constrained facilities now used by its programs.

**Libraries and the Organization of Information:** Libraries are the essential resource for information service to the campus, the University, and the community. Their challenge for the coming decades will be to stay at the forefront of technological innovation and to anticipate and respond to their users' needs. The UCLA Library will continue to develop collections of traditional sources of information and,

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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at the same time, will greatly increase access to new electronic sources. Consolidating branch units on campus and adding nontraditional locations for information access (such as residence halls) will release funding for acquisitions and new technologies. Plans for collection growth will include additional space to house the collections. Consolidating branch units can contribute to solutions for collection growth, new technologies, and adequate staff and user space.

**Classrooms:** While the campus has established a program of normal classroom maintenance and improvement, major efforts are required to address age and wear in building utility systems, to provide adequate audio-visual systems in classrooms, to meet disabled access requirements, and to adapt classrooms to modern teaching technologies. The classroom improvements will be accomplished in the context of ongoing major and minor capital renewal and improvement projects.

### **2. Administrative and Support Facilities**

**Student Affairs:** Student Affairs provides an array of programs, services, and educational experiences that promote the academic success of UCLA students and enhance the quality of campus life. Over the past decade, the physical inadequacy and dispersion of student-serving facilities throughout the campus and in Westwood have been serious constraints to the effective delivery of services. Although the consolidation of services into a student activities center and a new student health facility addressed some of these space needs, space deficiencies for student programs in the South Campus remain.

### **3. Health Sciences Clinical Facilities**

**Medical Center:** Since it opened in 1955, the UCLA Medical Center, a leader in medical education, research, and service, has seen a fourfold increase in the types of analytical procedures performed in its clinical laboratories and development of entirely new areas of patient care. The Medical Center sustained substantial damage in the 1994 Northridge Earthquake. The campus is implementing a multiphase reconstruction plan, including the Westwood and Santa Monica

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

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replacement hospitals, Health Sciences Seismic Replacement Building 2 for instructional and research space, renovation of other instructional and research space, and demolition and replacement of damaged parts of the Center for the Health Sciences (CHS) where repair or seismic retrofit is infeasible.

### **4. Auxiliary Enterprise Facilities**

**Housing:** Since 1931, UCLA has provided housing accommodations for students. The current cost of real estate in Los Angeles, among the highest in the country, increases pressure on the University to provide affordable and accessible housing for students, faculty, and staff. In 2000, the campus adopted a goal for the year 2010-11 of housing 60 percent of the student body either in University-owned housing or in private housing within a mile of campus. With the addition of 3,400 new housing beds, including those currently underway for undergraduates in the Northwest campus and those recently completed for graduate students in the Southwest campus, this goal will be met.

### **5. Utilities, Fire Safety**

**Electrical Distribution System:** The campus is nearing completion of a phased program of projects to upgrade its old 4.8 kV electrical distribution system, which was between 35 and 50 years old, obsolete, and at its maximum load-carrying capacity. The remaining work involves conversion of 4.8 kV services at existing Medical Center buildings and the Engineering IV Building to 12 kV service.

**Fire Safety Systems Improvements:** The campus is completing a phased program to upgrade deficient fire alarm systems to improve life safety for faculty, students, and staff in all campus facilities. The electro-mechanical systems in use in many buildings are outdated, and replacement systems are no longer manufactured. A project to complete these improvements in state-supported facilities is under way, as is planning to complete upgrades throughout the rest of the campus within the next few years.

## **LOS ANGELES CAMPUS OTHER CAPITAL NEEDS (continued)**

### **6. Corrections for Seismic Safety**

**Seismic Upgrading:** UCLA has an ongoing comprehensive seismic safety program to address seismic corrections to the buildings that were identified as “Poor” or “Very Poor” in its 1978 seismic study. The 1994 Northridge Earthquake damaged several general campus buildings as well as buildings at the Center for the Health Sciences (CHS), prompting a program to repair and upgrade the damaged facilities. In response to new building codes and standards following the earthquake, a new comprehensive study identified a number of additional seismically deficient buildings. Most general campus structures are completed, including all buildings rated seismically “Very Poor,” and detailed planning is under way for the remaining facilities on and off the campus.

Some of the structures at the CHS were damaged in the Northridge Earthquake, and others that were previously considered seismically adequate were found to be deficient. These problems are addressed in the Academic Health Center Master Plan for redevelopment of the CHS. Two replacement hospitals are under construction, and projects to provide replacement buildings for instruction and research space are under way or in the planning stages. Some of the damaged structures at the CHS will be demolished, and others will receive seismic corrections and renovation.

# MERCED CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1998
ENROLLMENT 2010-2011 (Projected)	4,500 FTE undergraduates 500 graduate students
LIBRARY COLLECTION	30,297 volumes
CAMPUS LAND AREA	2,000 acres
CAMPUS BUILDINGS	141,154 assignable square feet

## **MERCED CAMPUS 2006-2011 STATE PROGRAM**

### **INTRODUCTION**

UC Merced opened in Fall 2005 with approximately 1,000 FTE students—a mixture of freshmen, community college transfers, and graduate students—and 50 FTE faculty (plus 15 temporary faculty). Enrollment is scheduled to increase by 800 students per year, reaching 5,000 FTE by 2010-11, consistent with the campus Long Range Development Plan (LRDP). Eventual steady-state development will accommodate 25,000 student FTE on a 2,000-acre site, as identified in the LRDP. Development of UC Merced is part of the University's strategy to increase overall enrollment capacity and improve access to students from the San Joaquin Valley.

UC Merced also has a concurrent enrollment program with nearby community colleges, and students from these programs are already working with UC Merced faculty.

The campus now offers nine undergraduate majors and graduate programs in five program areas within its three schools: Social Sciences, Humanities, and Arts (SSHA); Engineering; and Natural Sciences. The approved undergraduate programs on opening day included degree programs in Bioengineering, Biological Sciences, Computer Science and Engineering, Earth Systems Science, Environmental Engineering, Human Biology, Management, Social and Cognitive Sciences, and World Cultures and History. Individual graduate programs are offered in Environmental Systems, Atomic and Molecular Science and Engineering, Quantitative Systems Biology, Social and Cognitive Sciences, and World Cultures. Additional undergraduate and graduate degree programs are in development.

A Sierra Nevada Research Institute (SNRI) has already been established, and the campus has plans to form a World Cultures Institute. Like the instructional programs, UC Merced's research institutes will foster collaboration across disciplinary lines. Partnerships with other UC campuses and with entities such as Lawrence Livermore National Laboratory and Sequoia/Kings Canyon and Yosemite National Parks will enhance education and research at UC Merced.

UC Merced already provides many economic benefits to the San Joaquin Valley and will continue to gain importance in this role. Campus public

## **MERCED CAMPUS INTRODUCTION (continued)**

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service programs, such as UCM's major contributions to the region's Small Business Development Centers, will advance employment growth and business expansion. Academic programs in the environmental sciences and engineering, including research opportunities with campus-led institutes and collaboratives, are responding to regional workforce requirements by providing training and technical skills needed by regional industries. In addition, as a major employer and user of services, the campus will continue to be a significant and growing contributor to the local economy.

Major campus infrastructure and site development projects, including the central utility plant, were completed during 2005. The campus site is served by utilities from off-campus, including water, sewer, natural gas, data/telecommunications, and a dual-feed electric service. The Library and Information Technology Center and the first student housing and dining projects have been completed. The Classroom and Office Building and the Science and Engineering Building will be opened in time to support programs during the 2005-06 academic year.

Campus facilities, business services, and academic programs are all finding ways to incorporate principles of sustainability into campus development and operations. UC Merced is already a model for responsible and sustainable development in the Central Valley.

The LRDP approved in 2002 will guide development of the campus and establish its relationship to the adjacent University community and the Virginia Smith Trust. This development is in accordance with the University Community Plan, which envisions close connections between the campus core and an adjacent "town center" with compatible services and businesses. The town center will form the heart of the University community, including compact pedestrian-oriented development, infrastructure systems, and transportation facilities shared between the campus and the community, as well as preservation of significant areas of open space and natural habitat.

The University has partnered with the Nature Conservancy, the Wildlife Conservation Board, and various federal and State agencies for the acquisition and permanent protection of over 20,000 acres of grassland and vernal pool habitat in the vicinity of the campus. In addition, the University, through a grant from the David and Lucile Packard Foundation, acquired 5,750 acres for conservation, including a 750-acre natural reserve contiguous to the UC Merced campus. These efforts have contributed greatly toward the

## **MERCED CAMPUS INTRODUCTION (continued)**

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establishment of a regionally based conservation effort in eastern Merced County, and they will support the teaching and research mission of the campus.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

MERCED CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Social Sciences and Management Building (900060)		P 1,191 W 1,476	C 35,289		E 3,875		41,831
Science and Engineering Building 2 (900020)			P 2,300	W 2,500	C 36,200	E 900	44,900
<b>CAMPUS TOTAL</b>		<u>2,667</u>	<u>37,589</u>	<u>2,500</u>	<u>40,075</u>	<u>900</u>	

**MERCED CAMPUS  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Social Sciences and  
Management Building.....PWCE \$ 41,831,000**

State funds are requested for preliminary plans and working drawings for a new Social Sciences and Management building of approximately 60,000 asf to accommodate enrollment growth and to provide instruction and research space for the social sciences, arts, and humanities and for undergraduate business education programs. The facility will provide classrooms and case study rooms, open computer laboratories, research facilities, scholarly activity space, faculty offices, and department administrative space.

**Science and Engineering  
Building 2.....PWCE \$ 44,900,000**

The second building for School of Natural Sciences and School of Engineering will provide approximately 51,500 asf of academic space to support growing student and faculty workload within the two Schools. The space includes teaching and research laboratories, laboratory support space, faculty and administrative offices and office support space, shared equipment rooms, and other specialized facilities for new or expanding programs not accommodated in the first Science and Engineering Building.

## **MERCED CAMPUS OTHER CAPITAL NEEDS**

The Merced LRDP establishes a vision for the physical development of the campus. Phase 1 of development provides the basic campus infrastructure, site development, and buildings required to support campus operations from opening through approximately 2010. This first phase of campus development includes a central utilities plant, utility distribution systems, and major roadways, connections, and landscaping for the academic facilities. Phase 1 also includes the initial academic buildings, student housing, dining, and recreation facilities, space for facilities management and surface parking lots.

Additional instruction and research facilities will soon be needed to support an enrollment of 5,000 FTE students. Future campus capital program elements are expected to include additional housing, dining, child care, and recreational programs associated with increasing enrollments. UC Merced's goal is to house 50 percent of students on campus. Planning efforts are underway to expand the inventory of student beds available both on- and off-campus because there is little housing available in the nearby communities.

Increased campus circulation and infrastructure are essential to planned campus growth. Consistent with the approved Long Range Development Plan, the Merced campus will expand to include acreage that is currently undeveloped. The capacity of the Central Plant and distribution of underground utilities will need to expand to support growing enrollments and to serve future campus development. Although underground utility connections will be provided as part of individual building projects, additional infrastructure expansion will be necessary. Undeveloped areas of the campus will require site improvements to address issues such as campus topography and drainage. New bridges, roadways, parking lots, and bicycle and pedestrian pathways will be needed to serve the new areas of the campus.



# RIVERSIDE CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1907
ENROLLMENT 2004-2005 (ACTUAL)	13,511 FTE undergraduates 1,800 graduate students 51 health science students
LIBRARY COLLECTION	2.3 million volumes
CAMPUS LAND AREA	1,200 acres
CAMPUS BUILDINGS	3.6 million assignable square feet

## **RIVERSIDE CAMPUS 2006-2011 STATE PROGRAM**

### **INTRODUCTION**

Established in 1907 as a citrus experimental and research facility of the University of California, the Riverside campus and its facilities have become a center of research and learning in the rapidly growing Inland Empire region of Southern California. Campus enrollment increased significantly over the past decade and is expected to continue increasing steadily over the next decade. While the continuing regional growth creates demographic pressures on all educational institutions, the capacity of the Riverside campus to accommodate this growth depends significantly on the availability of resources to construct new facilities as well as to improve existing ones.

Academic development has been shaped by past enrollment patterns and influenced by the 1990 LRDP, which assumed a headcount enrollment of 18,050 students in 2005-06. The updated LRDP, anticipated to be approved by The Regents in 2005-06, assumes a future headcount enrollment of 25,000 students in 2015-16 and the potential for additional growth beyond that level. In 2004-05, general campus enrollment was 15,311 FTE students, severely straining campus facility capacity. The State has projected major increases in student demand over the next decade, and the University anticipates substantial enrollment growth at Riverside and other campuses. Current revised University forecasts anticipate enrollment at Riverside to increase to 20,320 FTE by 2010-11 for an increase of 33 percent from 2004-05, including summer and off-campus enrollment growth.

The surge in enrollment has made it necessary for the campus to accelerate its timeline for bringing future capital projects on-line. Simply stated, the buildings that were planned for implementation in future years of the capital improvement program will be needed sooner to address current short-falls and accommodate growth. The campus has undertaken a re-examination and revision of its LRDP to assess the impact of this increased growth, has initiated related environmental assessments, and has developed strategies (including summer and off-campus programs) for responding to these changes while maintaining high academic standards.

The important capital improvement issues include: the continuing improvement and evolution of academic programs (including those in the materials sciences, genomics, bioengineering, and humanities and social

## **RIVERSIDE CAMPUS INTRODUCTION (continued)**

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sciences), the serious need for renewal or replacement of academic buildings that have not had significant improvement in decades, the renewal and extension of campus infrastructure to address its advancing age as well as the recent and projected growth of the campus, and development of the West Campus.

**Capital Plans:** Capital plans at the Riverside campus are shaped by these issues and reflect the urgent need to accommodate programs that are changing and rapidly expanding while simultaneously addressing life-safety, code-related, and other deficiencies. Increases in the Riverside campus population of students, faculty, and staff have created a demand for instruction and research facilities, specialized student services, athletic and recreation facilities, housing, and various campus support services. These, in turn, have generated additional requirements for communications networks, roadways, pedestrian walkways, open space, and utility and other infrastructure systems.

Other critical needs that have created demand on capital resources include completing the correction or replacement of facilities that have accessibility or code-related deficiencies, are obsolete due to emergence of new methods and technologies in teaching and research (including related demands on outdated building systems), or have operational inefficiencies resulting from dispersion of related academic units.

**Campus Development Strategy:** The Riverside campus has a multifaceted strategy for overall development of its physical facilities and environment which is related to LRDP goals and growth projections and is shaped by available resources. New facilities will be constructed when possible to meet the need for types of space not now available or to replace facilities that cannot be effectively renovated. This will be done on infill sites within the existing academic core and on sites within designated LRDP land use areas. Growth pressures have created the need to develop the West Campus for professional and graduate schools, freeing space in the East Campus academic core for undergraduate instruction and research activities. The opportunity created by the release of space in existing buildings will be used to alleviate other problems of crowding, obsolescence, and location. Existing facilities will be improved, alterations will be provided that allow new occupants to make effective use of reassigned space, life safety and other code problems will be corrected, and the intensity of space use will be increased. Additional student service facilities, including housing and

## **RIVERSIDE CAMPUS INTRODUCTION (continued)**

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recreation, will be provided in conjunction with anticipated growth and program needs. An adequate support infrastructure also will be provided. To preserve central campus sites for academic uses, many administrative and other supporting activities have been housed in facilities at the campus periphery.

**Development Plans and Programs:** The Riverside campus capital program, project priorities, and funding schedules are developed to meet current needs within available resources while continuing long-term planning in accordance with the LRDP.

- **Classrooms, Laboratories, and other Academic Support Facilities:** Much of the present classroom and laboratory space in older buildings is obsolete or in poor condition and needs upgrade or replacement. Some programs lack the specialized facilities needed to support their courses. New and expanded facilities will be required to support continued growth of academic programs and enrollment.
- **Libraries:** Additional space and the use of new information-access technologies will be required for the campus libraries to keep pace with long-term program development.
- **Professional Schools:** The campus LRDP envisions establishment of additional professional schools and sites, as well as the development of West Campus facilities for the Graduate School of Education and the Anderson Graduate School of Management.
- **Administrative and Campus Support Facilities:** Additional space will be required for administrative and support services to accommodate past and future growth. To accommodate the enrollment projections, core facilities will be required for central administrative and enrollment functions near student activity centers and student support services.

**Pedestrian and Vehicular Circulation:** To address existing circulation problems and prepare for the future while maintaining a park-like campus, emphasis will be placed on maintaining a pedestrian-oriented campus core with walkways and bicycle paths. Campus circulation deficiencies will be addressed by improvement of peripheral roadways and development of campus transportation hubs, coordinated with other major improvements by

## **RIVERSIDE CAMPUS INTRODUCTION (continued)**

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the City of Riverside and other agencies for University Avenue, Martin Luther King, Jr. Boulevard, and State Highway 215/60 freeway-access points.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

RIVERSIDE CAMPUS

PROJECT NAME	PREFUNDED		PROPOSED	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
	(000s)		2006-07 (000s)	2007-08 (000s)	2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	(000s)
Student Academic Support Services Building (950457)	P 750 W 900		C 18,035		E 887			20,572
Geology Building Renovations Phase 2 (950461)			P 315 * W 530 * C 8,180 *					9,025
Culver Center for the Arts (950433)	P [500] G		W 650 C 7,415 C [4,300] G					8,065 [4,800]
Boyce Hall and Webber Hall Renovations (950462)			P 900	W 1,300 C 28,800				31,000
College of Humanities and Social Sciences Instruction and Research Facility (950377)	P 937 * W 1,561 * C 28,729 * C [3,500] X			E 934				32,161 [3,500]
Psychology Building (950451)	P 1,075 W 1,166 C 30,192			E 1,997				34,430
Materials Science and Engineering Building (950450)	P 1,600 * W 2,149 * C 50,549 *			E 4,500				58,798
Environmental Health and Safety Expansion (950456)	P 400 W 600			C 11,348	E 360			12,708
East Campus Infrastructure Improvements Phase 2 (950463)				P 308 W 525	C 7,560			8,393
Batchelor Hall Renovations (950464)				P 420 W 630	C 9,750			10,800
Engineering Unit 3 (950465)				P 1,330	W 2,000	C 39,100		45,855
West Campus Professional and Graduate Center Phase 1 (950449)					P 735	W 1,050	C 28,350	30,135
West Campus Infrastructure Improvements (950414)					P 420	W 630	C 9,030	10,080
East Campus Infrastructure Improvements Phase 3 (950467)						P 315 W 420	C 6,720	7,455
West Campus Professional and Graduate Center Phase 2 (950466)						P 945	W 1,260	35,805
East Campus Infrastructure Improvements Phase 4 (950468)							P 315 W 525	7,140
Physical Sciences 2 (950469)							P 840	32,550
<b>CAMPUS TOTAL</b>			<b>36,025 [4,300]</b>	<b>52,092</b>	<b>21,712</b>	<b>42,460</b>	<b>47,040</b>	

**RIVERSIDE CAMPUS  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Student Academic Support**

**Services Building ..... CE \$ 18,922,000**

State funds are requested for the construction of the Student Academic Support Services Building. This project will provide a new building of approximately 37,400 asf for student academic services office and support space, addressing the growth needs of core support services including Admissions, Financial Aid, and the Registrar.

**Geology Building Renovations Phase 2 ..... PWC \$ 9,025,000**

State funds are requested for preliminary plans, working drawings, and construction of the Geology Building Renovations Phase 2 project. This project will include the renovation and upgrade of approximately 28,000 asf of space in areas of the Geology Building that were not included in the previous phase of work. Renovations associated with this project will provide improvements for the Department of Earth Sciences and the Institute of Geophysics and Planetary Physics (IGPP). These renovations have been phased to coordinate with the earlier upgrades included in the State-funded Geology and Physics Renovations project.

**Culver Center for the Arts.....WC \$ 8,065,000  
C \$ [4,300,000]G**

State funds are requested for working drawings and construction for the Culver Center for the Arts project. This project will renovate 31,325 asf of space within the Rouse Building in downtown Riverside. The building and property were acquired by the University in 2002. The project will provide facilities for instruction and research for interdisciplinary studio and performing arts programs in dance, music, theatre, film, and other arts disciplines. Upon completion, the project will accommodate high-technology/digital-media space to meet growing research, performance, and practice needs of arts faculty and students.

## **RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)**

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### **Boyce Hall and Webber Hall Renovations..... PWC \$ 31,000,000**

State funds are requested for preliminary plans for the Boyce Hall and Webber Hall Renovations project. This renovation and upgrade of 53,000 asf of space in Boyce and Webber Halls will include hazardous materials abatement, upgrade of building infrastructure systems, laboratory improvements, and accessibility corrections. The project will provide flexible and adaptable laboratory space for research programs in Biochemistry, Nematology, and Plant Pathology as well as other biologically oriented research programs. In addition, Boyce Hall houses research support facilities that are poorly configured and have deficient infrastructure to support modern research initiatives and protocols. The project will selectively upgrade and reconfigure the highest priority areas of Boyce Hall to provide a safe and efficient research environment.

### **College of Humanities and Social Sciences Instruction and Research Facility.....E \$ 934,000**

This project will construct approximately 68,000 asf of instructional, research, and office space for several interdisciplinary academic programs of the College of Humanities, Arts, and Social Sciences. The building is part of a multiphased plan that includes major renovations to existing buildings and construction of new space needed to accommodate current and projected student enrollment growth.

### **Psychology Building.....E \$ 1,997,000**

The Psychology Building project will provide space for interdisciplinary instructional and research programs in Psychology. It will address significant growth in the College of Humanities, Arts, and Social Sciences, and will facilitate reuse of existing facilities that will be necessary to support teaching and research requirements in the College. In addition, this project will provide a new research-support facility to support UCR's growing research needs.

## **RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)**

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### **Materials Science and Engineering Building.....E \$ 4,500,000**

This project will provide approximately 77,000 asf of laboratories, laboratory support, and academic office facilities to address the significant enrollment growth in the College of Engineering and the College of Natural and Agricultural Sciences. The building will house instrumentation and clean room facilities for interdisciplinary nanoscale technology, engineering instruction, and research focused on materials science, electronic and optical devices, and structural chemistry and biology. In addition, the project will provide approximately 18,000 asf of general assignment classrooms for the campus.

### **Environmental Health and Safety Expansion.....CE \$ 11,708,000**

The Environmental Health and Safety Expansion project will provide approximately 18,000 asf in laboratories, waste handling facilities, and related office and support space to help this critical unit respond to the increased requirements of the growing campus.

### **East Campus Infrastructure Improvements Phase 2..... PWC \$ 8,393,000**

This project will follow earlier infrastructure upgrades and provide an expansion of the campus steam system, chilled water/condensate return, and domestic water capacity. The project will also continue the incremental conversion of the campus 5 kV electrical system to a modern 12 kV system. These infrastructure improvements are required to accommodate the demand on campus systems as enrollment continues to increase.

### **Batchelor Hall Renovations..... PWC \$ 10,800,000**

This renovation of approximately 57,300 asf of space will include the phased upgrading of the central equipment and utility distribution systems, correction of code deficiencies, building systems upgrade, and renovation of the Batchelor Hall Building. The completed project will provide contemporary low-to-moderate intensity research space for the current and proposed occupants.

## **RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)**

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### **Engineering Unit 3.....PWCE \$ 45,855,000**

This project will construct approximately 50,000 asf of laboratory, laboratory support, and academic office facilities to address the enrollment growth and programmatic space needs in the Bourns College of Engineering. The building will house bio-safety level 2 and 3 laboratories, instrumentation, and bioinformatics/systems biology laboratories for instruction and research in Bioengineering, Chemical and Environmental Engineering, and Mechanical Engineering.

### **West Campus Professional and Graduate Center Phase 1 ..... PWC \$ 30,135,000**

This project will construct approximately 60,000 asf of facilities, including academic offices, instructional and research laboratories, assembly spaces, and departmental support spaces, in the professional school development zone on the West Campus. The first phase of developing the West Campus Professional and Graduate Center will construct facilities for the Graduate School of Education (GSOE), including an initial complement of space for new professional/graduate program initiatives.

### **West Campus Infrastructure Improvements ..... PWC \$ 10,080,000**

Rapid growth of enrollment and programs will require that core campus facilities expand into the western campus area. This project will provide for utility and circulation-related improvements including domestic water, sanitary sewer, storm drain, natural gas, electrical power, communications systems, and vehicle access needed to support the initial academic development of the West Campus.

### **East Campus Infrastructure Improvements Phase 3..... PWC \$ 7,455,000**

This project will follow earlier infrastructure upgrades and provide an expansion of the campus steam system, chilled water/condensate return, and domestic water capacity. The project will also continue the incremental conversion of the campus 5 kV electrical system to a modern 12 kV system. These infrastructure improvements are required to accommodate the demand

## **RIVERSIDE CAMPUS CAPITAL PROGRAM (continued)**

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on campus systems as enrollment continues to increase. The work has been phased to coordinate with earlier infrastructure upgrade projects in the East Campus area.

### **West Campus Professional and Graduate Center Phase 2 ..... PWC \$ 35,805,000**

This project will construct approximately 60,000 asf of facilities, including academic offices, instructional and research laboratories, assembly spaces, and departmental support spaces, in the professional school development zone on the West Campus.

### **East Campus Infrastructure Improvements Phase 4..... PWC \$ 7,140,000**

This project is a continuation of the East Campus Infrastructure Improvement projects Phases 2 and 3, and will continue the improvements to the campus steam system, chilled water/condensate return, and domestic water capacity. The project will also continue to address the 5 kV to 12 kV conversion, an ongoing campus project. These infrastructure improvements anticipate the additional demand on campus systems as enrollment continues to increase.

### **Physical Sciences 2 ..... PWC \$ 32,550,000**

This project will construct approximately 40,000 asf of laboratories, laboratory support, and academic office facilities to address the enrollment growth and programmatic space needs of the College of Natural and Agricultural Sciences. The building will house instruction and research space for programs in the physical sciences, including biophysics, condensed matter physics, and high-energy physics.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS**

The capital needs described below are reflected in Riverside's master space planning efforts, the 1990 LRDP, and the LRDP update expected to be completed in 2005-06. The rapid growth experienced by the campus in recent years has been accommodated in facilities that in many cases were constructed two or three decades ago. The capital program is driven by the simultaneous need to upgrade and renew aging buildings and infrastructure, to make improvements to support programs that have evolved substantially, and to adapt or expand facilities to catch up to past enrollment growth and accommodate new growth and new programs. There is an urgent requirement for additional facilities to accommodate new students and expanded programs. Some of this growth in the longer term will be accommodated through the development planned for the West Campus, which will include relocation of existing professional schools to free up space in the central academic core on the East Campus, the establishment of new graduate and professional schools, and development of new housing and recreation facilities. UCR places great importance on carefully coordinating the construction of new academic and student support facilities with a systematic building renewal program to make the most effective use of existing space.

### **1. Core Academic Facilities**

Present plans include enlarging the boundaries of the academic core and implementing a number of major infrastructure construction projects. Within the existing academic core, a number of buildings require renewal to correct code and other deficiencies, to upgrade or replace building systems, and to provide for major academic program changes.

**Classrooms:** General assignment classroom space is distributed throughout each of the academic program areas. Many classrooms are old and need upgrading for modern teaching practice. In addition, new classroom space needed to meet enrollment levels defined in the LRDP will be included in major academic building projects as appropriate. Some reorganization within existing facilities also may yield improved or additional classroom space.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**College of Humanities, Arts, and Social Sciences:** Several departments of the College of Humanities, Arts, and Social Sciences (CHASS) are housed in facilities that are in poor condition, are crowded, do not meet functional needs, and are dispersed in several locations. At projected enrollment levels, the College will require additional instruction and research space for all program areas. Although the CHASS Instruction and Research Facility and proposed Culver Center will address a portion of this need, additional needs remain.

**College of Natural and Agricultural Sciences:** These programs will require improved and expanded facilities to address existing space deficits from enrollment growth, the continuing evolution of programs, and technological advances. Much of the laboratory space that was built in the 1960s has become obsolete with rapid changes in research directions in recent years. Older facilities with serious building infrastructure and program deficiencies require renewal to support campus programs. More class laboratory, research, and greenhouse space will be needed as the campus population grows. Currently proposed projects will begin to address these critical space needs, but ongoing requirements for class laboratory space equipped for instruction in the sciences and for modern research space will necessitate strategic combinations of new space and renovation of existing facilities.

**Bourns College of Engineering:** More class laboratories, laboratory support, and academic offices and departmental support space will be needed to accommodate enrollment growth in this College. Improved and expanded facilities will be required to address the continuing evolution of programs and advancement of technology. Anticipated growth of the College will require development of additional space, such as the Engineering Building Unit 3 proposed in the current five-year capital program, as well as renovations of existing class laboratory and research laboratory space in response to evolving program needs and research initiatives.

**Professional Colleges and Schools:** The continued development of UCR's professional colleges and schools, which include the Graduate

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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School of Education and the Graduate School of Management, will require additional facilities. In the context of UCR's LRDP and West Campus Area Plan, these new facilities will be located on the West Campus.

- **Education:** The Graduate School of Education is currently housed in Sproul Hall, in the middle of the College of Humanities, Arts and Social Sciences precinct in the core academic area of the East Campus. Longer term plans for the School include relocation to new facilities on the West Campus when available.
- **Management:** The A. Gary Anderson Graduate School of Management is currently housed in the central and south wings of Anderson Hall. The School will be relocated to new facilities in the West Campus when available, supporting program development and enrollment growth for the School. The School's needs include space for academic offices, class laboratories, and seminar and colloquia rooms.
- **New Professional Schools:** The LRDP envisions development of new professional schools in response to the continued rapid development of the inland area of Southern California and the increased needs of the region and state. A professional and graduate school reserve on the West Campus has been provided in the LRDP.
- **Libraries:** The rapid advance of information and education technology, coupled with the long-term expansion of enrollment and academic programs defined in the LRDP, requires continued improvement and expansion of the information systems and library facilities of the campus.
- **Cultural Facilities:** Existing performance facilities are small, heavily scheduled, and relied upon for multiple purposes on a campus with few large assembly spaces. The campus art gallery is temporarily located in a building not designed for that purpose. With performing arts programs and cultural exhibitions playing a major public service role in cultural life at UCR and in the

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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community, the campus must expand its capacity to make theater, music, dance, exhibits, and other arts events accessible to a wider public. New performance and gallery facilities projects are planned for the future.

### **2. Administrative and Support Facilities**

**Campus Administration:** With enrollment growth over the last decade, existing administrative facilities have become crowded and inadequate to properly support the activities housed in them. Many administrative units have been moved into off-campus, leased locations or to newly acquired properties adjacent to the campus. The LRDP identifies new facilities for campus administration, enrollment management, and student-oriented administrative services.

**Alumni and Visitor Center:** There are currently no separate facilities to accommodate alumni functions or the needs of the visiting public. A new non-State-funded facility is currently being designed to address these needs.

### **3. Auxiliary Enterprise Facilities**

**Housing:** Enrollment growth and housing demand from the past decade, coupled with anticipated enrollment increases and housing demand in the next decade, will require additional new bed spaces. The campus expects to build new housing facilities regularly, and plans are being developed for new residence halls, apartment complexes, and cluster housing complexes to accommodate affinity groups. The Strategic Plan for Housing provides a framework for the phased implementation of new construction, acquisition, redevelopment, and renovation for all campus housing types. Housing for undergraduates will continue to be clustered near the East Campus Academic Core, and housing for graduates and students with families will be developed on the West Campus.

**Athletics and Recreation Facilities:** As the campus develops, intercollegiate athletics and student recreation activities will be extended beyond the East Campus Academic Core so they can have

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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space to grow and will not limit the few remaining prime sites needed for the expansion of other student services and academic programs. In the LRDP approximately 60 acres are identified for recreation and athletics use. To meet requirements of indoor and intercollegiate sports, major new athletic facilities will be required to replace the existing Physical Education building. The next increments of student recreation facilities are slated for implementation in conjunction with UCR's next housing developments.

**Child Care Facilities:** The Campus Child Development Center, occupied in 1996, currently provides day care services for children of students, faculty, and staff. The campus is studying options to provide additional facilities in response to increasing demand. These options are being evaluated in conjunction with UCR's housing developments being planned for the East and West Campuses.

### **4. Campus Infrastructure Improvements**

**Roadway Accessibility:** Roadway improvements will be required as the academic core expands. Existing interior roadways will be transformed into a limited-access roadway system with priority for service and emergency vehicles. Pedestrian and bicycle-oriented amenities will be created and combined with other improvements to support increased use of public transit and an expanded campus shuttle system.

**Parking:** As the campus adds more facilities, new parking facilities at the periphery will be required to replace interior parking lots lost to new construction. Within the next five years, the expected increase in overall demand for parking will require development of major transportation hubs, including parking structures. Planning is underway to develop sites at the major entrances to the campus.

**Campus Communications Network:** The campus intends to extend its existing communication systems, which include telephone, data, video, and emergency/security services. The expanded network of lines typically will be installed as individual infrastructure projects, and future building projects will be connected to the system as required.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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Future improvements in campus telecommunications will be necessary as use of electronic communication expands and technology changes.

**Utilities Expansion and Modernization:** As the campus develops existing and new sites, the network of gas, domestic water, sanitary sewer, storm drain, steam, chilled water, and electrical lines must be extended. Some utility lines will require renewal and expansion in response to age and increased demand. The East Campus Infrastructure Improvements and West Campus Infrastructure Improvements projects will address the most critical of these areas. Beyond these projects, however, ongoing renewal and expansion of aging or undersized utility systems will be needed to ensure stable and efficient service distribution. These ongoing needs will be addressed in part by the proposed East Campus Infrastructure Improvements Phase 2 project, as well as planned future phases for the East Campus. Concurrently, the campus is making provision for emergency power during disasters by installing emergency generators.

**Landscape Improvements and Site Development:** Campus plans include the extension of the existing landscaped mall system on the East Campus, beginning with a strategic restoration of the University Arroyo and development of the Fine Arts Mall. Other landscape improvements may include exterior development at the main entrances to the campus and creation of malls to connect the Recreation Center, Student Commons, engineering buildings, the Anderson Graduate School of Management Building, and the Psychology Building in accordance with the Area Studies completed in 2003-04 and 2004-05. Pedestrian walkways and integrated bicycle lanes will be developed as the campus explores extensions to its formal landscape system of campus entries, malls, plazas, courtyards, and terraces. Landscape and site development guidelines are also being formulated in anticipation of West Campus development.

### **5. Improvements to Facilities for Health and Life Safety**

**Asbestos:** While much asbestos abatement work has been completed, further work will continue during renovations and building renewal, and as funding opportunities occur.

## **RIVERSIDE CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Fire Safety:** Fire detection and suppression systems in older buildings must be upgraded to comply with contemporary codes and safety concerns. Access routes for fire-safety vehicles and traffic control measures will be adjusted as the campus develops.

### **6. Corrections for Seismic Safety**

**Seismic Improvements:** The deficiencies of all State-supported buildings on campus that have been identified as seismically “Poor” or “Very Poor” have been corrected. The campus is currently identifying strategies for addressing the minor seismic deficiencies in Highlander Hall.

# SAN DIEGO CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1912
ENROLLMENT 2004-2005 (ACTUAL)	19,600 FTE undergraduates 3,247 graduate students 1,496 health science students
LIBRARY COLLECTION	3.1 million volumes
CAMPUS LAND AREA	2,040 acres
CAMPUS BUILDINGS	7.5 million assignable square feet
HOSPITAL AND CLINICS	947,437 assignable square feet

## **SAN DIEGO CAMPUS 2006-2011 STATE PROGRAM**

### **INTRODUCTION**

The University of California, San Diego campus began in the early 1900s as a marine research station that later developed into the Scripps Institution of Oceanography. In 1960, the campus was officially designated as an independent UC campus, serving both undergraduate and graduate students. Since its inception, the campus has evolved into an internationally distinguished research university. Six semi-autonomous colleges, each with its own residential and academic facilities and distinctive educational philosophy, serve UCSD's undergraduates. With an enrollment of 3,000 to 4,000 each, the colleges provide students with academic and extramural opportunities that are usually found only in small college environments. UCSD students also benefit from the academic enrichment provided by General Campus divisions and schools, the Scripps Institution of Oceanography, the Graduate School of International Relations and Pacific Studies, the School of Medicine, the Skaggs School of Pharmacy and Pharmaceutical Sciences, and the Rady School of Management.

As UCSD endeavors to provide adequate space to accommodate enrollment growth, the capital program must accomplish both the construction of essential additional space and the renewal and upgrade of existing aged buildings and infrastructure. Additionally, new campus facilities are needed to support emerging academic and research programs critical to California's economy and the quality of life of its citizens.

In 2004-05, general campus enrollment for UCSD was 22,847 FTE students. The 2004 UCSD Long Range Development Plan (LRDP) anticipates that by 2020-21 the campus will grow to 32,700 FTE (including summer term).

Several areas comprise capital needs at the San Diego campus.

- **Instruction and Research:** As programs evolved, especially in the last decade, a shortage of space developed in many campus instruction and research programs. Recent projects have addressed some of those needs, but space shortages remain, particularly in the Engineering and Natural Science disciplines. Continuing enrollment growth means that the campus will continue to face a shortage of space and limited flexibility for a number of academic programs.

## **SAN DIEGO CAMPUS INTRODUCTION (continued)**

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- **Renewal of Existing Facilities and Infrastructure:** Many of the buildings on the General Campus, School of Medicine, and Scripps Institution of Oceanography are over 40 years old and require renewal and infrastructure upgrades in response to changing academic programs, health and safety requirements, and obsolescence. UCSD's older buildings throughout the campus are no longer efficiently or effectively supporting today's teaching and research. Modernizing these buildings and providing upgrades to meet fire, life safety, and other code requirements are high campus priorities. In particular, several wood-framed buildings in the core area of the campus that were acquired from the former US Marine Corps Camp Matthews military base are slowly being replaced with more suitable facilities that better respond to academic program needs and utilize land more efficiently.
- **Utility Systems:** Improvements to the campus and medical center utilities plants, including renewal of building systems and introduction of new energy management and energy conservation equipment, have proven to be efficient and cost-effective, and will continue to be implemented over the next five years. The campus will continue to explore energy conservation options and implement new measures. Improvements to the campus telecommunications network will accommodate expanding computing and instructional technologies.
- **Development Strategy:** UCSD's capital improvement program will balance new construction, renovation, building system upgrades, and the renewal and expansion of infrastructure. Private gifts and grants, industry partnerships, and federal grants and contracts will continue to provide important capital funding to complement State funds.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

SAN DIEGO CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Mayer Hall Addition and Renovation (962710)	P 1,750 W 1,809 C 25,096 E 445	C 13,126					42,226
Structural and Materials Engineering Building (962630)		P 3,378 * W 4,128 * C 67,551 *			E 3,000 E [4,000] X		78,057 [4,000]
Chilled Water and Electrical Distribution Improvements (966171)	P [150] X	W 186 C 2,971					3,157 [150]
Music Building (962870)	P 1,711 W 2,091 C 36,125		E 2,190				42,117
Management School Facility Phase 2 (963480)			P 1,400 P [1,400] G	W 1,695 W [1,695] G C 21,525 C [32,010] G		E 1,000 E [1,000] G	25,620 [36,105]
Sciences Building (963240)				P 2,700 W 3,200	C 52,850		61,250
Satellite Utilities Plant (966158)					P 300	W 500 C 9,103	9,903
Instructional Technology Building (963230)					P 1,850	W 2,200 C 15,323	44,507
Medical Education Center (963250)					P 980 P [980] G	W 1,165 W [1,165] G	22,255 [22,255]
Muir Biology Building Renovation and Addition (963260)					P 1,570	W 1,860	33,920
SIO Research Support Facilities (962560)						P 220 W 200 C 3,835	4,255
SIO Utilities System Improvements Phase 2 (963490)						P 230	5,105
Engineering Interdisciplinary Facility (963510)						P 2,820	61,720
<b>CAMPUS TOTAL</b>		<b>91,340</b>	<b>3,590</b> <b>[1,400]</b>	<b>29,120</b> <b>[33,705]</b>	<b>60,550</b> <b>[4,980]</b>	<b>38,456</b> <b>[2,165]</b>	

**SAN DIEGO CAMPUS  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Mayer Hall Addition  
and Renovation.....C \$ 13,126,000**

State funds are requested for construction of the renovation to Mayer Hall. Mayer Hall was built in 1963 for Physics programs and has never benefited from a major remodel; critical building systems are in disrepair. This project will renovate 35,300 asf of existing space and provide 45,000 asf of new space to address projected space deficiencies of the Physics Department. The project will allow for the relocation of Physics class laboratory space from Warren College, provide laboratories and offices to address growth needs in Physics, modernize existing research labs, and provide building system and code upgrades, including a building-wide sprinkler system. The released space at Warren College will be reassigned to the Jacobs School of Engineering and the Music Department.

**Structural and Materials  
Engineering Building.....PWCE \$ 78,057,000  
E \$ [4,000,000] X**

State funds are requested for preliminary plans, working drawings, and construction of the Structural and Materials Engineering Building. This project will provide 110,000 asf of class laboratories, research laboratories, offices, and related support spaces to accommodate enrollment growth in the Jacobs School of Engineering, specifically the Department of Structural Engineering and the Materials and Engineering research group, and in the Department of Visual Arts. The addition of this new space will allow space released in existing facilities to be reassigned to other programs for their growth needs.

**Chilled Water and Electrical Distribution  
Improvements .....WC \$ 3,157,000**

State funds are requested for working drawings and construction of the Chilled Water and Electrical Distribution Improvements project. The construction of new buildings to support campus enrollment and program growth requires an increase in capacity of campus utility systems. This project will add 2,000 tons of chilling capacity to the central system. It also

## **SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)**

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will expand the electrical distribution system to supply primary electrical power to future new buildings, relieve loads from existing circuits, and balance electrical power distribution in the University Center and Sixth College neighborhoods.

### **Music Building .....E \$ 2,190,000**

This project will provide 47,000 asf of instructional spaces, practice rooms, group performance spaces, faculty studios, administrative support space, and a 400-seat recital hall to accommodate growth of the Music Department. Total student enrollment in the Music Department is projected to increase 42 percent between 2002-03 and 2010-11. The Music Department's active teaching and performance programs have outgrown current space, and there is no expansion space available within existing facilities.

### **Management School Facility Phase 2.....PWCE \$ 25,620,000 PWCE \$[36,105,000]G**

A new building with approximately 70,000 asf of instructional, student-support, auditorium, and executive education space will be provided to support the new Rady School of Management. The earlier Phase 1 facility, funded with gifts and campus funds, is scheduled to be completed in early 2007. This Phase 2 project will be necessary to accommodate the School's space needs as enrollments approach steady-state.

### **Sciences Building.....PWCE \$ 61,250,000**

This project will provide approximately 65,000 asf of class laboratories, research laboratories, and office space for the Division of Biological Sciences. The project will address the significant space deficit projected for this academic division.

### **Satellite Utilities Plant ..... PWC \$ 9,903,000**

The existing main campus utility plant has reached its maximum capacity, physically constrained by the size of its site and related factors. This project will construct a Satellite Utilities Plant with the chiller capability to meet future growth in demand, coming online in 2010-11. Elements for this initial phase will include one chiller and cooling tower, interconnection piping and



## **SAN DIEGO CAMPUS CAPITAL PROGRAM (continued)**

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### **SIO Research Support Facilities .....PWCE \$ 4,255,000**

The proposed project will provide 15,300 asf of space to support the seagoing and remote location research programs of the Scripps Institution of Oceanography. The project will provide a flexible environment that will allow researchers to stage and test their equipment prior to its being loaded for transport on research expeditions. These expeditions require specialized instrumentation, equipment and support materials for use at sea and at remote sites. Many of the existing research support structures were built in the 1940s and are in deteriorated condition, are inadequate for storage, and do not provide the space necessary for staging and testing equipment. These substandard structures will be replaced by the new facilities.

### **SIO Utilities System Improvements**

#### **Phase 2 ..... PWC \$ 5,105,000**

Scripps Institution of Oceanography (SIO), established in 1925, is the oldest part of UCSD (most buildings at UCSD are between 25 and 50 years old) and was not originally built with the utility infrastructure needed to support today's instruction and research. There have been small add-on solutions to provide the power and the heating, ventilating, and air conditioning (HVAC) needs of the scientists for both research and teaching. This project will interconnect the systems to increase efficiency and will upgrade the several "neighborhood-based" utility plant systems now supporting the operations of SIO. By centralizing the physical plants, significant energy savings and reliability for the infrastructure support systems of SIO's buildings will be achieved. In addition, Nierenberg Hall, completed in 1984, does not have sufficient power to support the increased demand of science instrumentation and computers used for research conducted in the building. Therefore, as part of this project, new feeder lines, panels, and power distribution for the building will be added.

### **Engineering Interdisciplinary Facility ..... PWC \$ 61,720,000**

This project will provide approximately 50,000 asf of research and office space for the cross-disciplinary programs in Nanotechnology and Chemical and Biological Systems Engineering. Calculations based on current workload projections and CPEC standards predict that the Jacobs School of Engineering will have an overall space deficit of over 70,000 asf in the year 2014.

## **SAN DIEGO CAMPUS OTHER CAPITAL NEEDS**

### **1. Core Academic Facilities**

During the period of remarkable enrollment growth in the 1980s, capital resources were focused on expansion of facilities to accommodate new students and programs. In most of the 1990s, the UCSD capital program focused on completing critical life safety corrections and essential renewal and modernization projects in the older buildings and infrastructure of the campus. Starting about 1998-99, however, demographic forces resulted in resumed enrollment growth, the expansion of academic and support programs, and the need for additional facilities to accommodate them. Consequently, UCSD has continued to address life safety and renewal needs in existing facilities in concert with new construction to meet growth and programmatic requirements.

**Biological and Physical Sciences:** These programs will require improved and expanded facilities to address enrollment growth, evolving academic programs, and technological advances. The Divisions of Physical Sciences and Biological Sciences plan to consolidate their laboratory-based departments and conduct the core of instruction and research activities at Revelle College. The Department of Chemistry and Biochemistry will continue improvements in Urey Hall to modernize facilities, respond to evolving safety and code issues, and address changing program requirements.

**Social Sciences:** The recently established Rady School of Management is poised to become a leader in management education and research. The School will respond to a growing need of California industry, especially in the high technology and biotechnology sectors. Facilities to accommodate this program will be constructed in two phases on the North Campus.

**Arts:** As new music space is constructed, vacated space will be reassigned to Visual Arts to provide adjacent expansion space for its undergraduate teaching programs.

## **SAN DIEGO CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Marine Sciences:** Assessments of the facilities and programs at the Scripps Institution of Oceanography (SIO) have defined the need for three new laboratory/research facilities. The first one—the Center for Marine Genomics, Biotechnology and Biomedicine—addresses the need for substantially expanded research in the area of pharmaceuticals from the sea. The second is the Coastal Biophysical Research Center to study the biological and physical processes in near-shore waters. The third is the Center for Earth Observations and Applications to study global changes in the oceans and atmosphere.

Additionally, several existing research and instructional buildings have deteriorated from age and the marine environment and are hampered by inadequate mechanical, air cooling, and electrical systems that cannot sufficiently support modern science. The renovation of these structures will ensure their adequacy for future research and student training and also improve their energy efficiency.

**Health Sciences:** The School of Medicine’s mission includes instruction, research, patient care, and community service. Demand for modern teaching space has grown dramatically since the Basic Science Building opened in 1969. Even with the proposed Medical Education Center and the new building for the Skaggs School of Pharmacy and Pharmaceutical Sciences, long-range plans indicate the need for additional research facilities, including traditional wet laboratory buildings. The School of Medicine is actively pursuing gift and foundation support, private sector partnerships, and other alternative funding mechanisms for new facilities.

### **2. Health Sciences Clinical Facilities**

The UCSD Medical Center operates hospital facilities in Hillcrest and La Jolla. A major focus of the Medical Center’s capital program for the Hillcrest facility involves completing State-funded projects to correct seismic deficiencies in a multi-phased approach that satisfies SB 1953 in a cost-effective manner while still serving the needs of the community.

## **SAN DIEGO CAMPUS OTHER CAPITAL NEEDS (continued)**

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At the La Jolla campus, construction of a Cancer Center Facility to consolidate cancer research and clinical activities was completed in Summer 2005. In addition, plans are underway for a Cardiovascular Center, expansion of ambulatory diagnostic and treatment facilities, and increased ICU and emergency capacity at the Thornton Hospital.

### **3. Student Activities, Services, Organizations, and Recreation**

Enrollment growth has required expansion of recreational and student activity facilities. Student Affairs provides an array of programs and services to support the undergraduate population, to promote the academic and interpersonal success of students, and to enhance overall student life. Expansion is underway for the Price (student) Center and older student-center facilities that are operating at full capacity.

### **4. Housing**

Commensurate with undergraduate and graduate enrollment projections and the campus LRDP, UCSD plans to house 50 percent of its students in University housing located on or off the campus. Future housing projects will implement this goal primarily in proximity to the undergraduate colleges, because the college system plays an important part in shaping the educational, cultural, and social experience of undergraduates at UCSD. Construction of graduate housing on the East Campus will be underway this fiscal year, and housing for transfer/upper-division students on the North Campus is in the planning stages.

### **5. Administrative and Support Facilities**

UCSD continues to redevelop the University Center area as the hub of campus activity and student life; nearly all of the former US Marine Corps buildings there that pre-date the establishment of the campus will be demolished. Replacement space will be provided for a number of administrative services departments. UCSD will continue to consolidate administrative service and business operations departments which need less campus contact at the periphery of the campus.

## **SAN DIEGO CAMPUS OTHER CAPITAL NEEDS (continued)**

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### **6. Utilities, Site Development, and Parking Improvements**

Maintaining an adequate information infrastructure is critical to the success of UCSD's academic programs. Systemic inadequacies in existing facilities will be resolved through a comprehensive program to complete telecommunications infrastructure where service gaps exist, upgrade the backbone of the electronic mail system, and increase the number of student access workstations.

To supplement the campus fiber-optic and broadband network, UCSD has created wireless networks in a few locations and plans to expand them throughout the campus. The combined system will support research productivity and medical diagnostics by increasing access to supercomputers and specialized databases, advancing the availability of academic research to the private sector, and broadening learning opportunities by connecting faculty, students, and staff in various locations.

To meet physical circulation and traffic safety needs, UCSD has developed a pedestrian-oriented campus interior. Additional parking structures are being planned at peripheral locations, along with extended service of the campus-wide shuttle system.

# SAN FRANCISCO CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1873
ENROLLMENT 2004-2005 (ACTUAL)	4,051 FTE health science students
LIBRARY COLLECTION	820,362 volumes
CAMPUS LAND AREA	180 acres
CAMPUS BUILDINGS	3.0 million assignable square feet
HOSPITAL AND CLINICS	1.2 million assignable square feet

## **SAN FRANCISCO CAMPUS 2006-2011 STATE PROGRAM**

### **INTRODUCTION**

The University of California, San Francisco is a graduate health sciences campus with a 2004-05 enrollment of 4,051 students. It is a multiple-site campus with four teaching hospital sites, two UC-owned (at UCSF/Parnassus Heights and UCSF/Mount Zion) and two with which UCSF has longstanding affiliation agreements (Veterans Affairs Medical Center and San Francisco General Hospital). Parnassus Heights has been the principal center for teaching, research, and clinical programs; but, with the growth of academic and support programs at other sites, the role of the Parnassus Heights campus site is changing. UCSF's approved LRDP, which will guide campus development for another 8 years, calls for continued investment in existing sites and the development of a single major new site to consolidate some of the presently scattered locations and allow program decompression and expansion. The Mission Bay property was selected as the new site; the first parcel of land was acquired in July 1999, and the first project was completed and occupied in 2002-03. Development at Mission Bay is continuing with the planning and construction of several major projects.

As one of the nation's preeminent health sciences institutions, UCSF's mission is fourfold: teaching, research, clinical care, and public service. UCSF's success in carrying out its mission has led to growth across a wide spectrum of programs such as: molecular, cell, and systems biology research and clinical applications; structural biology and the design of antiviral drugs; pharmacology; retroviral research, especially on the AIDS virus (HIV); cancer; children's health and disease; aging; neuroscience; cardiovascular research; and epidemiology. These areas of growth are generating a tremendous demand for new space for research and clinical care activities and related teaching and administrative functions. Development of new facilities at Mission Bay will be of great importance in helping to meet these needs.

At the same time, ongoing problems in existing facilities must be addressed. These problems include the need to correct obsolescence in campus building infrastructures to meet seismic, fire, and laboratory safety requirements and to upgrade central utility, laboratory, and academic support facilities to meet the demands of modern biomedical research and teaching programs.

## **SAN FRANCISCO CAMPUS INTRODUCTION (continued)**

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UCSF faces a number of planning challenges at the central Parnassus Heights campus site. First, a serious program space deficit exists. Second, aging buildings exacerbate this space shortage. Several buildings at Parnassus are physically obsolete and/or seismically hazardous and require replacement. Many building infrastructure systems are obsolete, requiring renewal or replacement to meet utility and equipment demands as well as increasingly stringent building and fire-code requirements. Third, because the Parnassus site is so intensively developed with complex laboratory and clinical facilities, the collective demands on the central utility system for steam, electricity, and laboratory utilities require extensive upgrade and expansion. Finally, support facilities at Parnassus, such as for environmental health and safety, are aged and deteriorated and require replacement.

The campus is addressing these challenges in the following ways:

- To address the space deficit, initial development at the UCSF Mission Bay campus site is providing substantial new program space in the near term, with significant additional development capacity planned in the long-term. Programs relocating from Parnassus to Mission Bay will release space at Parnassus, which can help meet needs for program expansions.
- To address building obsolescence, UCSF has instituted a plan of ongoing replacement and upgrade of building systems to correct fire and life safety deficiencies, toxic hazards, code deficiencies, and infrastructure needs at its Parnassus buildings. The campus is substantially upgrading the mechanical systems of its core academic research buildings as well as emergency and standby power systems so that research space can meet current code and research requirements. UCSF also is renovating obsolete laboratory, clinical, and support space to meet the needs of program occupants more effectively.
- To remedy central campus utility system obsolescence at Parnassus, the campus is implementing an integrated program that began with construction of a new central utilities plant and the installation of new chillers and a cooling tower.
- To meet the concerns about seismic life safety and deteriorated support facilities, UCSF is proceeding with a program to replace or upgrade the facilities at issue.

## **SAN FRANCISCO CAMPUS INTRODUCTION (continued)**

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- To address structural seismic deficiencies in its teaching hospitals at the Parnassus and Mount Zion sites, UCSF has developed a plan that will achieve compliance with seismic requirements.
- To address deficiencies in buildings occupied by UCSF at San Francisco General Hospital, UCSF is working with the City and County of San Francisco on a plan to correct or replace deficient facilities.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

SAN FRANCISCO CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Medical Sciences Building Improvements, Phase 2 (922880)	P 1,400 W 1,632 C 15,319	C 16,379					34,730
Electrical Distribution Improvements Phase 2 (940540)		P 525	W 845	C 11,742			13,112
Medical Sciences Building Improvements Phase 3				P 600	W 1,100	C 15,300	17,000
Electrical Distribution Improvements Phase 3						P 600	15,500
<b>CAMPUS TOTAL</b>		<b>16,904</b>	<b>845</b>	<b>12,342</b>	<b>1,100</b>	<b>15,900</b>	

**SAN FRANCISCO CAMPUS  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Medical Sciences Building  
Improvements, Phase 2..... C \$ 16,379,000**

State funds are requested for the second stage of construction for an upgrade to the infrastructure of the Medical Sciences Building, a 15-story building of 224,308 asf connected to four adjacent high-rises in the UCSF megastructure. The Medical Sciences Building has been used for health sciences instruction and research programs since its construction during the 1950s. The building heating and ventilation equipment has never been renovated, now operates poorly, and requires renewal. This project will correct existing HVAC deficiencies, convert an existing steam heat system to a more efficient hot water system, improve air distribution and cooling throughout the facility, and add capacity to the chilled water plant to serve building needs. The work scope will also correct a structural deficiency to meet required seismic standards.

**Electrical Distribution  
Improvements Phase 2..... PWC \$ 13,112,000**

This project covers the second step in the implementation of the electrical system master plan for the Parnassus campus. It will improve flexibility for central plant operators to control individual electrical loads on the system in the event of a power outage and reduce the time required to restore power. The project will consist of a series of major equipment, generator, and control system upgrades as well as extension of emergency and standby power distribution from the Central Plant to core Parnassus research buildings. This will improve emergency and standby power and distribution systems and enable the campus to meet more stringent life-safety requirements.

**Medical Sciences Building  
Improvements Phase 3..... PWC \$ 17,000,000**

This project will build upon the work completed through Phases 1 and 2 of the Medical Sciences Building Improvements project, completing the upgrade of the building's mechanical systems (heating, ventilation, and air conditioning) begun in the earlier projects. The project will include chilled

**SAN FRANCISCO CAMPUS CAPITAL PROGRAM (continued)**

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water distribution, air-handling units, the heating hot water system, building management controls, and other mechanical and electrical systems.

**Electrical Distribution**

**Improvements Phase 3..... PWC \$ 15,500,000**

This is the third in a series of projects that are implementing the electrical system master plan for the Parnassus campus. The project will improve emergency and standby power sources and distribution systems and enable the campus to meet more stringent life-safety requirements. It will continue the upgrade of major equipment, generators, and control systems and also extend emergency and standby power distribution to academic and research buildings on the west side of the Parnassus campus.

## SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS

In accordance with its LRDP, the San Francisco campus has embarked on a multi-track major capital improvement program to solve a number of longstanding capital needs. In addition to projects presented in the current five-year State-funded capital improvement program, over the next decade UCSF will pursue solutions to the most important facility improvement objectives described below:

### 1. Core Academic Facilities

**Mission Bay Site Development:** As proposed in the UCSF LRDP, a total of 43 acres of land in the Mission Bay area of San Francisco is being donated and transferred in phases to The Regents to create a new campus site for UCSF research and instruction. An initial phase of 26 acres is being developed with the planning and construction of major new buildings, landscaping, infrastructure, and parking. The new campus will, over the next two decades, accommodate 2.65 million sq ft of development, plus parking. Toward this goal, UCSF has now constructed three biomedical research buildings, a new campus community center, new housing, and structured parking.

**Parnassus Site Research Laboratory Building Improvements:** The campus research capabilities at the Parnassus site are constrained by obsolete facilities which have not been able to keep up with current and projected requirements of a rapidly evolving research enterprise. In spite of significant progress made in upgrading buildings, many laboratory buildings on the Parnassus site have aging infrastructure that requires substantial upgrade to meet capacity and performance requirements of modern research. Capital needs for research facilities include major improvements of such essential elements as fire and life safety, fume hood and building air supply, electrical capacity and distribution, heat reduction, and environmental controls for equipment and occupants. Projects must be carefully planned to optimize investment, coordinate work across multiple buildings, and limit disruption for faculty and students. Space released at Parnassus from the move of biomedical research to the Mission Bay campus will be renovated and re-assigned to existing and new programs.

## **SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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### **2. Health Sciences Clinical Facilities**

**Medical Center Renovations at Parnassus:** Clinical care space requires improvements to house new imaging equipment, expand surgery and recovery areas, accommodate new interventional therapeutic procedures, and meet code requirements. Future projects will continue the renovation program for patient care and other units at Moffitt and Long Hospitals in response to rapid changes in managed care and their impact on traditional clinical in-patient facilities. Special attention is being given to increasing the numbers of beds devoted to intensive and acute care units and expanding the quantity of operating rooms. To create the space to do this within existing hospital buildings, the Medical Center has been relocating some of its diagnostic and lab support functions to various off-site locations. The expansion of academic and acute care programs related to increased in-patient activity will permit wider training opportunities for UCSF students and increase the effectiveness of the UCSF Medical Center in the managed care market.

**Medical Center Renovations at Mount Zion:** Since the integration with Mount Zion in 1990, much of the short-range development program for the UCSF Medical Center at Mount Zion has been accomplished with the completion of a research building, two medical office buildings, and a five-story Outpatient Cancer Center (into which existing outpatient clinics have been relocated). The campus will also add a new Osher Center for Integrative Medicine, a School of Medicine academic research center that will provide alternative care services. Improvements to existing inpatient buildings are pending completion of extensive review of needs, financial issues, and seismic-safety requirements for acute care hospitals mandated by the Alquist Hospital Facilities Seismic Safety Act (SB 1953—see Section 5 below) that significantly affect program plans at Mount Zion.

### **3. Auxiliary Enterprise Facilities**

**Campus Housing at Parnassus:** UCSF faces a critical housing shortage for students, junior faculty, clinical residents, and staff which has been difficult to satisfy because of the high cost of housing construction and limited campus site capacity. In the past several

## **SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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years, UCSF has converted more than 30 houses along Third and Fifth Avenues and Kirkham Street from administrative and academic offices to residential use. Several remaining houses near the Parnassus site will either be converted to faculty family housing or demolished and the sites used to build new studio apartments for students, residents, and post-doctoral scholars.

**Campus Housing at Mission Bay:** To meet the LRDP target of providing housing for 40 percent of its future student enrollment, UCSF has built new housing at Mission Bay. UCSF will also investigate development of affordable housing for junior faculty, clinical residents, and staff.

**Campus Child Care at Parnassus and Mission Bay:** UCSF presently has two child care facilities with a total licensed capacity for 132 children and a waiting list of approximately 300 families. New child care facilities are being developed at both campus sites to support recruitment and retention of faculty, staff, and students.

#### **4. Utilities, Site Development, Life Safety, Open Space, Transportation, and Parking**

**Site and Infrastructure Improvements at Parnassus:** Many of the campus utility distribution systems and building infrastructure systems are aged beyond their useful life and unable to meet current needs. While construction of the Central Utility Plant has added significant electrical and steam capacity, the Parnassus campus needs other improvements to its utility systems—including electrical, voice/data communications, steam, water, chilled water, and other service systems—in order to renew and supply sufficient capacity.

**Site and Infrastructure Improvements at Mission Bay:** As a long-range goal, UCSF plans to construct a new central utilities plant at Mission Bay to support proposed and future development. The plant will allow UCSF to produce 12 kV electrical power that will increase fuel efficiency, reduce energy costs, and minimize environmental pollution. The centralized utility system will be constructed in three phases: (1) an interim utility plant with boilers and chillers and distribution piping to three future research buildings, (2) a utility

## **SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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distribution loop to all major buildings at the Mission Bay campus, and (3) the permanent central utility plant.

**Fire Protection and Life Safety:** In response to fire and life safety code requirements, a program of building improvements will upgrade general safety for faculty, students, and staff in laboratories and teaching spaces at the Parnassus campus.

**Transportation and Parking Improvements:** The dispersed facilities of the UCSF multi-site campus and their urban setting result in significant access and circulation problems. Improvements to parking and transportation systems will provide better movement to and between several key campus sites. With few (if any) opportunities for expansion at Parnassus and Mount Zion, UCSF experiences substantial deficits in parking at these sites. On the other hand, UCSF has completed one new parking structure and is constructing a second at Mission Bay, in addition to new surface parking lots.

### **5. Corrections for Seismic Safety**

**Seismic Upgrade of Facilities:** The correction or removal of all remaining seismic hazards is a high priority for UCSF. The demolition of seismically unsound buildings at Parnassus will provide sites for some new construction, but it will also reduce overall campus built space.

UCSF is implementing its plans to address the identified seismic life safety hazards in academic facilities at Parnassus.

UCSF Medical Center clinical facilities at both the Parnassus and Mount Zion sites need structural and nonstructural seismic improvements to comply with seismic requirements. Improvements to comply with the 2002 Senate Bill 1953 seismic requirements have been completed at both sites, and State funds have been provided to address 2008 requirements at the Parnassus site.

Further improvements required to comply with SB 1953 requirements for 2030 are being evaluated and are expected to be significant in scope and cost. UCSF's existing hospitals at Parnassus and Mount Zion sites

## **SAN FRANCISCO CAMPUS OTHER CAPITAL NEEDS (cont'd)**

not only do not meet seismic standards for 2030 but also are functionally obsolete, have inefficient space layouts not easily adapted to changing practices in patient care, and lack the space to meet the growing demand for highly specialized patient care.

UCSF leases several older masonry buildings at San Francisco General Hospital (SFGH) that are used for research laboratories and offices but are seismically unsound. The campus is developing plans in coordination with SFGH to correct the seismic deficiencies or provide alternative facility solutions.

# SANTA BARBARA CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1944
ENROLLMENT 2004-2005 (ACTUAL)	18,651 FTE undergraduates 2,839 graduate students
LIBRARY COLLECTION	2.8 million volumes
CAMPUS LAND AREA	1,009 acres
CAMPUS BUILDINGS	3.5 million assignable square feet

## **SANTA BARBARA CAMPUS 2006-2011 STATE PROGRAM**

### **INTRODUCTION**

Since relocating to the current campus in 1950, UCSB has grown from a small teachers' college to a world-class teaching and research university. From 75 small World War II barracks, the campus now occupies nearly 3.5 million assignable square feet. During the 1990s, the physical face of UCSB underwent significant changes. In response to a decade of enrollment and program expansion, six new buildings were completed, including two State-funded major academic facilities. Once again the campus is experiencing a surge in new construction to meet the needs of its expanding instruction and research programs. The Engineering-Science Building and the new non-state funded Marine Science Research Building were recently completed. Two projects to serve the sciences and one serving the humanities and fine arts are under construction as well as the State-supported California Nanosystems Institute facility. Projects starting construction this year include a large complex that, in conjunction with follow-on renovations, will address the needs of 21 departments in the sciences, humanities, and social sciences. In 2006-07, State funding is requested to start design to correct the last two State-supported academic buildings rated seismically "Poor", to upgrade one of the oldest campus instruction and research buildings, and to continue the phased replacement of aging campus infrastructure. All of these improvements will greatly benefit the students, faculty, and staff at UCSB.

The age and quality of many campus instructional and research buildings, as well as the campus infrastructure, are of particular concern. Of the more than 1,000,000 asf devoted to instruction and research, over 75 percent of the space is at least 35 years old. The campus utility system is showing signs of serious deterioration, with many of the systems over 40 years old and in critical need of upgrade and expansion. A major study of the entire infrastructure of the campus—including roads, hardscape and landscape, and all utility systems—has been completed and is guiding a coordinated improvement plan.

The Colleges of Letters and Science, Engineering, Creative Studies, the Gevirtz Graduate School of Education, and the Donald Bren School of Environmental Science and Management provide undergraduate and graduate education for over 21,490 FTE students enrolled at UCSB. Projections show that by 2010-11, total enrollment at UCSB is anticipated to

## **SANTA BARBARA CAMPUS INTRODUCTION (continued)**

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grow to 22,685 FTE. Growth will be accommodated largely through summer and off-campus programs. Increases in enrollment, changes in instructional and research technology, and development of new programs and new ways to manage information will require new and improved facilities for all academic disciplines and academic support units such as the Library. Also critical to Santa Barbara's future is providing affordable housing for faculty and staff.

Three principal factors drive the capital needs of UCSB: academic planning, the campus physical environment, and the LRDP.

**Academic Planning:** Most of UCSB's attention will be focused on improving instructional resources, developing undergraduate and graduate programs, and expanding and improving the quality of research. Multidisciplinary efforts are the focus for teaching and research initiatives in all disciplines. The campus is especially committed to expanding knowledge associated with materials science, nanoscience, marine science, internationalization, technological and scientific change, and population diversity. The establishment of the Bren School of Environmental Sciences and Management and the California Nanosystems Institute are major steps toward meeting these academic goals. Other areas targeted for new and expanded program development include: education, biotechnology, film studies, communication, digital media, business, computer science, earth sciences, and cultural studies from both humanistic and social science perspectives.

**Physical Planning:** A majority of the permanent instruction and research buildings on the campus were constructed before 1972. While new facilities have been built and some of the older facilities have been upgraded, the ability of the remainder to meet current academic needs is compromised. Aging infrastructure and changes in life-safety codes have reduced the ability of several buildings to accommodate modern research and instruction programs. As funding opportunities arise, the facilities will be upgraded. Outdated temporary buildings will be removed as new space becomes available.

Another important aspect of physical planning at UCSB is preserving and enhancing its unique environment, architecture, open space, and campus circulation. In recent years, the campus has made improvements to campus circulation for vehicle and bicycle traffic and has removed a number of

## **SANTA BARBARA CAMPUS INTRODUCTION (continued)**

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temporary structures. However, the recent and projected increases in population and the construction of new facilities are putting a strain on existing road and bike systems.

**Long Range Development Plan:** The 1990 LRDP is based on a three-quarter headcount campus enrollment of 20,000 students (equivalent to 19,400 FTE) and has provided the framework for capital and physical development on the campus. The campus reached the 20,000 student enrollment this past fall and is currently reassessing the 1990 LRDP to update areas of the plan to meet projected facility needs associated with new population and program expansion.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

SANTA BARBARA CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Electrical Infrastructure Renewal, Phase 2 (986020)	P [410] X W 400 * C 6,905 * W [372] X	C 6,328 * C [2,367] X					13,633 [3,149]
Arts Building Seismic Correction and Renewal (988720)		P 865 W 990	C 19,145				21,000
Davidson Library Addition and Renovation (981230)		P 1,250	W 2,000	C 27,675		C 27,675 E 1,000	59,600
Phelps Hall Renovation (980710)		P 550 W 550	C 9,300				10,400
Infrastructure Renewal Phase 1 (986080)		P 489 P [251] X	W 239 W [123] X	W 230 W [118] X C 4,581 C [2,360] X	C 4,461 C [2,298] X		10,000 [5,150]
Education and Social Sciences Building (981240)	P 1,747 P [538] G W 2,369 W [738] G C 49,706 C [13,022] G		E 2,524 E [226] G				56,346 [14,524]
Ellison Hall Renovation (981430)			P 420 W 525	C 5,985			6,930
South Hall and HSSB Renovations (981470)				P 210 W 263	C 5,250		5,723
Infrastructure Renewal Phase 2						P 300 W 325 C 2,000	10,000
Academic Building Renewal (980720)						P 700	33,250
<b>CAMPUS TOTAL</b>		<b>11,022</b> <b>[2,618]</b>	<b>34,153</b> <b>[349]</b>	<b>38,944</b> <b>[2,478]</b>	<b>9,711</b> <b>[2,298]</b>	<b>32,000</b>	

**SANTA BARBARA CAMPUS  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Electrical Infrastructure Renewal,  
Phase 2 ..... C \$ 6,328,000  
C \$ [2,367,000]X**

State funds are requested for construction of a project to renew and replace the existing 16 kV and 4 kV electrical infrastructure system of the campus with a modern 12.47 kV distribution system. The project also will provide updated cables, switches, and a second new 12.47 kV transformer to ensure reliable power and added capacity to meet the current and future needs of the campus.

**Arts Building Seismic  
Corrections and Renewal..... PWC \$ 21,000,000**

State funds are requested for preparation of preliminary plans and working drawings for the Arts Building Seismic Corrections and Renewal project. This project will provide seismic corrections for the building, upgrading its seismic rating from “Poor” (DGS Level V) to “Good”, and renovate the facility. The Arts Building was constructed in 1959, and its infrastructure systems, including electrical, plumbing, and HVAC, are in need of renewal. The project will also correct fire, life-safety, and accessibility deficiencies and improve roofing, floors, ceiling, and window systems. The structural changes will result in the addition of approximately 1,200 asf of new space, and the project will also renovate approximately 2,500 asf of existing space to meet the instruction and research needs of the Departments of Art Studio and History of Art and Architecture.

**Davidson Library Addition  
and Renovation.....PWCE \$ 59,600,000**

State funds are requested for preparation of preliminary plans for the Davidson Library Addition and Renovation project. The campus has not constructed new library facilities since the mid-1970s. While new technology is helping to address many shortcomings, the humanities and social sciences continue to rely heavily on the services and collections of the central library, which is crowded, cannot accommodate new technology, and lacks sufficient

**SANTA BARBARA CAMPUS CAPITAL PROGRAM (continued)**

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instructional and study space. To meet collection requirements, the campus has leased over 25,000 asf of book storage space off-campus in addition to utilizing the Regional Libraries. This project will construct new library facilities of approximately 45,000 asf and renovate and seismically upgrade the oldest section of the existing Library.

**Phelps Hall Renovation ..... PWC \$ 10,400,000**

State funds are requested to prepare preliminary plans and working drawings for the Phelps Hall Renovation project. This will correct code deficiencies, upgrade major building utility systems, and renovate approximately 43,000 asf of space released as a result of completion of the new Education and Social Sciences Building. It is part of the campus overall space plan encompassing 357,000 asf of new and released space in five buildings to address critical space needs of the sciences, humanities, and social sciences. Space released in Phelps Hall will be used to increase computer and teaching laboratory space for students and to provide needed offices, teaching, and research space for departments in the sciences and humanities

**Infrastructure Renewal Phase 1..... PWC \$ 10,000,000**  
**PWC \$ [5,150,000]X**

State funds are requested to prepare preliminary plans for the Infrastructure Renewal Phase 1 project. This will replace or upgrade major campus infrastructure systems, including gas, water, storm drain, and sewerage. Most of the campus infrastructure is older than forty years and has deteriorated to such a degree that failures are becoming common, particularly in lateral sewer lines. The project will replace or renew most of the main distribution systems, including lateral lines connecting the main systems to campus buildings, increasing their capacity to meet future demand.

**SANTA BARBARA CAMPUS CAPITAL PROGRAM (continued)**

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**Education and**

**Social Sciences Building.....E \$ 2,524,000**  
**E \$ [226,000]G**

This project will construct a building of approximately 124,000 asf with facilities for instruction, research and support, office, clinic and demonstration, and film theater functions. The building will house the Graduate School of Education and academic units in the social sciences and humanities and will release existing academic space to meet instruction and research needs of other departments in the sciences, engineering, social sciences, and humanities.

**Ellison Hall Renovation..... PWC \$ 6,930,000**

This project will renovate approximately 55,000 asf in Ellison Hall as part of a campus space plan to address the growing teaching and research needs of departments in the sciences, social sciences and humanities. In addition, major building infrastructure systems will be improved, and life safety deficiencies will be corrected.

**South Hall and HSSB Renovations..... PWC \$ 5,723,000**

This project will renovate approximately 43,000 asf in South Hall and HSSB following occupancy of the Education and Social Sciences Building, to address the instruction and research needs of departments in the humanities and social sciences. This project is the final phase of an overall campus space plan responding to enrollment and faculty growth in several disciplines. Major building infrastructure systems and life safety needs will be addressed as part of this project.

**Infrastructure Renewal Phase 2..... PWC \$ 10,000,000**

This project will continue the phased renewal of 40-year-old campus utility systems including sewer, storm drain, gas, and water.

**SANTA BARBARA CAMPUS CAPITAL PROGRAM (continued)**

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**Academic Building Renewal.....PWCE \$ 33,250,000**

This project will modernize the infrastructure of two or more of the older buildings on the campus. Building systems, such as HVAC and electrical, will be upgraded to meet programmatic requirements. In addition, the project will correct fire, life-safety, and accessibility deficiencies and provide program improvements where necessary.

## **SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS**

### **1. Core Academic Facilities**

The academic direction of the Santa Barbara campus emphasizes continual improvement and strengthening of individual departments while promoting multidisciplinary development to benefit both undergraduate and graduate students. As direction of a particular field shifts and its technology evolves, individual programs experience significant changes as well. This results in pressure on existing facilities to meet new and more intensive functional requirements. In addition, the campus will experience severe space shortages from current and projected enrollment growth.

Recent new construction and renovation efforts are addressing a variety of academic needs. However, many existing academic facilities, particularly in the sciences and fine arts, are over 40 years old, in poor condition, and functionally obsolete for the needs of the programs they house. In addition, approximately 100,000 asf of instructional and research space is contained in World War II barracks and temporary structures that are overdue for replacement. Such facilities seriously constrain teaching and research and the continuing development of academic programs.

Graduate programs need sophisticated laboratories, supportive scholarly activity facilities, additional office space, and extensive library support and information systems. New academic program initiatives frequently develop from small student/faculty research efforts and are important to the academic growth and quality of the campus. These initiatives often require specialized facilities.

### **2. Auxiliary Enterprise Facilities**

Improved and expanded space is needed for auxiliary enterprise facilities to accommodate student services, housing, social, and recreational programs. University projections show campus enrollment growing to 22,685 FTE by 2010-11, including summer and off-campus enrollment. The need for affordable faculty and staff housing has become critical as retired faculty are replaced, since the

## **SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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median home price in Santa Barbara has climbed to over \$1,000,000. Faculty and staff increasingly are having to find housing at distant locations, some as far as two hours drive from the campus. Dispersed housing increases commuting, intensifies traffic congestion, worsens air quality, and requires more on-campus parking. To address this need, the campus is proceeding with planning for faculty housing on the North Campus and is in the process of completing a new Campus Housing Study that will identify areas on existing campus land where new student, faculty, and staff housing can be constructed. The campus hopes to develop these units over the next five to ten years.

In the fall of 2002, the campus opened a new 800-bed undergraduate student housing complex. This was the first new housing to be constructed since the 1980s. A 976-bed apartment complex for graduate students soon will be under construction, and a 151-unit family housing complex is in the planning stage. These developments will help the campus to meet its goal of housing 30-35 percent of its students in University-owned facilities.

### **3. Utilities, Site Development, Transportation and Parking Improvements**

**Utilities:** The campus utilities network will continue to be expanded to accommodate growing enrollments and evolving academic programs. Existing water, storm drainage, and communications lines will be extended in conjunction with expanded roadway, bicycle, and pedestrian routes to serve new development. While a number of projects to renew and expand the campus infrastructure systems are already underway, subsequent phases of the overall campus plan will need to be implemented in the next five to ten years. These out-year projects will address deficient infrastructure systems identified in the recently completed comprehensive infrastructure evaluation. Long-term improvements will focus on storm drain, natural gas, water, and sewer systems in those sections of the campus not addressed in the first two phases of the multi-phased campus plan.

**Site Development:** The campus borders the Pacific Ocean on the east and south and the Goleta Slough on the north and adjoins several

## **SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)**

environmentally sensitive wetlands. Erosion of ocean bluff tops due to natural events and storm drain run-off is a serious concern, and options to slow erosion are being examined. The campus has been working successfully with its own faculty and local habitat restoration groups to restore bluffs bordering the Goleta Slough and Lagoon. In addition the campus is working to enhance and expand pedestrian corridors that will become major public spaces for the campus.

**Transportation and Circulation:** The increase in campus population experienced over the past decade has seriously strained the existing network of vehicular, bicycle, and pedestrian circulation systems. Five primary objectives for the improvement of campus circulation are to:

- Provide safe and convenient parking facilities for students, faculty, staff, and visitors.
- Accommodate on-campus vehicular traffic between Isla Vista and other locations east of the campus with minimal disruption of campus activities.
- Introduce greater clarity into the roadway network and a better sense of orientation to the campus.
- Improve and expand the existing bicycle system by repaving paths, separating paths to ease pedestrian crossings, realigning paths to create improved flow, adding new segments, and increasing bicycle parking.
- Design a pedestrian-oriented academic core.

Implementation of the campus long-term circulation plan was initiated with the construction of the first campus parking structure and the realignment of the eastern section of Mesa Road. Additional road improvements necessary to campus growth are being planned. Two additional parking structures are under construction that will replace the spaces lost to recent building construction and allow for moderate growth in the number of overall parking spaces. An important

## **SANTA BARBARA CAMPUS OTHER CAPITAL NEEDS (cont'd)**

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component of planning is the use of transportation management alternatives.

The bicycle is an essential alternative to automobile use at UCSB, and over 18,000 are used daily on campus. The existing bike route network is expanding in conjunction with development of new buildings and extension of the roadways. New paths are being completed to better connect the east side of campus.

Pedestrian access is well established within the campus and from off-campus areas including Isla Vista. Additional improvements will improve safety, link up poorly served areas of the campus, and improve coastal access.

#### **4. Code Corrections**

As building and health and safety codes evolve and change, compliance becomes more complex and costly, requiring the campus to increase its investment in improvements. Corrective code work for accessibility and fire and life safety will be an integral part of other capital improvements.

#### **5. Seismic Safety Code Corrections**

All State-supported campus structures that had been identified as seismically “Poor” or “Very Poor” either have been upgraded to “Good” or are included in the current five-year State-funded capital program. Corrections to the three remaining non-State-supported facilities identified as seismically deficient also will be addressed within the next five years.



# SANTA CRUZ CAMPUS

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## State Capital Improvement Program

ESTABLISHED	1965
ENROLLMENT 2004-2005 (ACTUAL)	13,236 FTE undergraduates 1,348 graduate students
LIBRARY COLLECTION	1.5 million volumes
CAMPUS LAND AREA	2,000 acres
CAMPUS BUILDINGS	3.5 million assignable square feet

## **SANTA CRUZ CAMPUS 2006-11 STATE PROGRAM**

### **INTRODUCTION**

Since it opened in 1965, the University of California, Santa Cruz has won a distinctive position within the UC system as a campus devoted to excellence in undergraduate education as well as graduate studies and research. The residential college is an important part of the Santa Cruz experience. The colleges divide a large university into smaller communities, each serving as a social and intellectual gathering place for about 1,000 students and 30 to 100 faculty fellows from a variety of academic disciplines.

Campus enrollment in 2004-05 was 14,584 FTE students, including 1,348 graduate students. Current capital planning is based on enrollments increasing to 17,215 FTE by 2010-11.

The campus Space Plan and the 1988 LRDP reflected a planned enrollment of 15,000 students. These documents were supplemented by the LRDP Implementation Program and the Campus Transportation Implementation Plan, completed in 1994 and 1996 respectively. The latter documents followed the general guidance provided by the LRDP in relation to specific decisions necessary to size, site, and design new facilities and infrastructure. The campus is currently proceeding with an update to the 1988 LRDP.

The campus offers a full range of major programs within the arts, humanities, engineering, physical and biological sciences, and social sciences, as well as a number of interdisciplinary majors. In graduate study, 32 academic fields lead to awards of MA, MS, MFA, EDD, DMA, and PhD degrees.

Despite its status as one of the younger campuses within the UC system, Santa Cruz has been recognized nationally for the quality of its undergraduate and graduate programs, its commitment to undergraduate instruction, and its research.

The campus is moving forward with a number of new initiatives, including graduate programs in the arts and an interdisciplinary environmental research institute, and further expanding the School of Engineering that was established in July 1997. With this new School, the campus is developing a critical role in training the skilled engineering workforce that will drive the

## **SANTA CRUZ CAMPUS INTRODUCTION (continued)**

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economies of Silicon Valley, the Monterey Bay region, and the State in the 21st century. In addition, the campus is planning the development of a Silicon Valley Center in Santa Clara. The Center is an important element in the University's efforts to develop education and research opportunities for students and faculty, develop higher education partnerships, expand outreach programs with K-12 schools, and increase collaborative research with industry.

To sustain this progress in achieving its mission, the campus must address a number of capital program issues. Accordingly, priorities for the State capital improvement budget must consider projects for:

- **Instruction and research:** As programs evolved, especially over the past twenty years, a shortage of space developed in virtually all campus programs. Recent projects have addressed many of those needs, but space shortages and limited flexibility remain, particularly in the sciences and engineering programs.
- **Renewal of existing facilities and infrastructure:** The campus is 40 years old. The urgent need for renewal of existing facilities and infrastructure in response to changing academic programs, new health and safety requirements, declining condition, and obsolescence will have a strong influence on campus capital planning. Improvements are required not only for buildings but also for the campus fire alarm, sewer, communications, water (cooling, heating, fire protection, and domestic), electrical, natural gas, and drainage systems.
- **Circulation infrastructure:** The LRDP and subsequent planning efforts have made clear that the development of an adequate University campus circulation infrastructure is essential. The Santa Cruz campus occupies 2,000 acres, with the developed central campus (consisting of the colleges and most of the academic buildings) comprising about 400 acres. The hillside setting of the campus—with a 900-foot change in elevation—challenges planners. At no other UC campus is the topography so pronounced: the changes in elevation, many ravines, and dense trees create the need for a coordinated system of pedestrian and automobile bridges, roads, and pathways to provide more direct and efficient routes throughout the campus. This network remains incomplete and is further strained under the weight of expanded enrollment.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

SANTA CRUZ CAMPUS

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
McHenry Addition and Renovation Project (970948)	P 3,602	W 1,784	E 1,578	E 321			81,924
	W 1,461	C 5,037	C 34,359				
	C 33,782						
Digital Arts Facility (970450)	P 1,330	C 19,751	E 1,037				23,006
	W 888						
Infrastructure Improvements Phase 1 (970110)	P 777	W 370					8,610
		C 7,463					
Biomedical Sciences Facility (971250)		P 4,090	C 65,710		E 2,000		74,200
		W 2,400					
Infrastructure Improvements Phase 2 (970120)		P 367	W 300	C 6,020			6,687
Silicon Valley Center (973000)				P 270	W 700	C 19,950	21,410
Social Sciences Facility (971330)					P 2,195	W 1,440	37,552
Environmental Health and Safety Facility (971260)					P 670	W 430	10,365
Circulation Improvements Phase 1 (970300)						P 630	11,235
Infrastructure Improvements Phase 3 (970130)						P 700	13,000
Environmental Sciences Building (970250)						P 3,190	60,735
<b>CAMPUS TOTAL</b>		<b>41,262</b>	<b>102,984</b>	<b>6,611</b>	<b>5,565</b>	<b>26,340</b>	

**SANTA CRUZ CAMPUS  
2006-11 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**McHenry Addition and Renovation  
Project..... WCE \$ 43,079,000**

State funds are requested for the second of three phases of construction and for working drawings for the third renovation phase of the McHenry Addition and Renovation Project. This project will increase space for the Library, upgrade the existing seismically “Poor” (DGS level V) McHenry Library building to a “Good” rating, renovate existing library space, and provide instruction and research space to accommodate growth in campus enrollment.

The first phase will construct an 85,400 asf (117,450 gsf) addition to the existing McHenry Library. When existing Library functions have relocated from the existing building into this new addition, the older building of 114,830 asf will receive seismic, ADA, and other life safety improvements, along with programmatic renovations.

The seismic retrofit of the existing building will address perimeter walls and shear walls that do not adequately resist seismic forces, numerous discontinuous shear walls, and weak connections in the roof diaphragm and elsewhere. The existing building also will be renovated to house instruction and research space as well as library functions and services. With the new addition and the renovation, the McHenry Addition and Renovation project will provide additional space for the Library, Mathematics Department, Art History Department, Interdisciplinary Graduate Program in Arts, Writing Program, Instructional Development Support, and campus-wide academic offices. Eventually, the Library will occupy the entire facility.

**Digital Arts Facility ..... CE \$ 20,788,000**

State funds are requested for construction of the Digital Arts Facility. This project will construct approximately 25,300 asf of office, research, and teaching space for Arts Division programs. The project will help solve existing space deficiencies and provide for enrollment and program growth in the Arts Division, including the new Digital Arts and New Media (DANM) graduate program. Most of the released space created by this project will be assigned to Arts Division programs to address existing deficiencies.

## **SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)**

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### **Infrastructure Improvements**

**Phase 1 .....WC \$ 7,833,000**

State Funds are requested for working drawings and construction of the Infrastructure Improvements Phase 1 project. Most of the infrastructure on the Santa Cruz campus has been in place since the mid-1960s and is in need of renewal, as well as expansion to accommodate the major increase in campus population and development resulting from enrollment growth. Phase 1 will address the most immediate safety concerns, improve the reliability of distribution systems, and provide additional capacity for selected systems by expanding domestic/fire-protection water, stormwater drainage, and campus core cooling-water systems. Improvements to electricity, natural gas, heating water, sewer, and communications systems and additional storm water drainage and cooling-water systems will be included in future projects of this multiphase program.

**Biomedical Sciences Facility.....PWCE \$ 74,200,000**

State funds are requested to prepare preliminary plans and working drawings for the Biomedical Sciences Facility. This project will construct a facility of approximately 62,700 asf to address existing space shortages and projected enrollment growth in the sciences and engineering. Recent technological advances (such as the decoding of the human genome), an aging population, the identification of new environmental and inherited health risks, and the emergence of new infectious diseases are all driving biomedical sciences to advance at an unprecedented pace. This project will provide interdisciplinary wet laboratory space and core specialized facilities requiring heavy utility infrastructure for scientists investigating health and medical issues involving Molecular and Cellular Biology, Chemistry and Biochemistry, Environmental Toxicology, and Biomolecular Engineering.

### **Infrastructure Improvements**

**Phase 2 .....PWC \$ 6,687,000**

Infrastructure Improvements Phase 2 will provide continued improvements to stormwater drainage, core heating water, electricity, and natural gas systems. Most of the infrastructure on the Santa Cruz campus is 40 years old and in need of renewal and expansion to support the major increase in campus population and development resulting from enrollment growth. The

**SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)**

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planned improvements will address health and safety concerns, improve the reliability of distribution systems, and provide additional capacity for currently planned buildings.

**Silicon Valley Center.....PWCE \$ 21,410,000**

A new off-campus Center is being developed in the Santa Clara Valley to support the development of collaborative programs in education and research among local educational institutions, industry, and the community. The Silicon Valley Center will provide UC with a presence in the Valley and respond to significant statewide and regional needs that include growing educational and workforce issues, the rising demand for UC programs in the Valley at a time of technological and economic changes, and the growing and increasingly diverse high school population in the Santa Clara region.

**Social Sciences Facility .....PWCE \$ 37,552,000**

This project will provide approximately 50,000 asf of new space to meet needs resulting from serious space deficiencies and from projected enrollment increases, particularly in social science disciplines. The project will construct a facility to include teaching, research, and office space for the Economics and Education departments and the Social Sciences Division. Released space resulting from this project will benefit Engineering, Psychology, Anthropology, other Social Sciences programs, and the Humanities. Residential space that has been used to meet this need temporarily will be returned to Housing operations.

**Environmental Health and Safety Facility ..... PWC \$ 10,365,000**

Existing campus facilities for handling hazardous wastes are inadequate, do not meet current health and safety codes, and cannot accommodate workload increases associated with projected growth. Hazardous and radioactive wastes handling and staging space, a laboratory, and technical and administrative support space are planned in a facility of approximately 10,000 asf in the Science Hill area.

## **SANTA CRUZ CAMPUS CAPITAL PROGRAM (continued)**

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### **Circulation Improvements**

**Phase 1 ..... PWC \$ 11,235,000**

The existing campus roadway system does not provide efficient circulation of campus traffic and must be expanded to safely accommodate current needs and planned campus growth. The necessary improvements, implemented in one or more projects, include connection of existing inner campus roads, extension of existing roads, and a third campus entrance. The proposed upgrades will improve vehicle circulation, promote safety for pedestrians and bicyclists, provide efficient shuttle bus routes, and allow rapid access for emergency vehicles.

### **Infrastructure Improvements**

**Phase 3 ..... PWC \$ 13,000,000**

Most of the infrastructure on the Santa Cruz campus has been in place since the mid 1960s. The Infrastructure Improvements Phase 1 and Phase 2 projects were designed to prevent immediate failures in existing systems and increase capacity for short-term campus growth. The proposed Phase 3 project will provide additional improvements for domestic/fire-protection water, electrical and natural gas systems, and the campus communications infrastructure and sewer system. These upgrades will address remaining problems in the existing systems and provide additional capacity for future growth.

### **Environmental Sciences**

**Building .....PWCE \$ 60,735,000**

This project will provide approximately 53,000 asf of space to meet the needs resulting from recent and planned enrollment growth, particularly in the Physical and Biological Sciences Division. Expansion space will be provided for Ecology and Evolutionary Biology, Earth Sciences, Ocean Sciences, and Environmental Toxicology, as well as for Environmental Studies in the Social Sciences Division. The project will construct an environmental sciences facility on Science Hill in proximity to the existing Earth and Marine Sciences building. Interdisciplinary research laboratories, core specialized facilities, and office space will be included.

## **SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS**

### **1. Core Academic Facilities**

**Physical and Biological Sciences and Engineering:** Physical and biological science programs at Santa Cruz have increased in quality and enrollment, as have engineering programs. New facilities have been provided, but additional facilities are needed, and the campus is still in the process of consolidating programs and making necessary improvements in the older buildings.

The Marine Science Campus, located on the Monterey Bay coast, has completed two new gift-funded facilities, but an addition to the Ocean Health Building is needed to provide the laboratories necessary for research and for teaching undergraduate and graduate students the latest methods of sampling, testing, identifying, and evaluating substances and compounds. In addition, the infrastructure needs to be expanded and improved to support continued development of the 100-acre marine sciences complex for UC and other research partners.

**Residential Colleges:** The colleges at Santa Cruz provide an important living and learning context for undergraduates as well as being the location of most of the academic facilities for Humanities and Social Sciences instruction and research, including classrooms, faculty and administrative offices, and support facilities. The campus LRDP calls for expansion of the ten existing colleges to support future enrollment.

**The Arts:** Arts programs at Santa Cruz have grown rapidly over the past decade, and an array of supporting facilities are required to meet current needs as well as continued growth of the programs. Of particular importance are special performance facilities for mixed uses. The Music program would benefit substantially from the addition of a concert hall of 800-1,500 seats for student and faculty academic programs, a University guest artist series, University non-music convocations and lectures, and community-based music performance organizations. A University Art Gallery to support art programs will be developed as a central facility for the University's future cultural facilities. An area in the academic core has been

## **SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS (continued)**

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identified as a location for both a gift-funded concert hall and a gift-funded art gallery.

**Classrooms:** General assignment classrooms will be included in new academic buildings to be constructed as enrollment grows. Specific projects will be planned to maintain an efficient match between class sizes and room sizes.

### **2. Administrative and Student Support Facilities**

Existing administrative space is inadequate and scattered throughout the campus and in leased and purchased space off-campus. Space will continue to be leased off-campus for administrative units until funding is available to construct new space or renovate existing space.

**Student Support Facilities:** Student fees will help to fund expansion of appropriate student support offices and services. A number of fee-supported buildings—recreational, student activity, and auxiliary enterprise—will be constructed as they become financially feasible. This includes expansion and renovation of the Cowell Health Center, an outdoor event/soccer stadium and sports field, new student union facilities, and a campus event center seating 3,000 to 5,000 people.

**Child Care:** Demand for child care on the campus greatly exceeds the supply, primarily as a consequence of insufficient space. Gift funds are being raised for the construction of a new Early Education and Child Care Center to replace and expand existing child care operations at Family Student Housing. The new facility will double the number of children provided for on campus.

### **3. Auxiliary Enterprise Facilities**

Construction of residence halls and apartments in the colleges is planned and will be coordinated with enrollment growth, demand, and financial feasibility. Student activity space and special support elements will be completed in the colleges as gift funds become available.

## **SANTA CRUZ CAMPUS OTHER CAPITAL NEEDS (continued)**

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**Student Housing:** Housing projections raise serious concerns over the supply of on- and off-campus housing. The campus is aggressively pursuing new housing opportunities. Enrollment growth will be accommodated in a series of new housing projects, as well as in other locations.

Residence halls and apartments are planned for each new college, infill housing has recently been completed for some existing colleges, and existing family student housing is planned to be redeveloped at a higher density. Other housing may be provided by developers using third-party financing.

**Faculty/Staff Housing:** Faculty and staff housing also is in short supply in the Santa Cruz area. The recent purchase of off-campus housing units and a series of construction projects on campus inclusion-area land are expected to add more than 300 housing units for faculty and staff.

#### **4. Utilities, Site Development, Transportation and Parking Improvements**

The campus is 40 years old. Older buildings have mechanical, electrical, and fire-safety deficiencies and outdated technologies. Some underground utilities require renewal, modernization, or expansion. Additionally, the 1996 Campus Transportation Implementation Plan recommends a series of program and infrastructure improvements to accommodate the transportation, parking, and access needs of the campus. The plan includes circulation improvements such as new bridges, pedestrian paths and roadways, new parking lots, and an expanded Travel Demand Management Program.



# AGRICULTURE AND NATURAL RESOURCES

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## State Capital Improvement Program

ESTABLISHED	1952
RESEARCH AND EXTENSION CENTERS	9
LAND AREA	12,653 acres
BUILDINGS	513,252 assignable square feet

# **AGRICULTURE AND NATURAL RESOURCES 2006-2011 STATE PROGRAM**

## **INTRODUCTION**

Within the University of California, Agriculture and Natural Resources (ANR) is responsible for research and extension services in the areas of agriculture, the environment, natural resources management, and human and community development. These research and extension responsibilities also are authorized by three federal legislative acts: the Morrill Act of 1862, which provided land grants to states and territories to establish colleges for the teaching of agriculture and mechanical sciences; the Hatch Act of 1887, which established experiment stations to conduct agricultural research at the land-grant colleges; and the Smith Lever Act of 1914, which provided federal support for extension services in the agricultural colleges to transfer knowledge and identify new research needs. These Acts are the basis for ANR's formal link with the U.S. Department of Agriculture.

As one of the most highly regarded research and extension programs in the world, Agriculture and Natural Resources has affected and influenced agriculture throughout the State and nation for over 100 years. The effects of these programs have been widespread, from model production methods applied in third world countries to biotechnology innovations employed throughout the worldwide agricultural community.

ANR has two principal components: the Agricultural Experiment Station and Cooperative Extension.

The Agricultural Experiment Station supports research in a broad array of disciplines related to food, nutrition, agriculture, natural resources and the environment, veterinary medicine, and human and community resource development. This research takes place in three colleges and one school on the Berkeley, Davis, and Riverside campuses and at nine agricultural Research and Extension Centers. The State-funded capital program for ANR primarily addresses needs at the Research and Extension Centers.

Cooperative Extension conducts applied and adaptive research and offers a broad range of educational programs designed to transfer knowledge and research-based information from the campuses for use by individuals and organizations in both rural and urban areas throughout the State.

## AGRICULTURE AND NATURAL RESOURCES INTRODUCTION (continued)

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Cooperative Extension has programs in all counties in California, as well as several remote sites which support extension activities.

ANR's strategic planning process has identified two high priority issues driving its programs:

- **Agricultural Resources:** ANR's priorities for research and extension programs in agriculture emerge from new opportunities at the leading edge of science, including biotechnology, and from the continuing need in California's agricultural systems to improve on already advanced performance. Two recurring themes are efficient and sustainable agricultural systems adjusted to scarcer resources, and pest and disease management. These reflect the pressures of population growth and change in California, competition in a global economy, development of new production areas, and the continuing threat of pests and diseases to more intensive farming systems. The very diversity of California agriculture, with over 250 commodities, creates additional needs. Sustainability of the system derives from reduced or redirected inputs, more efficient practices, improved cost effectiveness, reduced environmental impacts, and optimized land and water use. Improvements are needed in all these areas. Other needs are integration of new and developing pest and disease control technologies into management strategies, and development of rapid diagnostic and predictive tools.
- **Natural Resources:** Priorities in this area include (1) land, water, air, and wildland resources; (2) biological systems and diversity; and (3) environmental quality. Urgent needs for research and extension programs are driven by the impact of population on California's natural resources, which are increasingly threatened by competitive demands and pollution. The integrity and sustainability of biological systems are declining, with impacts on forest and rangeland ecosystems and other natural communities. For watersheds, scientifically sound decision-making strategies and management techniques are needed to balance competing needs among water utilization, timber harvesting, recreation, grazing practices, fish and wildlife habitat, and other factors. Water resources strategies are needed for allocation of resources, quality assessment, and public policy development—including water transfers, possible use limits,

## **AGRICULTURE AND NATURAL RESOURCES INTRODUCTION (continued)**

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and investigation of alternative sources. Water quality will continue to be crucial, so more information and education are needed on the levels of water quality required to sustain ecosystems, production agriculture, recreation, and other uses. Management strategies are needed in dealing with wildland fires while maintaining public safety and environmental quality, as increasing fuel loads result in enormous economic, social, and environmental costs.

Addressing these issues requires adequate and modern facilities to enable research and extension staff to fulfill the University's academic goals for this division, to provide practical education, to transfer knowledge, and to identify new research needs.

### **Planning Strategy**

An in-depth evaluation of both campus and REC facilities was conducted to determine condition, adequacy, and sufficiency of space related to agricultural research and outreach programs. ANR oversees and coordinates these issues across the University, provides support for the campuses, and has direct responsibility for operating the Research and Extension Centers. ANR studies have confirmed that many facilities which support these programs are in poor condition, inadequate to meet current needs, and inefficient. This constrains ANR's instructional and research functions and presents a major capital need.

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

AGRICULTURE AND NATURAL RESOURCES

PROJECT NAME	PREFUNDED	PROPOSED 2006-07	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST
			2007-08	2008-09	2009-10	2010-11	
	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)	(000s)
Kearney REC Pressure Irrigation System (9506200)		P 20 * W 40 * C 938 *					998
Hopland REC Field Laboratory and Educational Center			P 60 W 90 C 1,500				1,650
Kearney REC Insectary Facility					P 60 W 70 C 1,440		1,570
Intermountain REC Field Laboratory and Educational Center						P 40 W 70 C 880	990
<b>TOTAL</b>		<b>998</b>	<b>1,650</b>		<b>1,570</b>	<b>990</b>	

**AGRICULTURE AND NATURAL RESOURCES  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Kearney REC Pressure  
Irrigation System ..... PWC \$ 998,000**

State funds are requested for preliminary plans, working drawings, and construction of the Kearney REC Pressure Irrigation System project. This project will construct an on-demand pressurized irrigation system to support agricultural field research at the Kearney Research and Extension Center located in Fresno County. The current system is inadequate to support the research program, and its operation is labor- and energy-intensive. The new system will accomplish three objectives: improved research through better handling and control of irrigation, water conservation through more efficient water delivery methods, and improved energy efficiency through better control of peak load electrical use.

**Hopland REC Field Laboratory  
and Educational Center..... PWC \$ 1,650,000**

A new 5,000 asf facility will be constructed to accommodate research, extension, and related educational activities. The Hopland Research and Extension Center has become a resource and focal point for studying the management of North Coast natural resources, in addition to its traditional role of the “sheep station.” With this expanded role, there is a critical need for space to accommodate small and large numbers of participants. The project will provide open multipurpose and workroom space for dry-lab activities, seminars, and community-based educational functions.

**Kearney REC Insectary Facility..... PWC \$ 1,570,000**

The project will construct approximately 3,000 asf of new space for the rearing of a wide variety of insects and mites for research. Research on integrated pest management, insects, and their predators results in more efficient, environmentally friendly, and safer farming practices, as well as response preparedness for mitigating the effects of new invasive pests. The proposed facility will provide the appropriate space and environmental controls for optimum growing conditions for varied species of insects, while decreasing cross-contamination risks. The facility will be used by onsite,

**AGRICULTURE AND NATURAL RESOURCES  
CAPITAL PROGRAM (continued)**

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campus, and county-based researchers and their students involved in insectary, greenhouse, and field research.

**Intermountain REC Field Laboratory  
and Educational Center..... PWC \$ 990,000**

A multipurpose laboratory facility of approximately 3,000 asf will be constructed to accommodate a wide range of research and service activities at the Intermountain Research and Extension Center. This Center has become a resource and focal point for studying mountain/high desert agriculture, and there is a critical need for space to accommodate larger numbers of participants in research, extension, and educational activities. Faculty, Cooperative Extension Specialists, and Cooperative Extension Advisors will use the facility for a variety of agriculture and natural resource activities. This project will provide in-the-field multipurpose space for dry laboratory activities, seminars, and educational programs.

## **AGRICULTURE AND NATURAL RESOURCES OTHER CAPITAL NEEDS**

Many of ANR's research, education, and extension programs are conducted at remote Research and Extension Centers (some located hundreds of miles from UC campuses). These centers support campus, regional, and county-based researchers, educators, and students. Their facility requirements are similar to those of campuses requiring modern research laboratories, meeting and classroom space, administrative support space, and related infrastructure.

Buildings and other facilities at ANR's Research and Extension Centers include scientific laboratories, field laboratories, academic and administrative offices, greenhouses, livestock barns, special-use equipment-intensive support facilities, classrooms, meeting facilities, maintenance shops, and storage buildings. The required infrastructure includes domestic and agricultural water systems, wastewater systems, electrical and gas distribution systems, roads and fences, security and fire-protection systems, and hazardous-waste storage and treatment systems. Many of these facilities are antiquated, in poor condition from years of use in harsh environments, of a design that no longer supports contemporary research needs, and have environmental health and safety concerns.

Programs conducted at the Centers have changed markedly over the years, reflecting changes in both issues of concern and methods used to conduct research in agriculture, biology, resource sciences, and related disciplines. These facilities must support multi-disciplinary initiatives in growing methods, pest control, water management, resource conservation, and other subjects necessary to respond to new issues and needs facing the State.

Field infrastructure and buildings should be renewed and improved and new facilities added to meet continuing needs and new requirements in support of these essential field laboratory resources and programs of the University.

**Capital Needs:** Factors influencing capital needs of the division include:

- Lack of analytical chemistry laboratories has restricted initiation of new research programs at many of the Centers. In addition to the projects in the current five-year capital program, other facilities must be constructed in the near future to accommodate increased demand for this type of space in conjunction with field facilities.

## **AGRICULTURE AND NATURAL RESOURCES OTHER CAPITAL NEEDS (continued)**

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- Larger multipurpose rooms are urgently needed to accommodate meetings and classes with researchers, students, industry, and community groups. Facilities for such meetings are scarce in many of the communities associated with these remote locations.
- Many other facilities and infrastructure systems are inappropriate and outdated for current research methodologies and for the level of activity at these centers. Buildings are substandard, unsuitably configured, inadequately sized, and incompatible with current requirements. There is a lack of technologically advanced equipment. New or remodeled space and support systems are essential to provide service to University research programs and to deliver the educational programs that are an integral part of ANR's mission.



# **UNIVERSITYWIDE**

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State Capital Improvement Program

2006-2011 STATE CAPITAL IMPROVEMENT PROGRAM

CCCI 4632  
EPI 2726

UNIVERSITYWIDE

PROJECT NAME	PREFUNDED (000s)	PROPOSED 2006-07 (000s)	FUTURE FUNDING REQUIREMENTS				TOTAL PROJECT COST (000s)
			2007-08 (000s)	2008-09 (000s)	2009-10 (000s)	2010-11 (000s)	
Southern Regional Library Facility Phase 3						P 1,000	23,000
Inflation Adjustments			13,000	24,000	32,000	40,000	
<b>TOTAL</b>			<b>13,000</b>	<b>24,000</b>	<b>32,000</b>	<b>41,000</b>	

**UNIVERSITYWIDE  
2006-2011 STATE CAPITAL IMPROVEMENT  
PROGRAM**

**Southern Regional  
Library Facility Phase 3 .....PWCE \$ 23,000,000**

The Southern Regional Library Facility (SRLF) is one of two regional service centers for the UC library system, providing expeditious access to and economical storage for important research materials of infrequent use. The SRLF, located in Los Angeles, was planned for periodic expansion to accommodate continuing deposits by campuses of the University. The Phase 2 facility is rapidly approaching the limit of its capacity. The proposed Phase 3 project will increase the storage area by providing a third shelving module, with associated services, mechanical equipment, and fire and life-safety improvements.

**Inflation Adjustments**

Project budget data presented in the University's five-year capital outlay program are normalized to California Construction Cost Index (CCCI) 4632 and Equipment Price Index (EPI) 2726, the State's approved cost indices for the 2006-07 budget.

The reserve defined in this funds item will be used for inflation adjustment in subsequent annual cycles of the capital program.