Challenged by growth, campus planners looked to the past for a Farm-friendly solution.

David Lenox well remembers the first time he saw the Stanford campus. It was in December 2004, and he had just flown in from Columbus, Ohio, to be interviewed for the job of university architect and director of campus planning. "I told the friend I was staying with to drop me off a day early so I could try and get the lay of the land," says Lenox, then a principal at NBBJ, the nation's third-largest architectural design firm. "He left me off at 7 in the morning in front of the Main Quad. It was cold; I was the only person there, and I vividly remember walking into Memorial Court and seeing Rodin's *Burghers of Calais* looming in the fog. What a show-stopper. I remember thinking, 'Oh, my God. Great things happen in this place.'"  

BY THERESA JOHNSTON
QUAD CITY:
Olmsted's original design called for a series of quadrangles along a horizontal axis, an idea Stanford has returned to.
Lenox got the job, and with it, an intriguing challenge. After a slowdown early in the decade, Stanford was ready to jump-start the biggest building boom since its founding—a 21st-century push to replace outdated labs and medical facilities, improve arts venues and house a higher percentage of students and faculty on campus. Donors were ready to help. Yet county regulations and Stanford’s planning principles did not favor an immediate expansion beyond the main campus. All of Lenox’s projects would have to fit within a strict “academic growth boundary,” most of them within the Campus Drive loop.

President John Hennessy had assured the Stanford community that open space in the campus core, “an essential part of our identity [that] differentiates us from our peers,” would not be sacrificed. So the architect was looking at a puzzle: how could he arrange all these new infill projects, vital to the advancement of teaching and research, yet preserve the park-like essence of the original Farm? Could Stanford grow up and still have the oak-shaded courtyards, pathways and playing fields that generations of students and faculty cherished?

The answer has demanded creative land use planning by Lenox and his colleagues, as well as difficult trade-offs. To clear space in the campus core for a modern mechanical engineering building, for example, the Board of Trustees has okayed demolition of the Storke Building and the nearby Building 630. Two buildings on Serra Street that house payroll, human resources and various other administrative offices are to be flattened soon to make room for a new Graduate School of Business. To preserve the campus core for academic use, the majority of staff members from those offices—along with hundreds of other Stanford employees who can do their jobs remotely—eventually will be moved to a new satellite campus in Redwood City (see sidebar, page 52).

Elsewhere at the University, expansive asphalt parking lots gradually are being removed from the central campus and replaced by peripheral and underground structures, some topped with playing fields. New energy-efficient dorms and academic buildings are going up two or sometimes three stories taller than their one- or two-story predecessors, with expansive basements and flexible floor plans that can be changed as the need arises. At the same time, structures are being sited and landscaped more cohesively, reviving the orderly pattern of quadrangles and long vistas conceived by the original campus planner, Frederick Law Olmsted.

For many campus visitors this fall, the scope of all this work in progress may be startling: bright orange tower cranes next to Wilbur and Stern halls, cavernous excavations off the Main Quad, road closures, and the displacement of familiar landmarks like Kresge Auditorium and the old bike shack. Yet Lenox is confident that the Farm of the future, though necessarily denser, will retain what he calls Stanford’s unique “sense of place.” As he told an audience at the Cantor Center for the Visual Arts recently, his first responsibility at Stanford is to provide the framework for
cutting-edge research and teaching. But a second important charge “is to make sure the campus doesn’t change so much that people who know and love it feel alienated….. We really are trying to preserve the character of the University.”

LENNOX’S JOB WOULD BE EASIER today if earlier campus builders had followed the intended script. The original template for the University, hammered out by founder Leland Stanford and Olmsted in 1888, was a model of clarity. Approached from Palm Drive, campus buildings were supposed to be organized, like railway carriages, into neat quadrangles. The primary north-south axis led from Palm Drive through Memorial Court to the Inner Quad and Memorial Church. The second axis was supposed to extend laterally east and west, from the Inner Quad into additional quadrangles, as the University grew.

First to depart from the plan was Jane Stanford, who took over after her husband’s death in 1893. Although she finished the Main Quad as intended, her own projects, including the museum and the old chemistry building, were constructed well away from it. The trend toward decentralization continued in subsequent decades, until eventually—as emeritus art professor Paul Turner writes in Stanford University: An Architectural Tour—the notion of an expanding series of quadrangles was lost altogether, “replaced by a more traditional pattern of individual buildings fronting on streets.”

After World War II, the proliferation of parking lots and hastily built labs cluttered the campus core still more. Yet even as late as the mid-1950s, Stanford retained much of its original rural flavor. Tony Inderbitzen, ’57, a retired marine geophysicist who returned recently for a class reunion, remembers a postwar campus with far fewer buildings, surrounded by fertile farm fields. “We were like a peaceful and unique island surrounded by, yet somewhat isolated from, a sea of hectic, harried humanity,” he recalls.

As development continued into the 1960s, ’70s and ’80s—and particularly after the 1989 Loma Prieta earthquake—the need for a more coherent master plan became obvious. Shortly before the University’s centennial, in 1991, Stanford trustees asked then-University architect David J. Neuman to study the original Olmsted design to see whether it might be resurrected. The answer was a resounding yes. The logical starting point was just west of the Main Quad, in an area of dingy cinderblock structures known not so affectionately as Stanford’s Industrial Slum.

Working closely with President Gerhard Casper and outside architects, Neuman began clearing out the homely postwar labs and replacing them with contemporary structures, organizing them around a clear western axis and quadrangle as Olmsted prescribed. Opened in 1999, the Hewlett and Packard Quad was flanked by four sleek modern buildings dedicated to science and engineering: A new neighboring Science and Engineering Quad (SEQ), is under construction. It will be anchored by the recently finished Jerry Yang and Akiko Yamazaki Environment and Energy Building, the Jen-Hsun Huang School of Engineering Center, a bioengineering/chemical engineering building and a nanotechnology center, replacing the old Ginzton applied physics lab (see campus map, page 49).

GRAND ENTRANCE: The planned Stanford Institutes of Medicine Building is one of a series aimed at fostering collaborative research.
FOR LENOX, who succeeded Neuman in March 2005, SEQ is just one piece of an 8,880-acre picture. Under the University’s current General Use Permit (GUP)—a land-use agreement painstakingly negotiated with Santa Clara County in 2000—Stanford may build up to 2 million gross square feet of academic, athletic and student recreational facilities on its core campus, not counting housing or hospital development (the latter being regulated by the City of Palo Alto). Of that 2 million, he says, “We have a strong indication of what the first million looks like.”

The largest infill project south of the Main Quad is the new Munger graduate student apartment complex, soon to be joined by a modern Law School academic building. To the east of the Main Quad, a long-range vision calls for a fresh undergraduate residential quad flanked by Toyon Hall, a renovated Encina Commons and possibly a new dorm. Groundbreaking is scheduled this summer for the new Graduate School of Business on Serra Street, while the Hoover Institution is set to expand where the Cummings Art Building now sits. Offices, classrooms and studios housed in Cummings will move to the former anatomy building near the art museum.

North of the Main Quad, planners hope to completely rebuild Stanford Hospital during the next dozen years to provide better patient care and comply with state-mandated seismic safety standards (see sidebar, page 51). Nearby, the Medical School will be revitalized and fronted by two Learning and Knowledge Centers that will include simulated operating rooms and intensive care units. At the same time, a new arts district will begin to materialize around the Palm Drive loop, starting with a world-class concert hall and a building to house Stanford’s visual arts departments.

In terms of new gross square footage, Provost John Etchemendy calls it “the most ambitious capital plan in the history of the University.” But he quickly adds, “We would not be fulfilling our mission, the creation and dissemination of knowledge, if we didn’t expand.” As he explains, the main factor driving Stanford’s building boom is the expansion of knowledge itself. Thirty years ago, fields like nanotechnology and bioengineering didn’t exist. The humanities have expand-

IDEA LAB: The Jon-Hsun Huang School of Engineering Center will anchor the new SEQ.

THE FARM 2.0

1 Science and Engineering Quad Now under construction just west of the Main Quad, this new science and engineering precinct will include the Jen-Hsun Huang School of Engineering Center, a new bioengineering/chemical engineering building, a nanotechnology center and the recently completed Jerry Yang and Akiko Yamazaki Environment and Energy Building, known as Y2E2. Finished with limestone exteriors and red tile roofs, the contemporary buildings will frame a large open quad with a rotunda off the School of Engineering that will feature a café on the main floor and a library on the second. The adjoining Hewlett and Packard Quad will undergo slight modifications to better link it to the new area. Estimated completion: 2013.

2 School of Medicine Fairchild Auditorium is being replaced by a new “front door” to the Medical School: a five-level building to be known as the Li Ka Shin Center for Learning and Knowledge. Fronted with limestone and glass, the LKSC will include classrooms, a conference center, student facilities, the dean’s suite and simulation-based learning centers. A future building will house a library and the office of medical student affairs. The school’s long-range master plan includes a series of buildings to house the Stanford Institutes of Medicine, all tied together by an “academic walk” with historic markers leading from the Clark Center. Estimated completion: 2010.

3 Stanford Hospital (see sidebar, page 51)

4 Graduate School of Business Set near the Schwab Residential Center for graduate students, the GSB’s new campus on Serra Street will consist of eight buildings organized around three quadrangles.

Known as the Knight Management Center, the $275 million development will include flexible classrooms that can accommodate a greater number of small classes and seminars. The project also will feature a community plaza, 600-seat auditorium, dining pavilion, library information center, executive education space, faculty and staff offices, and underground parking. Estimated completion: 2011.

5 White Plaza Planners hope to reorganize this vital campus hub to improve circulation for bikes and pedestrians, reduce asphalt and upgrade its landscaping. The plan includes a central plaza and a major park-like open space between the recently renovated Old Union and the Stanford Bookstore. Estimated completion: 2008.

6 Advanced Vehicle Facility This metal-frame building will provide garage space for several student engineering groups, including the Stanford Solar Car Project. Estimated completion: 2009.

7 Green Dorm This Row house, sponsored by the department of civil and environmental engineering, will shelter approximately 47 students and incorporate a range of eco-friendly building design features. Estimated completion: 2013.

8 Black Community Services Center The BCSC is adding a new building adjacent to its existing house near Tresidder Union. Estimated completion: 2008.

9 Panama Mall/ School of Engineering Building 630 and the Storke Student Publications Building will be replaced by a new building for the department of mechanical engineering. Nearby, the Durand.
McCullough, Moore and Peterson buildings will be remodeled. Estimated completion: 2011.

**Lorry Lokey Stanford Daily Building** The student newspaper's new two-story building will be located along Panama Mall, right behind the newly renovated Old Union complex. The design includes individual offices for each editorial department, conference rooms and a kitchen area. Estimated completion: 2009.

**Encina Commons** Built in 1923, Encina Commons served as a dining hall adjacent to the first men's dorm on campus. Its renovation will provide space for the Freeman Spogli Institute, the University's primary forum for interdisciplinary research on international issues. The facility also will house public policy, political science and international comparative area studies, and the Institute for Research in the Social Sciences. Estimated completion: 2011.

**Burton and Deedee McMurtry Art Building** Campus planners are assessing how best to use Stanford's historic Old Anatomy Building and site for the department of art and art history and the new department of film studies. Besides providing much-needed studio and classroom space, the project would encourage multidisciplinary collaboration among campus artists in a setting right next to the existing Stanford Museum/ Cantor Arts Center. Estimated completion: 2012.

**Crothers Hall** Originally built to house male law and engineering students in the late 1840s/early 1950s, this residence will be renovated to include four-person suites, premier single rooms, common spaces and a dedicated dining facility. The residence will be part of a new undergraduate housing quad that will eventually be completed on the east side of campus. Estimated completion: 2010.

**Peter and Helen Bing Concert Hall** Perhaps the most highly anticipated building on campus, Stanford's new performing arts venue will be located adjacent to Frost Amphitheater. The project will contain a main auditorium and a studio theater, both designed to the latest technical and acoustical standards. Estimated completion: 2011.

**Hoover Institution Office & Conference Center** Cummings Art Building will be torn down and replaced by a new office building and conference center that can be used jointly by the University and the adjacent Hoover Institution on War, Revolution and Peace. Estimated completion: 2011.

**School of Law** Kresge Auditorium will be replaced by a new academic building that will provide office space for law faculty and clinics. Next door, the Muir Graduate Residences will feature 358 high-end apartments. Common spaces will include a great hall, cafe-kitchen, meeting space and convenience store. A four-level underground parking structure will be located next door under Wilbur Field. Estimated completion: 2011.

**Track House/Visitors Center** Now a retail shop, the Track House will be transformed into a new home for Visitor Information Services. The project will include improvements to nearby bleachers. Estimated completion: 2009.

**Stanford Institute for Economic Policy Research** SIEPR's new headquarters, to be known as the John A. and Cynthia Fry Gunn Building, will be divided into two wings with a glass connector. It will provide office and support space for faculty, fellows and research assistants, as well as a conference and seminar center. Estimated completion: 2009.
ed as well, and with them the number of faculty and grad students who need to live and work on campus. “Think of history,” says Etchemendy, PhD ’82. “It used to be that the department had political historians and specialists on Europe and the United States, not cultural historians who look at how ordinary people lived. Few were studying Africa, India or Asia. And guess what? We do that now. We wouldn’t be providing a good education to our students if we didn’t.”

Another factor driving Stanford’s capital plan is the continuing dearth of affordable off-campus housing. If Stanford wants to continue attracting the nation’s top high school grads, graduate students and young faculty, it needs to house them at least as well as peer institutions would. That means building more residences on campus—and nicer ones at that. Margaret Dyer-Chamberlain, senior director of capital planning and space management at Stanford, has counterparts across the country whose universities are pouring millions of dollars into new dorms, with amenities ranging from high-speed Internet access to reception desks and Jacuzzis. There are no plans at Stanford to install Jacuzzis, but Dyer-Chamberlain notes that the “one-size-fits-all model”—a corridor lined with double rooms and shared bathrooms—is rapidly disappearing.

Students and faculty aren’t the only ones who like the idea of more on-campus housing. As Santa Clara County sees it, every person residing on the Farm is one less commuter clogging the local roads. According to the GUP, Stanford must adhere to a number of conditions to develop its lands—108 of them, to be exact. An academic growth boundary stipulated and defined in the GUP, along with local zoning provisions, severely restricts construction in the Stanford Foothills south of Junipero Serra Boulevard for the next 25 years; hence the need to use space wisely on the core campus. Another part of the agreement states that for approximately every 1,000 square feet of academic space it adds, Stanford must add the equivalent housing capacity of one bed.

THE FIRST MAJOR student housing development to be built under the new GUP has turned out to be the biggest infill project in campus history: the 600-bed Munger graduate student residences, now going up next to the School of Law. Made possible by a $43.5 million donation from prominent lawyer and businessman Charles T. Munger and his wife, Nancy B. Munger, ’45, the development will feature premium apartments with tiled showers, dishwashers and Corian kitchen countertops.

From the University’s standpoint, the Munger gift was a godsend: by satisfying the county’s housing requirement, the project freed Stanford to construct science labs and other academic buildings while opening much-needed space in Crothers and C. Menlo for undergrads. For Lenox, who earned his master’s and later taught at Ohio State before joining private practice, it also was a less in the delicate art of university relations. As he quickly learned after his arrival from Columbus, many campus residents were wary of the proposed development. Early drawings had suggested three rectangular corporate-looking buildings of four, five and five-and-a-half stories, much larger than others in the neighborhood. The plans also called for the relocation and renovation of five historic shingled houses on and around Salvatierra Walk.

To address the community’s concerns, the Land and Buildings staff met repeatedly with campus homeowners and other concerned groups and set up a website giving details about the design and construction schedule. In the end, they also agreed to modify the project. Current plans call for five buildings four to five stories high, two of them bent to fit the site better, with more residential touches like dormers and double-hung windows. “We actually put some rooms up in the attic level, which helped to bring the perceived scale down to an appropriate level,” Lenox notes. “We also paid a lot of attention to key connections coming from the residential neighborhoods. In earlier schemes the roads from the adjoining residential neighborhoods just hit a dead end [at Munger]. Now they move all the way through.”

IN BUSINESS: Situated along Serra Street, the new GSB campus will feature eight buildings, three quads and a community plaza.
SAFETY UPGRADE SPURS HOSPITAL CONSTRUCTION

If a 9.0-magnitude earthquake were to hit the Bay Area tomorrow, Bob Norris knows he can count on his team at Stanford Hospital's emergency department to provide state-of-the-art trauma care. He's less sure about the capacity of the University's hospital building, built in the late 1950s. Even on ordinary days, Norris's E.R. is packed, "often full to the point that the unit has to go on 'closed' status, which means that ambulances are diverted to other hospitals," the division chief laments. "This is not a situation that anyone likes, least of all the doctors and nurses.

To ease the overcrowding and bring the entire hospital up to state-mandated earthquake safety codes by 2015, Stanford has submitted an ambitious proposal to the City of Palo Alto to build a new 600-bed main hospital, up from 456 beds now. In addition to tripling the size of the emergency department, the plan promises a more inviting entryway, improved parking, leading-edge operating rooms and imaging facilities, more dining options and more comfortable patient and waiting rooms. The proposal also includes a 104-bed addition to Lucile Packard Children's Hospital next door, as well as plans for replacing aging Med School laboratories and renovating the historic Hoover Pavilion for use by community physicians.

At 1.3 million net additional square feet of construction, the hospital project is the single most complex redevelopment proposal ever to come before the City of Palo Alto, which has regulatory influence over that part of the campus. Preliminary models suggest a series of linked square hospital pavilions, up to seven stories each, with floor plans that easily can be reconfigured in the future as technologies and patient needs change. "Here at Stanford we actually have land and are in a suburban setting, so it allows the potential for developing a medical center that's unlike any other in the top-20 honors hospital group," says George Tingwald, director of medical planning for the renewal project. "We thought it was critically important not only to further the uniqueness of Stanford, but also to play off the wonders of our environment and our weather."

Tingwald, who holds degrees in both medicine and architecture, says the horizontal elements of the proposed design would allow for extensive landscaped courtyards, an abundance of light-filled, single-patient rooms, and easy-to-navigate peripheral corridors, while the vertical aspects would make it easier for orderlies to transport patients between departments, using elevators instead of long corridors. As he explains, "We don't want to lose the advantages of a [traditional urban] stacked hospital, which has really clear pathways, from the heliports down through to the emergency room, imaging department and operating rooms."

During the next year or two, Stanford planners will be working closely with the city to address concerns about traffic and other possible environmental impacts. Phased construction is scheduled to begin in 2010.

In the new SEQ, for example, all the buildings were sited and designed simultaneously, "so there's a consistent feel," Lenox says. "The tile roofs and the way we made the arcades all contribute to that space." Ditto for the new Graduate School of Business, soon going up directly across the street from the GSB's Schwab Residential Learning Center. "With that project," he recalls, "we actually started with the exterior environment. We asked, 'What are the types of exterior spaces we want to create that are important to the curriculum? And how can the architecture support that sense of place?'" The result, he says, "is going to be a more Stanford-like place than what was there before, even though there will be more
Another way to ease urban congestion on the core campus is to pay attention to campus roads, bike paths and pedestrian intersections. In recent years, Lenox and his team have worked to improve circulation on Lasuen Mall, the often-crowded bike-pedestrian thoroughfare just east of the Main Quad. A major overhaul of White Plaza is aimed at separating pedeseters from walkers. Sometimes the changes prompt complaints: When bike parking was banned under the Quad’s arcades last year, “it was like World War II around here,” Lenox recalls. “But it was the commonsense thing and the right thing to do.”

The gradual consolidation of automobile parking lots into peripheral structures is likely to be another sore point. At Lenox’s recent talk at the Cantor Arts Center, more than half the audience questions focused on the subject. In truth, Stanford doesn’t want to cover more of its precious core acreage with asphalt lots — nor would the country be happy if it did. The current GUP limits Stanford to 2,300 net additional parking spaces. As Lenox told his Cantor listeners, “The luxury of being able to drive up to a building and park there is going away quickly. Our strategy is to develop more centralized parking areas or structures around Campus Drive and shuttle people in, or they can walk or bike in.” That plan is not popular, he acknowledges, but for the University to devote its core lands to academic purposes, “that’s the way it’s going to have to be.”

Despite the challenges of his job, Lenox is very happy he took that plane trip from Ohio to Stanford 3½ years ago. “The biggest difference for me between this and private practice is that it’s more fun,” he says. “I get to work on a much wider variety of project types and a lot of excellent architectural forms. So I’m getting exposed to a lot of interesting ideas.” At the same time, he fully understands the gravity of his task—to preserve the best of Jane and Leland’s Farm while fulfilling their dreams for a cutting-edge, world-class university. As he sees it, there’s no reason he can’t do both.

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