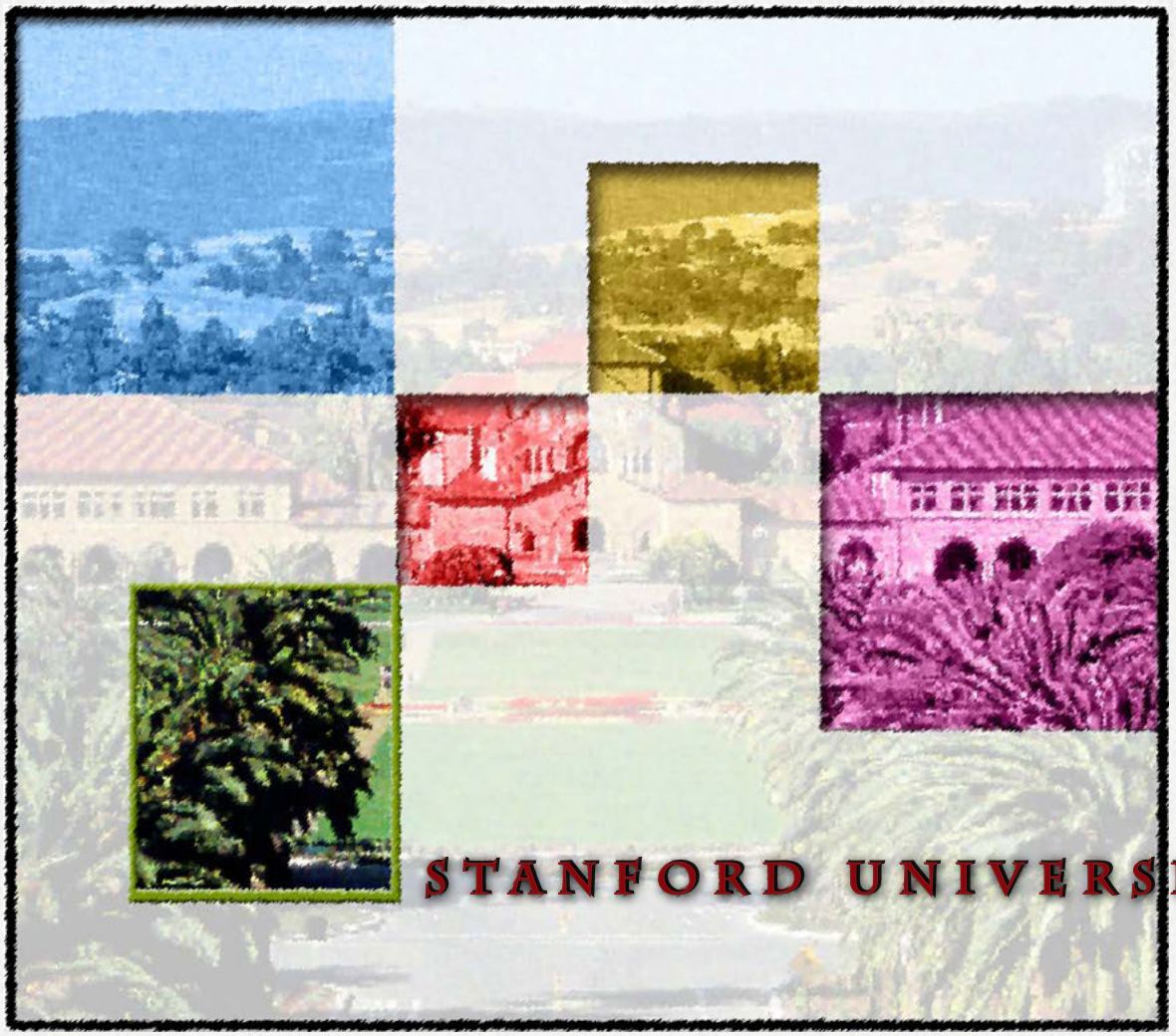
GENERAL USE PERMIT 2000

ANNUAL REPORT NO. 14



COUNTY OF SANTA CLARA
PLANNING OFFICE

June 2015

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Prologue

The Stanford University, General Use Permit (GUP) 2000 Fourteenth Annual Report (AR 14) provides public documentation that summarizes development at Stanford University and required environmental mitigation activity within the unincorporated Santa Clara County, for the monitoring period from September 1, 2013, through August 31, 2014. This report documents both new projects approved during the reporting period and the status of ongoing projects. Section I provides an introduction and context to the AR 14. Information on project status and a summary of development through the AR 14 reporting period is provided in Section II. Section III provides a summary of GUP compliance. Details and illustrations of projects that received Architecture and Site Approval (ASA) during this reporting period are provided in Section IV. Section V describes anticipated development, Section VI provides information on other significant information in the reporting period, and Section VII provides information on references and the project team.

Appendices A, B, C, D, E, and F contain information on campus maps, GUP conditions and additional compliance details, summaries of cumulative development on campus, traffic monitoring results, sustainable activities initiated and ongoing by Stanford University and a summary of Stanford's approved Alternate Means Programs, respectively.

The production team for this annual report endeavored to make this report user friendly. If you have comments or questions about the format, you may forward your comments to the Santa Clara County Planning Office. For the 14th annual reporting period, Kavitha Kumar, Interim Principal Planner, was the Project Manager for the Santa Clara County Planning Office for the Stanford University environmental mitigation monitoring and reporting program.

Specific questions regarding this report or the Stanford Community Plan, General Use Permit or the Environmental Impact Report may be directed to Kavitha Kumar, Stanford Planner/Interim Principal Planner, kavitha.kumar@pln.sccgov.org or Planner Manira Sandhir, AICP, manira.sandhir@pln.sccgov.org.

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Stanford University owns 8,180 acres of land, including 4,017 acres within unincorporated Santa Clara County that are subject to the land use jurisdiction and regulatory authority of the County. Please see Map 1 in Appendix A, which shows governmental jurisdiction on Stanford lands. Stanford University is a private institution and is subject to local zoning controls and project approval procedures. Stanford University land in Santa Clara County includes the academic campus, residential areas, and most of the foothills east of Alpine Road.

FIGURE 1: REGIONAL LOCATION

Santa Clara County guides future use of these lands through (1) the General Plan, (2) the Stanford Community Plan (CP), (3) County Zoning Ordinance, (4) other County ordinances and policies, and (5) the 2000 General Use Permit (GUP).

In November 1999, Stanford University submitted a Draft CP/GUP Application to Santa Clara County. As a result of an extensive public review process, significant changes were made in the proposed CP/GUP. Santa Clara County, the lead agency under the California Environmental Quality Act (CEQA), prepared a Program

Environmental Impact Report (EIR) to disclose the significant environmental effects of development pursuant to the CP/GUP. In December 2000, the County Board of Supervisors certified the EIR and approved the Final CP/GUP (2000 GUP).

The 2000 GUP replaced the 1989 GUP. It is the permit under which Stanford continues its academic and support uses, and authorizes the University to develop the following facilities:

- Academic and academic support facilities (an additional 2,035,000 net square feet (sq. ft.) plus the square footage remaining under the 1989 GUP)
- Childcare or community centers (an additional 40,000 sq. ft.)
- Temporary trailers and surge space (up to 50,000 sq. ft.)
- Parking structures and lots (2,300 net new parking spaces)
- Housing (3,018 housing units)

The Board approval of the 2000 GUP and the EIR resulted in mitigation measures. The EIR identified mitigation measures, which were formally adopted in the Mitigation Monitoring and Reporting Program (MMRP).

GUP Condition D.2 requires Stanford to implement the identified MMRP mitigation requirements as follows:

> "If at any time the County Planning Commission determines that Stanford is not in compliance with one or more conditions of the General Use Permit, it may take corrective action as provided in the County Ordinance Code including, but not limited to, suspension of any future development approvals until such time as the conditions are met. Failure of Stanford to comply with aspects of the Mitigation Monitoring and Reporting Program adopted for the GUP or any specific projects approved under the GUP for which Stanford is responsible shall also constitute a violation of these GUP conditions for which corrective action may be taken as described above."

This Fourteenth Annual Report (AR 14) documents Stanford's development activity and compliance with both the conditions of the 2000 GUP and any specific conditions associated with proposed building projects. It covers the period from September 1, 2013, to August 31, 2014. Activities or projects that occurred after August 31, 2014, are beyond the scope of this Annual Report, but will be presented in the next Annual Report that will cover activities between September 1, 2014, and August 31, 2015.

I. Introduction

This report is organized into seven primary sections and six appendices:

I. Introduction - presents the background and overall requirements of the 2000 GUP, the reporting period and organization of the Annual Report, and provides a glossary of terms used in this report.

II. Development Overview - presents major statistics on certain 2000 GUP provisions, including the academic building area cap, the distribution of development, development projects that do not count toward the building area cap, housing, and parking.

III. Overview of Monitoring During Fourteenth Year - summarizes Stanford's activities and status of compliance with 2000 GUP conditions.

IV. Project Summaries - provides summaries of major Stanford projects that received Architectural and Site Approval (ASA) within this Annual Report's reporting period.

V. Anticipated Future Development - lists projects anticipated for submittal/approval during the next Annual Report period. Includes a map showing proposed locations.

VI. Other Significant Activities – summarizes activities that occurred during the report period that are not GUP-related, but are otherwise relevant to development at Stanford.

VII. Other Information - presents references for the information used in this Annual Report and the persons involved in its preparation.

Appendix A - provides maps to illustrate the general orientation of Stanford University lands and campus.

Appendix B - presents the complete list of 2000 GUP conditions and associated activities in the reporting period.

Appendix C - provides cumulative tables and location maps for building projects, housing projects, parking projects, and grading projects.

Appendix D - provides a summary of the result of traffic monitoring at the Stanford University campus between 2001 and 2014.

Appendix E – presents the Stanford Sustainability Annual Report.

Appendix F – provides a summary of Stanford's approved Alternate Means Programs.

Glossary of Terms

The following terms and acronyms are used in this Annual Report:

AR	**Annual Report:** "AR 14" refers to Stanford's 14th annual report on development and compliance with GUP conditions.
ASA	**Architectural and Site Approval:** A procedure established by the County of Santa Clara Zoning Ordinance to review the quality of site and architectural design associated with a proposed project. ASA may establish conditions of approval that change and improve development design.
ASX	**Small Project Exemption from ASA:** Projects that are below a certain threshold due to their minimal impact are exempt from the full ASA process and public hearing. ASX is a discretionary staff approval process. ASX may establish conditions of approval that change and improve development design.
CEQA	**California Environmental Quality Act:** The overarching California law under which environmental reviews are conducted.
CP	**Stanford Community Plan:** Plan that refines the policies of the Santa Clara County's 1995 General Plan as they apply to Stanford lands under County jurisdiction.
EIR	**Environmental Impact Report:** Documents the result of environmental analyses conducted under CEQA.
GUP	**2000 General Use Permit:** Permit issued to Stanford by the County of Santa Clara, which describes the allowable distribution of additional building area, and establishes procedures under which construction may occur and associated measures that must be accomplished before, during and after construction as conditions of approval for development.
NPS	**Non-point source:** Refers to pollution of runoff by diffuse sources, such as vehicle traffic on parking lots or streets.
NSF	**Net square feet:** Total "net" or overall change in square footage. This category designates a total amount of positive or negative square footage for a project, based on square footage of total construction ("gross square footage") less any credits for demolition.
SDS	**Sustainable Development Study:** A Study required under GUP Condition E.5 that was submitted by Stanford and approved by the Board of Supervisors in 2009.

GUP Building Area Cap

The 2000 GUP (GUP Condition A.1.b) establishes a 2,035,000-net-square-foot building area cap for new academic and academic support uses. The limit applies to most nonresidential development that Stanford proposes to build during the time that this GUP is in effect. Because the exact amount of square footage may change due to design refinements that occur between initial ASA application and subsequent issuance of a building permit, the County requires that the actual square footage deducted from the building area cap be documented at the time a building permit is issued. The cumulative total building area authorized during the reporting period is provided in this annual report for those projects that received building permits between September 1, 2013 and August 31, 2014.

The GUP generally distributes the 2,035,000 sq. ft. of additional academic and academic support facilities among 11 development districts on the Stanford Campus. Map 2 in Appendix A shows the development districts. The majority of 2000 GUP academic building area is allocated to the Campus Center. The allocation of square footage between the development districts can deviate from the GUP's general allocation as long as the GUP procedures are followed (see GUP Condition E.2). For example, during the AR 8 reporting period, the allocation for Campus Center was revised down from 1,600,268 gsf to 1,480,268 gsf to allow for the allocation of 120,000 gsf to the DAPER and Administrative district to accommodate the Knight Management Center and future anticipated projects, which is consistent with the 2000 GUP.

Table 1 lists the development districts, the 2000 GUP allocation of building area for each district, and the amount of academic/academic support square footage that received ASA or building permit approval in each district during this reporting period. The academic/academic support projects that do not affect the GUP building area cap are not shown in Table 1. See Section IV, Project Summaries, for additional information on projects that received ASA approval during the AR 14 reporting period.

TABLE 1
ANNUAL REPORT 14
DISTRIBUTION OF GUP-ALLOWED ACADEMIC AND ACADEMIC SUPPORT DEVELOPMENT[1]

Development District	2000 GUP Building Area Distribution (gsf)	GUP Building Area Distribution at the end of AR 14[1]	ASA Approved Space (sq. ft.)	Building Permit Approved Space[2] (sq. ft.)	Previous ARs Cumulative Building Permit Approvals (sq. ft.)	Cumulative Total Building Permits Approved[3] (sq. ft.)	GUP Balance Remaining (sq. ft.)
Campus Center	1,605,000	1,389,337	125,516	51,871	991,192	1,043,063	346,274
DAPER & Administrative	250,000	370,000	18,800	0	344,871	344,871	25,129
East Campus	110,000	109,136	0	0	(38,112)	(38,112)	147,248
Quarry	50,000	50,000	0	0	0	0	50,000
Lathrop	20,000	20,000	0	0	0	0	20,000
West Campus	0	16,795	432	864	15,646	16,510	285
Foothills	0	4,732	0	0	3,192	3,192	1,540
Lagunita	0	75,000	0	0	73,195	73,195	1,805
Arboretum	0	0	0	0	0	0	0
San Juan	0	0	0	0	0	0	0
Total	**2,035,000**	**2,035,000**	**144,748**	**52,735**	**1,389,984**	**1,442,719**	**592,281**

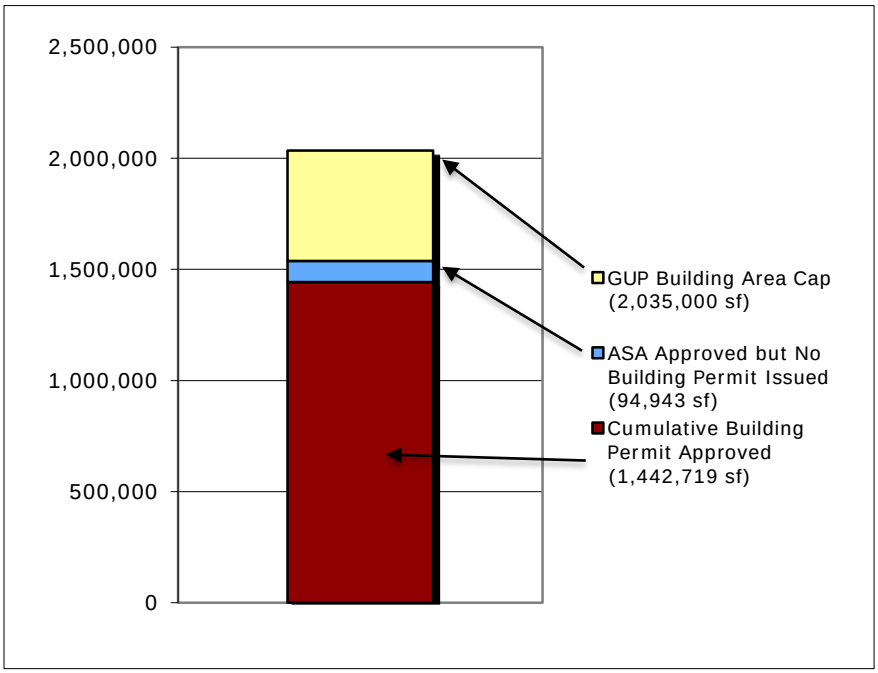
1. 2000 GUP Conditions E.2, 3, and 4 allow for deviations from the building area cap for each district. Any proposed increase in development in a district will be accompanied by an identified corresponding proposed decrease equivalent in building area in one or more of the other districts so that the overall campus-wide GUP building area cap is not exceeded. A cumulative maximum of 15,000 square feet of building area may be located in the Foothills District in a manner consistent with the General Plan and zoning. This amount may not be increased. Redistribution occurred in AR 8, AR 9, and AR 13. In AR 14, 864 square feet was redistributed from East Campus to West Campus, to accommodate the Educational Farm.
2. Square footage is counted against the GUP building area cap in the reporting year in which the building permits are approved.
3. Cumulative totals include adjusted results from the current and previous annual reports. Also see Appendix C and/or previous annual reports for more detailed background on these cumulative totals.

During the AR 14 reporting period, 15 projects received ASA and 8 projects received ASX approvals. The County also processed 10 of these as Resubmittals of projects that were deemed incomplete to take an action.

Figure 2 illustrates the cumulative status of building-permit-approved square footage for academic/academic support facilities, including the ASA approved square footage counted during the reporting period, as also shown in Table 1. In addition, it illustrates the remaining allowable square footage for development under the 2000 GUP.

Figure 2 illustrates the cumulative status of development that counts toward the GUP building area cap. The square footage of building permit approvals is cumulative. In contrast, ASA approved square footage is only shown for projects that received ASA and ASX (small project) approval during the current reporting period.

FIGURE 2: CUMULATIVE DEVELOPMENT ACTIVITY 12/12/00 - 8/31/14

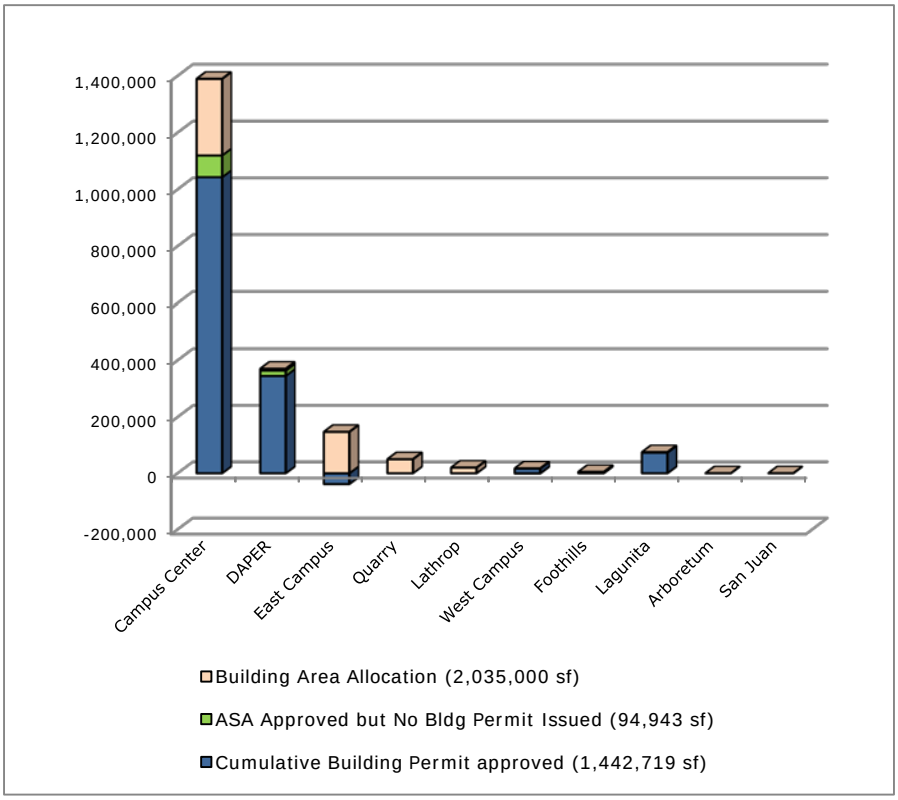


The Stanford Community Plan and GUP Condition E.5 required that a Sustainable Development Study (SDS) be completed and approved prior to acceptance of applications for the second 50% of the academic development allowed under the 2000 GUP. The SDS was presented to the Stanford Community Resource Group (CRG) on November 13, 2008 and to the Planning Commission on November 20, 2008, and was approved by the Board of Supervisors on April 7, 2009. See Appendix E for a Summary of Stanford's Sustainability Activities during this reporting period.

Figure 3, below, based on data in Table 1, illustrates the 2000 GUP distribution of academic/academic support square footage throughout the 10 development districts, and the academic/ academic support square footage authorized by building permits or received approval by the ASA committee during the current reporting period. Anticipated projects or projects in the approval process for Annual Report 14 reporting period are noted in Section V, Table 6.

A map of Stanford University's Development District is provided in Map 2 in Appendix A. The distribution of GUP-allowed academic and academic support development is detailed in Table 1.

FIGURE 3: DISTRIBUTION OF ACADEMIC DEVELOPMENT



Other Space Caps

Remaining 1989 GUP Approved Square Footage

In addition to providing a 2,035,000 sq. ft. academic/academic support building area, the 2000 GUP preserved the remaining 92,229 gsf authorized but undeveloped under the 1989 GUP. The remaining 1989 GUP approved square footage was consumed during the Annual Report 5 reporting period.

Temporary Surge Space

The 2000 GUP (Condition A.2.c) allows Stanford University to install up to 50,000 sq. ft. as surge space during construction. Surge space is typically provided by installing modular buildings for a limited time. There was no change in the square footage of temporary trailers during this reporting period.

Childcare and Community Centers

The 2000 GUP (Condition A.2.c) allows up to 40,000 sq. ft. of building area for the purpose of new childcare or community centers, in addition to the academic/academic support building area. As indicated in Table 2, a total of 3,638 gsf remains available.

TABLE 2
ANNUAL REPORT 13
OTHER SPACE CAPS - PROJECT SUMMARY

Non-Building Cap Category	Maximum Allowable Square Footage	ASA Approved (sq. ft.)	Building Permit (sq. ft.)	Cumulative Building Permits Approved (sq. ft.) in Previous ARs	Cumulative Total Building Permits Approved (sq. ft.)	Balance Remaining (sq. ft.)
Remaining 1989 GUP Square Footage	92,229	0	0	92,229	92,229	0
Temporary Surge Space	50,000	0	0	20,224	20,224	29,776
Childcare/ Community Center	40,000	0	0	36,362	36,362	3,638

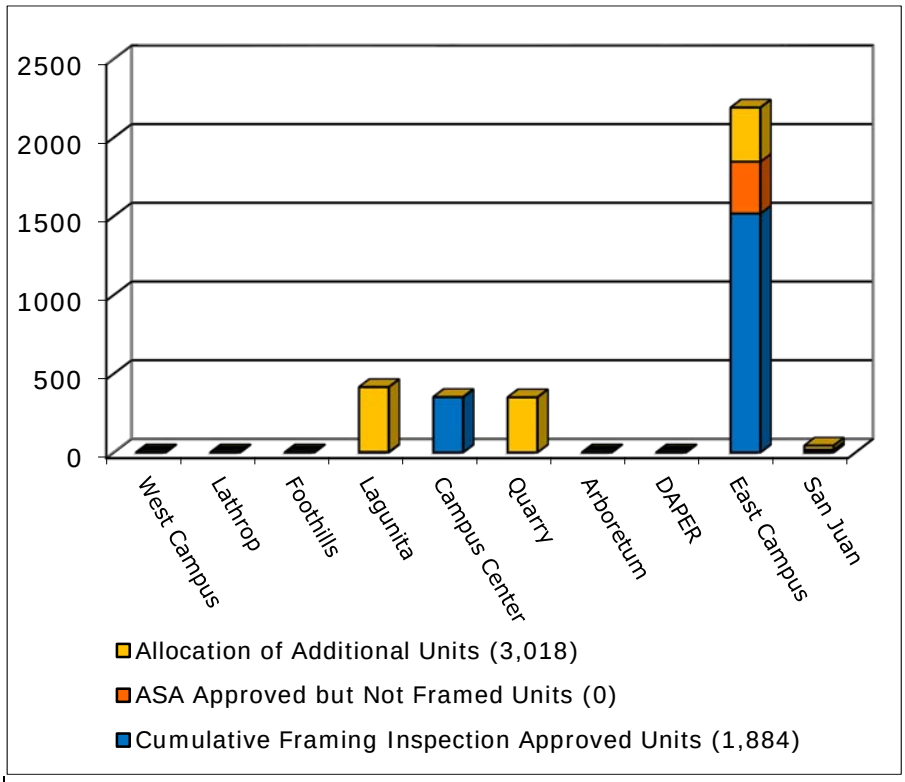
Housing

The 2000 GUP allows for the construction of 3,018 net new housing units on campus, with allocations for faculty and staff, graduate and undergraduate students, and postdoctoral and medical students as shown in Table 3. The GUP identified potential housing sites for students, staff and faculty (Map 3, Appendix A). As with academic/academic support building space, the housing units must be distributed among the 10 development districts (see Table 3).

Housing may also be developed on sites other than those shown on Map 3. The estimated distribution of the type and location of housing among development districts may deviate from the locations described in the 2000 GUP pursuant to Conditions F.2, F.3, and F.4. As explained under Condition A (A.1.c, A.1.d, and A.3.b), the square footage of housing units constructed is tracked but does not count toward the 2000 GUP building area cap (see Table C-2, Appendix C).

During the AR 14 reporting period, 4 housing renovations were approved and constructed, resulting in 2 additional student housing units. For purposes of the housing linkage requirement, as provided in GUP Condition F.8, the housing requirement is counted at the time of the framing inspection.

FIGURE 4: DISTRIBUTION OF RESIDENTIAL DEVELOPMENT



There is a total allocation of 3,018 housing units for the campus. As illustrated in Figure 4, the cumulative total number of approved units under the 2000 GUP allocation is 1,886 units. A total of 1,132 housing units remain available under the housing allowance.

TABLE 3
ANNUAL REPORT 14
DISTRIBUTION OF RESIDENTIAL DEVELOPMENT

Development District[1]	Allowable 2000 GUP Net Additional Units	ASA Approved Units but Not Yet Framed	Past Cumulative[2]	Final Framing Inspection Approved Units	Cumulative
West Campus	0 Faculty/Staff[4]	0	0	0	0
Lathrop	0	0	0	0	0
Foothills	0	0	0	0	0
Lagunita - **Driving Range** - **Searsville Block** - **Mayfield/Row**	195 Faculty/Staff 57 Graduate 163 Undergrad/Grad[3,4]	0	2	1 (Mars)	3
Lagunita Subtotal	**415**	**0**	**2**	**1**	**3**
Campus Center	352 Graduate	0	351	0	**351**
Quarry - **Quarry/Arboretum** - **Quarry/El Camino**	200 Postdoc 150 Postdoc	0	0	0	0
Arboretum	0	0	0	0	0
DAPER & Administrative	0	0	0	0	0
East Campus - **Manzanita** - **Escondido Village** - **Quillen** - **GSB Residences**	434 Undergrad/ Grad[3,4] 1,353 Graduate 75 Faculty/Staff	129 (Manzanita)[3] 200 (GSB)[5]	1,518	0	1,518
East Campus Subtotal	**1,862**	**329**	**1,518**	**0**	**1,518**
San Juan - **Lower Frenchman's** - **Gerona** - **Mayfield**	18 Faculty/Staff 12 Faculty/Staff 9 Faculty/Staff	4 (Phi Kappa Psi and Kairos)	13	1 (Roth)	14
San Juan Subtotal	**39**	**4**	**13**	**1**	**14**
Total	**3,018 Allowed[2]**	**333**	**1,884**	**2**	**1,886**

1. Housing may be developed on other sites and development may vary from the estimated distribution with regard to either the type (student, postdoctoral, or faculty/staff) or amount of housing on the site (2000 GUP Conditions F.2, F.3, and F.4). Redistribution was reported in AR 6. In AR 13, 310 graduate units were redistributed from Lagunita to East Campus – 60 units for the McFarland project and 250 units for the Comstock Graduate Housing project.
2. Cumulative totals include results from previous annual reports. See Appendix C and/or previous annual reports for more detailed background on these cumulative totals.
3. Manzanita Park Residence Hall was approved on October 10, 2013, together with the redistribution of 128 student units from Lagunita to East Campus. This project is currently under construction and is anticipated to be completed in March 2015.
4. The redistribution of 372 faculty/staff units from West Campus to 166 student units in Lagunita and 206 student units in East Campus was approved by the County Board of Supervisors on November 26, 2013.
5. GSB Residences was approved on July 31, 2014, for 200 graduate student units. No redistribution occurred.

Parking

The 2000 GUP allows for 2,300 net new parking spaces above the campus base of 19,351 spaces. As explained in Condition A.3.c, the building area of parking structures does not count towards the GUP academic/academic support building area cap. As with academic/academic support building area square footage and housing, the allowed parking spaces have been distributed among the development districts (Table 4 and Figure 5).

FIGURE 5: DISTRIBUTION OF PARKING SPACES

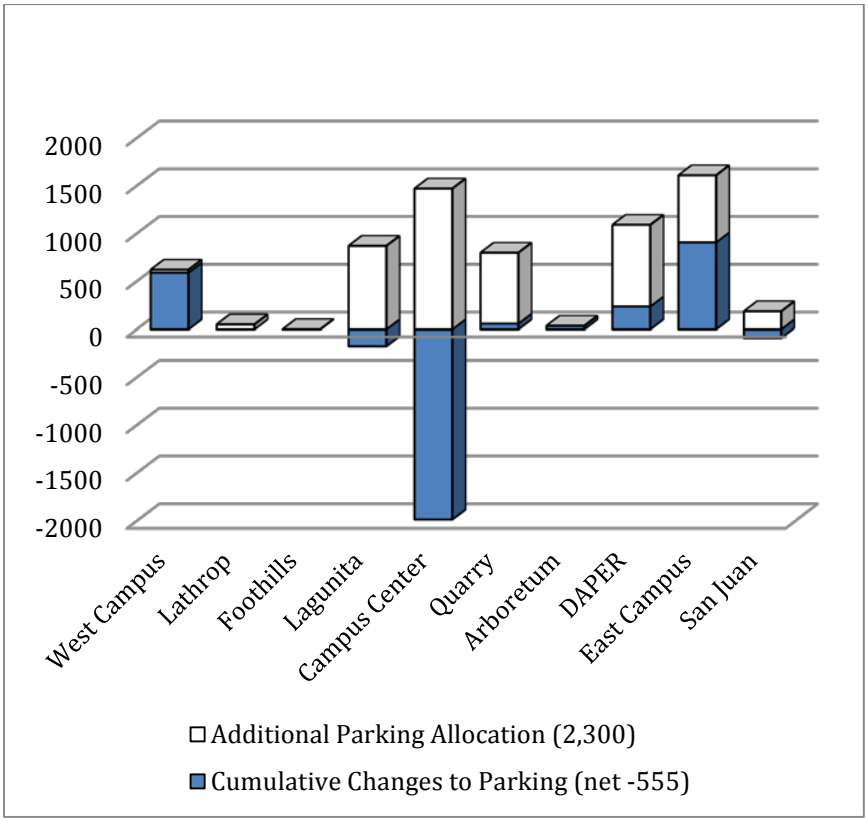


Table 4 presents the changes in parking spaces during the current reporting period, and cumulative increases and decreases in parking spaces on the campus during the AR 1 through AR 14 reporting periods.

During the AR 14 reporting period, there was a net increase of 526 parking spaces on campus. The cumulative change in the parking inventory is a net decrease of 555 parking spaces under the 2000 GUP.

TABLE 4
ANNUAL REPORT 14
DISTRIBUTION OF PARKING

Development District	Base Parking GUP EIR	2000 GUP Allowed Change in Parking Spaces	Changes to Parking Inventory				Unused 2000 GUP Allocation
			AR 14 Contribution	Previous AR 1-13 Contribution	Cumulative (AR 1 Through Current AR 14)	EIR Base and Cumulative (Current Parking Capacity)	
West Campus	191	622	592	(1)	591	782	31
Lathrop	0	50	0	0	0	0	50
Foothills	0	0	0	0	0	0	0
Lagunita	1,745	700	(15)	(144)	(159)	1,586	859
Campus Center	8,743	(511)	(165)	(1,939)	(2,104)	6,639	1,593
Quarry	1,058	800	75	(87)	(12)	1,046	812
Arboretum	134	36	0	36	36	170	0
DAPER & Administrative	2,209	1,092	7	232	239	2,448	853
East Campus[1]	4,731	1,611	31	897	928	5,659	683
San Juan	540	100	1	(75)	(74)	466	174
Campus Wide Summary	19,351	2,300[2]	526	(1,081)	(555)	18,796	2,855

1. Parking allocation in East Campus increased from 900 to 1,611 spaces and decreased in Campus Center from 200 to negative 511 with the approval of Parking Structure 6 (Munger).

2. According to 2000 GUP Condition H.1, the total net additional parking on campus shall not exceed 2,300 spaces, except for parking provided with any housing that is constructed in excess of 3,018 planned housing units. Also, parking constructed, as part of and for new faculty/staff housing in areas designated Campus Residential-Low Density and Campus Residential-Medium Density will not count toward the limit for each development district. In order to allow flexibility in the distribution of parking, the GUP also sets an upper limit for new parking in each development district. Some districts will ultimately build less than their GUP allocations. Thus, the sum of unused district allocations is more than the remaining 2000 GUP allocation, which is the campus-wide maximum number of parking spaces that will be built under this GUP.

3. Parking allocation for Arboretum increased from zero to 36 spaces and decreased in DAPER from 1,700 to 1,664 when on-street, non-striped parallel parking was converted to striped, angled parking along the west side of the street, and two-way traffic was converted to one-way northbound traffic in association with the Galvez Parking Lot project.

4. Parking allocation for West Campus increased from 50 to 622 and decreased in DAPER from 1,664 to 1,092 when 611 new surface parking stalls were added to the Searsville Parking lot and 19 on-street parking spaces were removed in West Campus.

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III. Overview of Monitoring During Fourteenth Year

This section provides a summary of activities conducted during the AR 14 reporting period in compliance with 2000 GUP conditions. For a complete discussion of compliance with each 2000 GUP condition, please see Appendix B.

GUP Condition A: Building Area

Section II of this Annual Report provides statistics and distribution of building area by district. It also provides accounting of the 2000 GUP space expenditure for those projects that received building permits during the AR 14 reporting period. Descriptions and illustrations of projects that received ASA and ASX during the AR 14 reporting period are provided in Section IV.

During the AR 14 reporting period, September 1, 2013 through August 31, 2014:

- Stanford did not exceed the GUP building area cap, or the GUP caps for new housing and parking.
- Stanford also remained within the other space caps established under the GUP.

GUP Condition B: Framework

A total of 23 projects received ASA approval or ASA Small Project Exemption (ASX) during the AR 14 reporting period. All were determined to be consistent with General Plan land use designations and zoning. Stanford University paid all costs associated with the work conducted by the County Planning Office in relation to the 2000 GUP (staff time, consultant fees, and the direct costs associated with report production and distribution) in a timely manner.

GUP Condition C: Monitoring, Reporting, and Implementation

The County Planning Office gathered comprehensive data related to Stanford projects, compiled the information, produced and published the AR 14 pursuant to the 2000 GUP. Stanford University provides funding for all aspects of the Annual Report preparation, and necessary information included in the report.

The Draft AR 14 will be presented to the Community Resource Group on April 9, 2015 and the final report will be presented to the Planning Commission at the June 2015 public hearing.

GUP Condition D: Permitting and Environmental Review

During the AR 14 reporting period, Stanford received ASA or ASA Small Project Exemption (ASX) for 23 projects. All of these projects were determined to be consistent with the General Plan land use designations and zoning requirements, and found to be adequately analyzed in the CP/GUP EIR. See Section II of this Annual Report for the status of each project.

When violations of codes, ordinances or other requirements occur, they are addressed through appropriate County procedures. It is beyond the scope of this Annual Report to document every minor violation of County ordinances or other requirements that occur on Stanford University land. As of this Annual Report, there has been no action that would require the County Planning Commission to consider or determine Stanford to be in non-compliance with any GUP condition or mitigation requirement. Stanford University remains in compliance with the GUP.

The zoning enforcement office and building inspection office report that Stanford University is in general compliance with other County requirements.

GUP Condition E: Academic Building Area Review

Stanford is in compliance with GUP Condition E.5. See Appendices B and E for more detail.

GUP Condition F: Housing

During this reporting period, Stanford renovated 4 dorms adding a total of 2 housing units. The total number of campus housing units constructed under the 2000 GUP is 1,886.

Currently, Stanford's capacity for providing student-housing units remains equivalent to the capacity identified by Stanford University at the time of initial occupancy. Stanford's housing need is subject to fluctuation during any given year. Accordingly, Stanford University may redistribute the student population among existing housing facilities in any given year, based on current population and programmatic needs. The County will, as needed, reassess housing availability status with appropriate Stanford University staff. If Stanford University should ever apply for a development permit that would change the number of beds available to students, that action and the change in beds would be reported in the Annual Report.

The 2000 GUP requires Stanford to build additional housing units commensurate with the development of academic/academic support facilities. The threshold at 1,000,000 gsf of academic or academic

support area requires a minimum of 1,210 housing units. Stanford University has constructed 1,886 units and is therefore, in compliance with this requirement.

Stanford University has complied with County requests for affordable housing in-lieu payments after building permit issuance and before occupancy. As of May 2014, the affordable housing fees are assessed at the rate of $19.31 per square foot of net new academic or academic support space approved under the building permit. Stanford has made affordable housing fee payments to date (as of August 31, 2014) totaling $23,791,494.94. Five affordable housing projects have been funded so far with $13,345,811. An additional $8 million of the SAHF fund was recently committed towards the Buena Vista mobile home park project. The six projects built within the 6 mile radius from Stanford Campus boundary have provided 369 affordable housing units, with 157 units restricted to very low income to extremely low income families.

Within the AR 13 reporting period, Stanford applied for an Amendment to the 2000 GUP to reallocate 372 faculty/staff housing units to 166 student housing units in the Lagunita development district and 206 student housing units in the East Campus development district. A corresponding Zoning Map Amendment was proposed to rezone the Stable Site in the West Campus from Medium Density Campus Residential (RS3) to Academic Campus (A1). This Amendment was approved in the AR 14 reporting period by the Board of Supervisors, on November 26, 2013.

Within this reporting period, Manzanita Park Residence Hall received its approval together with the redistribution of 128 student units from Lagunita to East Campus development district. This project is currently under construction and is anticipated to be completed in August 2015.

GSB Residences was approved on July 31, 2014, for 200 graduate student units. No redistribution occurred.

GUP Condition G: Transportation

A baseline traffic count to determine the existing level of commute trips entering the campus during the morning peak commute period and leaving the campus during the evening peak commute period was established in 2001. Data collection during the AR 14 monitoring period involved 6 weeks in Spring 2014 and 2 weeks in Fall 2014 to monitor Stanford's compliance with the "no-net-new commute trip" standard. The Stanford University Traffic Monitoring Report 2014 is available for review at the County and is also available on the County website, (www.sccplanning.org).

Results of annual traffic monitoring are summarized in Appendix D of this document.

The Annual Report normally reports on activity between September 1 and August 31. However, the annual Traffic Monitoring Reporting period is the same as the baseline, 6 weeks in the Spring and 2 weeks in the Fall.

The 2014 Monitoring Report concluded that the adjusted morning (AM) inbound count totaled 3,336 vehicles. This represented an increase of 17 vehicles from the baseline, which falls within the 90% confidence interval, and does not represent a significant AM inbound traffic increase. The afternoon (PM) outbound count totaled 3,696 vehicles, which is an increase of 250 vehicles from the baseline. This increase is above the 90% confidence interval by 141 vehicles and exceeds the one-percent established trigger by 105 vehicles. However, after applying 402 trip credits submitted by Stanford and verified by the County, the PM peak hour outbound traffic is 297 trips below the 1% established trigger. Therefore no additional mitigation is required.

The 2014 traffic monitoring cordon locations used for traffic monitoring are shown on Map A-4, Appendix A. Data and analysis of these counts, reported in March 2015, are provided in Appendix D of this annual report.

GUP Condition H: Parking

During AR 14 reporting period, all parking projects were in compliance with GUP Condition H. Detailed information may be found in Section II, Table 4 and Appendix B, Appendix C (Map C-3) and Figure 5. As indicated in this Annual Report, several parking projects were implemented. The cumulative change in the parking inventory remains significantly under the cap set for the 2000 GUP, which allowed a total increase campus-wide of 2,300 spaces. With cumulative reductions, the remaining parking capacity that could be installed under the 2000 GUP parking cap is 3,381 spaces.

GUP Condition I: Parks and Recreation Facilities

Construction of C2/Arastradero Trail: Construction and trail improvements were completed and the trail was dedicated in November 2013. The trail links to the Pearson-Arastradero Preserve.

San Mateo County and Stanford did not reach agreement for the San Mateo C1 segment and in February 2012, Stanford paid the County approximately $10.3 million. In August 2012, the County issued a request for applications for projects that would serve as

alternative mitigation measures to address the loss of recreational facilities on the Stanford campus. The County received 15 project applications from six local agencies. The Board of Supervisors declared its intent to fund six of the 15 projects, including $4.5 million to Stanford to construct a perimeter trail along El Camino Real and Stanford Avenue frontages. The Board also directed County Administration to negotiate projects agreements for the selected projects and submit approval to the Board consistent with the requirements of CEQA. It is expected that the project agreement for the Stanford Perimeter Trail will be considered by the Board in early 2015.

GUP Condition J: California Tiger Salamander

The final Stanford University Habitat Conservation Plan (HCP) and Final Environmental Impact Statement (EIS) were published on November 23, 2012 and the HCP was revised in March 2013. On August 13, 2013, the County Board of Supervisors acknowledged the determination that the approved HCP provides equal habitat value and protection for the California Tiger Salamander (CTS). Therefore, the HCP supersedes all conditions in the GUP that address the CTS, implementing Condition J.9 of the GUP.

GUP Condition K: Biological Resources

Eight projects that began construction during the current reporting period required pre-construction surveys for breeding raptors and migratory birds. For more information, see Appendix B, Condition K.2. In addition, one special status plant assessments was conducted on campus during this reporting period.

GUP Condition L: Visual Resources

Seven projects approved during the reporting period included exterior lighting. The ASA conditions of approval required the lighting impacts to be mitigated and limited to the site to be in keeping with the Visual Resources conditions.

GUP Condition M: Hazardous Materials

During the AR 14 reporting period, no new buildings will include hazardous materials that are regulated by the California Accidental Release Prevention Law.

GUP Condition N: Geology and Hydrology

During the AR 14 reporting period, all projects were in compliance with GUP Condition N. See Appendix B, Condition N for more details.

GUP Condition O: Cultural Resources

During the AR 14 reporting period, all projects were in compliance with GUP Condition O. See Appendix B, Condition O for more details.

GUP Condition P: Utilities and Public Services

During the AR 14 reporting period, all projects were in compliance with GUP Condition P. See Appendix B, Condition P for more detail.

GUP Condition Q: Air Quality

All approved projects were required to comply with BAAQMD's permitting, control measures and recommendations as appropriate. See Appendix B, Condition Q for more detail.

GUP Condition R: Noise

Stanford complied with the requirements of the County Noise Ordinance on individual construction projects. Two events per calendar year are allowed by the GUP, and additional fireworks events were allowed under separate permits. Stanford maintained the noise hotline (650) 723-2281. The University reports that six complaints were received. See Appendix B, Condition R for more detail.

GUP Condition S: Additional GUP Conditions

This condition was a requirement for Stanford University to agree to the GUP conditions of approval within 60 days. This condition was fulfilled in Annual Report 1.

Project Summaries

This section presents brief project summaries of all major projects that received ASA approval or exemption and/or a building permit or demolition permit during the reporting period. A list of other minor projects that received approval is presented at the end of this section. Figure 6 shows the locations of the major projects.

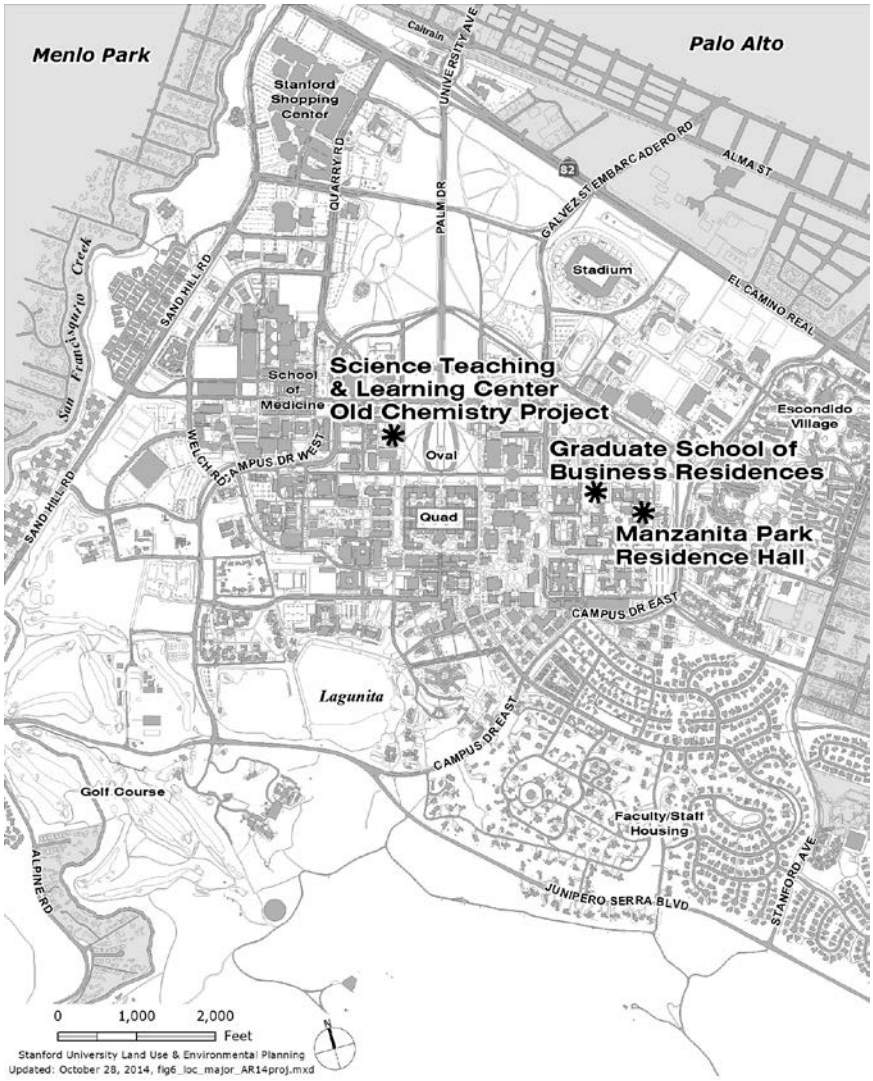


FIGURE 6: LOCATION OF MAJOR ANNUAL REPORT 14 PROJECTS

TABLE 5
ANNUAL REPORT 14
DEVELOPMENT PROJECTS RECEIVING ASA OR OTHER APPROVAL

PC/ File #	Project Name	Development District	ASA gross sq. ft.	Demolition sq. ft.	Bldg. Permit sq. ft.	Development Status
Projects that affect GUP gsf						
10258	Arrillaga Family Sports Center Addition	DAPER & Administration	28,500		27,709	Completed
10272	Anderson Collection	Campus Center	28,192		30,279	Completed
10323	Replacement Central Energy facility	Campus Center	14,715		14,715	Under Construction
9773	SULAIR North repurposing	Campus Center	0		0	Completed
10363	McMurtry Art – Art History	Campus Center	83,649		84,239	Under Construction
7868	New Field Hockey Bleachers	DAPER & Administration	2,322		2,397	Completed
10409	Windhover Contemplative Center	Lagunita	3,928		3,928	Completed
10235	Northwest Data Center and Communications Hub	Campus Center	3,033		3,130	Completed
3301	Stanford Equestrian Center	West Campus	0		0	Partially Completed
10346	520/524 Renovation	Campus Center	2,065		2,237	Under Construction
9731	408 Panama Mall	Campus Center	56,990		56,790	Under Construction
10478	Science Teaching and Learning Center - Old Chemistry Project	Campus Center	75,935		Not yet	Awaiting Building Permit
5945	Sunken Diamond New Entry/Locker Room Expansion	DAPER & Admin	3,423		Not yet	Awaiting Building Permit
10520	Educational Farm	West Campus	864		864	Under Construction
6939	Cagan Soccer Field Bleacher Lockers	DAPER & Admin	2,658		Not yet	Awaiting Building Permit
8572	Maples Pavilion Addition	DAPER & Admin	1,135		Not yet	Awaiting Building Permit

TABLE 5
ANNUAL REPORT 14
DEVELOPMENT PROJECTS RECEIVING ASA OR OTHER APPROVAL

PC/ File #	Project Name	Development District	ASA gross sq. ft.	Demolition sq. ft.	Bldg. Permit sq. ft.	Development Status
10438	Softball Field House	DAPER & Admin	2,618		Not yet	Awaiting Building Permit
10540	Roble Gym Renovation	Campus Center	544		544	Under Construction
6512	Footlball Stadium New Locker Room	DAPER & Admin	8,966		Not yet	Awaiting Building Permit
10545	Field Conservation Facility	Campus Center	2,842		2,842	Under Construction
8605	Demolition of old Field Conservation Facility	Campus Center		(2,821)		Awaiting Demolition Permit
8605	Siebel Varsity Golf Training Complex	West Campus and Campus Center	3,461	(432)	Not yet	Awaiting Building Permit
Demo Permit 54052	Demolition of Godzilla Trailer	Campus Center		(11,435)		Demolished
10612	Golf - 10th Tee Improvements	Foothills	0		Not yet	Awaiting Planning Approval
10617	Meyer Library Demolition	Campus Center		(124,710)		Awaiting Planning Approval
10635	End Station 3 Infrastructure and Code Upgrades	Campus Center	0		Not yet	Awaiting Planning Approval
5622	Golf Learning Center	Lagunita	2,035	(1,740)	Not yet	Awaiting Planning Approval
Projects that affect other gsf						
None in AR14						
Housing						
10288	Slavianskii Dom	San Juan	961		961	Completed
10287	Muwekma-Tah-Ruk	Lagunita	450		450	Completed
10282	Grove House	San Juan	500		500	Completed
10283/ 36519	Columbae	Lagunita	950		950	Completed
10390	Comstock Graduate Housing	East Campus	254,258	(30,547)	256,258	Completed

TABLE 5
ANNUAL REPORT 14
DEVELOPMENT PROJECTS RECEIVING ASA OR OTHER APPROVAL

PC/ File #	Project Name	Development District	ASA gross sq. ft.	Demolition sq. ft.	Bldg. Permit sq. ft.	Development Status
10447	Manzanita Park Residence Hall	East Campus	39,696		41,805	Under Construction
10536	Mars	Lagunita	273		273	Completed
10535	Sigma Nu	Lagunita	628		628	Completed
9974	Roth	San Juan	508		508	Completed
10538	Phi Kappa Psi	San Juan	775		775	Awaiting Building Permit
10539	Kairos	San Juan	979		979	Awaiting Building Permit
9465	Durand	San Juan	675		675	Completed
10541	Lasuen	San Juan	0		Not yet	Awaiting Planning Approval
10537	La Maison Francaise (French House)	San Juan	871		Not yet	Awaiting Planning Approval
9120	717 Dolores	San Juan	928		Not yet	Awaiting Planning Approval
10600	GSB Residences	East Campus	124,670		Not yet	Awaiting Building Permit
6819	New Residences at Lagunita Court	Lagunita	74,300		Not yet	Awaiting Planning Approval
Site Projects						
10307	Central Process Steam building	Campus Center	N/A	N/A	N/A	Under Construction
10331	Heat Exchanger 4	Campus Center	N/A	N/A	N/A	Completed
10438	Sand Volleyball Arena	DAPER & Administration	N/A	N/A	N/A	Completed
3301	Acorn Parking Lot	East Campus	N/A	N/A	N/A	Completed
10279	RAN 24 Distribution Antenna System	DAPER & Administration	N/A	N/A	N/A	Awaiting Building Permit
8453	Toyon-Branner Boiler	East Campus	N/A	N/A	N/A	Under Construction
9024	LPCH-SHC Steam Plant	Campus Center	N/A	N/A	N/A	Under Construction
8464	Stanford Perimeter Trail	Multiple Districts	N/A	N/A	N/A	Awaiting Planning Approval

TABLE 5
ANNUAL REPORT 14
DEVELOPMENT PROJECTS RECEIVING ASA OR OTHER APPROVAL

PC/ File #	Project Name	Development District	ASA gross sq. ft.	Demolition sq. ft.	Bldg. Permit sq. ft.	Development Status
9351	Roble-Lagunita Boiler Enclosure	Lagunita	N/A	N/A	N/A	Under Construction
10572	Stanford Parking Structure 10 (PS-10)	Campus Center	N/A	N/A	N/A	Awaiting Planning Approval for modification
10578	Cubberley Boiler	Campus Center	N/A	N/A	N/A	Awaiting Building Permit
10486	Searsville Parking Lot	West Campus	N/A	N/A	N/A	Parking lot completed, awaiting approval for modification
10628	Regional Storm Water Treatment Facility	Campus Center	N/A	N/A	N/A	Awaiting Planning Approval

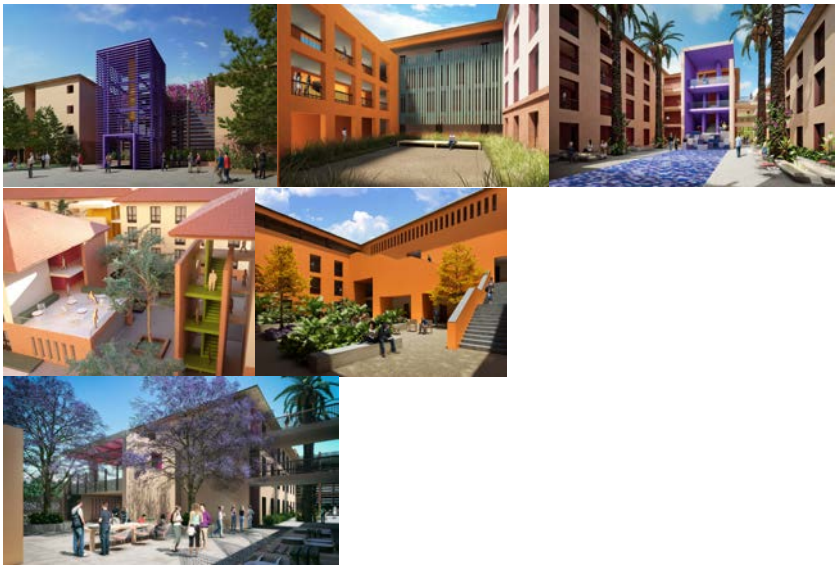
File No. 10447: Manzanita Park Residence Hall

ASA Application Submitted:	05/17/2013
ASA Approved:	10/10/2013
Status as of 08/31/13:	Under Construction, Expected completion August 2015
Project Description:	The new 41,805 square feet Manzanita Park Residence Hall to be constructed at 684 Serra Street will be located within the Manzanita Park residence cluster, adjacent to Manzanita Field and the Schwab Residential Center. The 3-story building with a partial basement will add 128 student beds and 1 Resident Fellow unit, primarily serving undergraduate upperclassmen at Stanford. The project included the distribution of 128 student housing units from the Lagunita Development District to the East Campus District. As part of this project, 3 non-oaks were removed, replaced by 3 trees on the site, according to ratios required by Condition K.4. Estimated grading quantities for building and sitework combined are 1,463 cubic yards of cut and 875 cubic yards of fill. This project is residential space; therefore the units count against the 2000 GUP residential unit cap.
Development District:	East Campus
Type of Project:	Residential
	
Applicable GUP Conditions:	Stanford is in compliance with Mitigation Monitoring and Reporting Program requirements and GUP Conditions for this project. Detailed summaries of project-related conditions are maintained in County project files.

File No. 10478: Science Teaching & Learning Center – Old Chemistry Project

ASA Application Submitted:	09/17/2013
ASA Approved:	11/14/2013
Status as of 08/31/13:	Awaiting Building Permit, Expected completion March 2016
Project Description:	The rehabilitation of the Old Chemistry building located at 376 Lomita Drive will seismically upgrade and restore the exterior of the building located west of the Oval along Lomita Avenue, between Roth Way and Serra Mall. The project will result in the addition of approximately 75,935 GUP square feet. This building was previously mothballed and removed from the inventory. This new hub for undergraduate science education will be called the Science Teaching & Learning Center, and will feature classrooms, a 300-seat auditorium, several teaching labs, a combined Sciences Library, study spaces, a gallery, and a gathering terrace. Twenty-five trees will be removed, 4 trees will be relocated, and 23 trees will be replanted. Estimated grading quantities are 7,193 cubic yards of cut and 550 cubic yards of fill. This project is academic space; therefore the building space counts against the 2000 GUP building area cap.
Development District:	Campus Center
Type of Project:	Academic
	
Applicable GUP Conditions:	Stanford is in compliance with Mitigation Monitoring and Reporting Program requirements and GUP Conditions for this project. Detailed summaries of project-related conditions are maintained in County project files.

File No. 10600: Graduate School of Business Residences

ASA Application Submitted:	05/19/2014
ASA Approved:	07/31/2014
Status as of 08/31/13:	Awaiting Building Permit. Expected completion Spring 2016.
Project Description:	The approximately 124,670 square feet Graduate School of Business (GSB) Residences at 650 Serra Street will be a new graduate housing complex that will include 100 residential units (200 beds), along with common living spaces and outdoor courtyards, and a new multi-purpose room adjacent to the Vidalakis Dining Commons. The project also relocates the service access from Buckeye Lane to a new service road to the south of the project. Twenty-one trees will be removed, 7 trees will be relocated, and 21 trees will be replanted. Estimated grading quantities are 9,859 cubic yards of cut and 1,046 cubic yards of fill. This project is residential space; therefore the units count against the 2000 GUP residential unit cap.
Development District:	East Campus
Type of Project:	Residential
	
Applicable GUP Conditions:	Stanford is in compliance with Mitigation Monitoring and Reporting Program requirements and GUP Conditions for this project. Detailed summaries of project-related conditions are maintained in County project files.

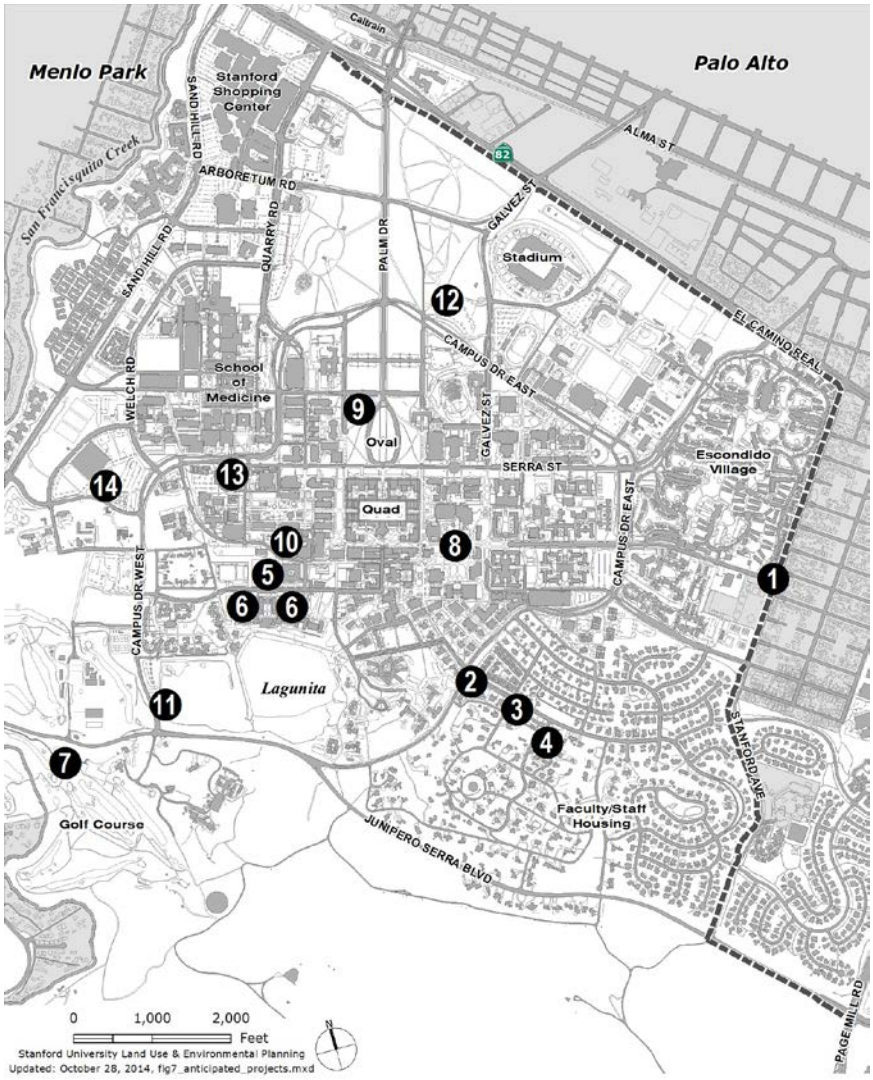


FIGURE 7: LOCATION OF ANTICIPATED PROJECTS

Map ID	Project
1	Stanford Perimeter Trail
2	Lasuen (Row House)
3	La Maison Francaise (French House)
4	717 Dolores
5	PS-10
6	New Residences at Lagunita Court
7	Golf – 10th Tee Improvements
8	Meyer Library Demolition
9	Regional Storm Water Treatment Facility
10	End Station 3 Infrastructure and Code Upgrades
11	Golf Learning Center
12	Lasuen Restrooms
13	Demo of CEF
14	Temporary Arboretum Child Care Center

TABLE 6
ANTICIPATED PROJECTS FOR ANNUAL REPORT 15

County File #	Project	Development District	ASA Application Submitted	Anticipated ASA Square Footage	Anticipated Housing	Anticipated Parking
ASA Applications Submitted During AR 14, No Approval as of August 31, 2014						
10612	Golf - 10th Tee Improvements	Foothills	6/19/14	0	-	-
10617	Meyer Library Demolition	Campus Center	6/30/14	(124,710)	-	-
10635	End Station 3 Infrastructure and Code Upgrades	Campus Center	8/4/14	0	-	-
5622	Golf Learning Center	Lagunita	8/28/14	295	-	-
10541	Lasuen (Row House)	San Juan	12/27/13	0	0	-
10537	La Maison Francaise (French House)	San Juan	12/27/13	871	(2)	-
9120	717 Dolores	San Juan	12/27/13	928	2	-
6819	New Residences at Lagunita Court	Lagunita	6/10/14	74,300	218	-
8464	Stanford Perimeter Trail	Multiple Districts	10/15/13	-	-	-
10572	Stanford Parking Structure 10 (PS-10)	Campus Center	3/12/14; modification submitted 8/26/14	-	-	1,165
10628	Regional Storm Water Treatment Facility	Campus Center	7/21/14	-	-	-

TABLE 6
ANTICIPATED PROJECTS FOR ANNUAL REPORT 15

County File #	Project	Development District	ASA Application Submitted	Anticipated ASA Square Footage	Anticipated Housing	Anticipated Parking
ASA Applications Anticipated for AR 15 Reporting Period						
-	Lasuen Restrooms	DAPER & Admin	-	1,023	-	-
Demo Permit # 41254	Demo of CEF	Campus Center	9/12/14	(8,715)	-	-
10228	Temporary Arboretum Child Care Center	Campus Center	10/16/14	10,560 (conversion from temporary surge)	-	-

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Other Significant Information

Ordinance Requiring Installation of Water Bottle Filling Stations in Commercial Projects

In August 2014, the County adopted a new ordinance requiring the installation of new water bottle filling stations where drinking fountains are required in private commercial development projects in unincorporated Santa Clara County. This ordinance is a local amendment to the California Plumbing Code that includes the installation of water bottle filling stations for new construction or renovations in government facilities, commercial, industrial and institutional buildings.

Stanford will comply with this ordinance on a project-by-project basis, for new buildings, additions to buildings, and if the occupancy of a building is changed, where the existing California Building Code requires the installation of drinking fountains. For applicable projects, bottle water filling stations will be installed at a ratio of one station per floor at visible and accessible locations, and will be either a stand-alone station or a station integrated together with a drinking fountain.

Plug-In Electric Vehicle Charging Systems

This section outlines Stanford's approach to comply with Santa Clara County Ordinance No. NS-1100.118, amending Chapter III of Division C3 of the County of Santa Clara Ordinance Code to adopt local amendments to the California Green Building Standards Code for plug-in electric vehicle charging systems. In FY 14, Stanford and Santa Clara County agreed on an alternative means approach to comply with the Ordinance.

Within the site boundary shown below and added to Appendix A as Map A-6, Stanford will install ports in existing parking facilities, and install ports and EVSE infrastructure for future needs in new parking facilities, and track the installation once a year in the Annual Report. This Annual Report (14) captures changes from February 15, 2014 to August 31, 2014. Appendix F-2 of the Annual Report tracks the total number of parking spaces from completed projects throughout the site boundary and the change to the total number of spaces over the year. All new spaces added to the total inventory over the year are subject to the Ordinance. Should Stanford install ports and infrastructure in advance of the requirement to construct, these may be banked and used to meet the needs of future reporting periods.

If Stanford is not in compliance at the end of a reporting period, Stanford University Parking and Transportation Department staff

shall submit to the County Building Official a proposed plan that includes a schedule for how the University proposes to meet the Ordinance, within 6 months.

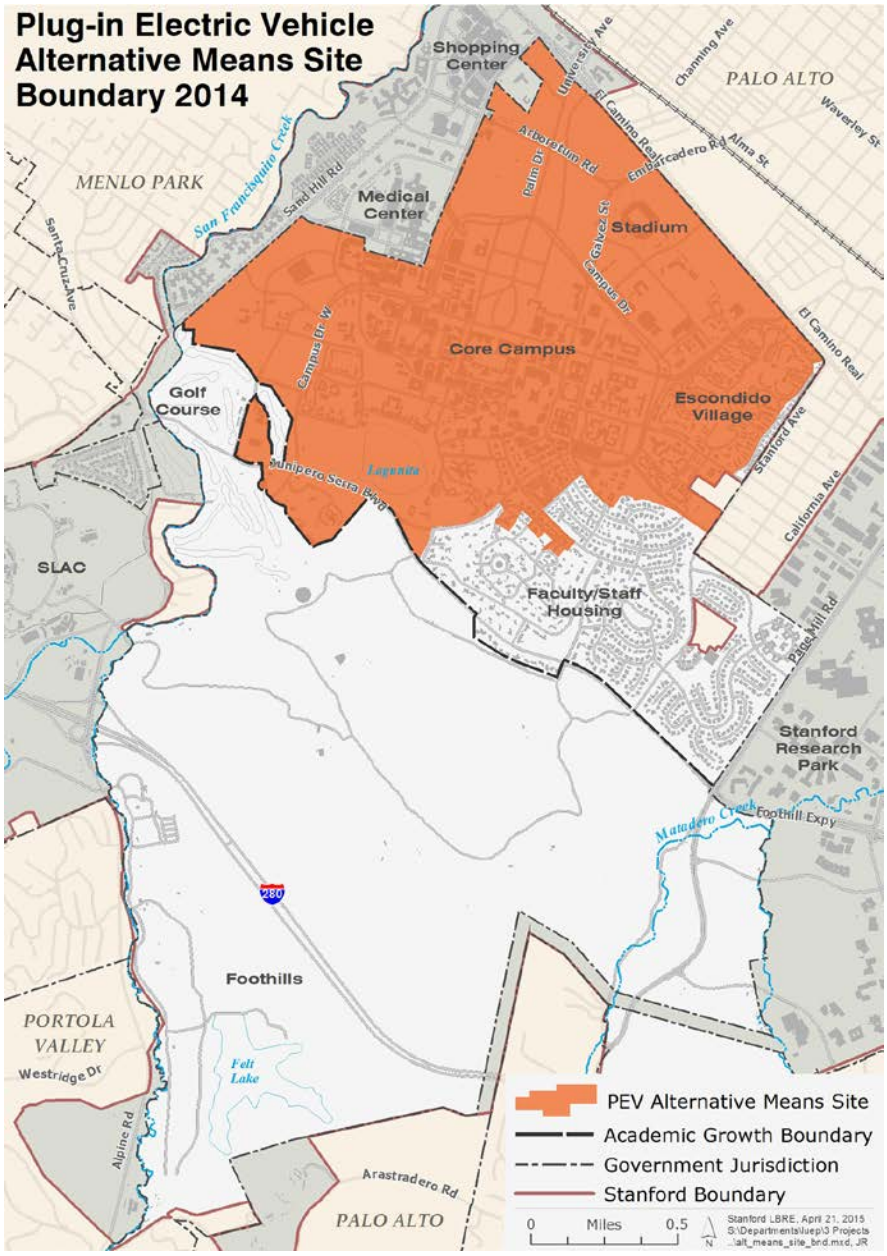

FIGURE 8: PLUG-IN ELECTRIC VEHICLES SITE BOUNDARY 2014

VII. Other Information

References

- Santa Clara County 2000 Stanford Community Plan/General Use Permit Environmental Impact Report. Prepared by Parsons.
- Stanford University Community Plan. Adopted by Santa Clara County Board of Supervisors December 12, 2000.
- Stanford University General Use Permit. Approved December 12, 2000.

County of Santa Clara Report Project Preparers

- Kavitha Kumar, Interim Principal Planner (Project Manager: Stanford Environmental Mitigation Monitoring and Reporting Program), Santa Clara County Planning Office (408) 299-5783/ kavitha.kumar@pln.sccgov.org
- Manira Sandhir, AICP, Planner II, Santa Clara County Planning Office, 408-299-5787, manira.sandhir@pln.sccgov.org

Stanford University Data Providers

- Catherine Palter, Associate Vice President, Karen Hong, Community Planner/Analyst, Joe Ryan, GIS Specialist, Land Use and Environmental Planning
- Fahmida Ahmed, Associate Director, and Meghan Kearns, Sustainability Coordinator, Sustainability and Energy Management
- Brian Shaw, Director, and Brian Canada, Parking Operations Coordinator, Parking & Transportation Services
- Laura Goldstein, Director, Project Managers and staff, Department of Project Management
- Adam Porter, Civil Infrastructure Engineer, Utilities
- Project Management Resources, Residential and Dining Enterprises, Environmental Health & Safety Department, Facilities Operations - Utilities, University Architect/Campus Planning and Design

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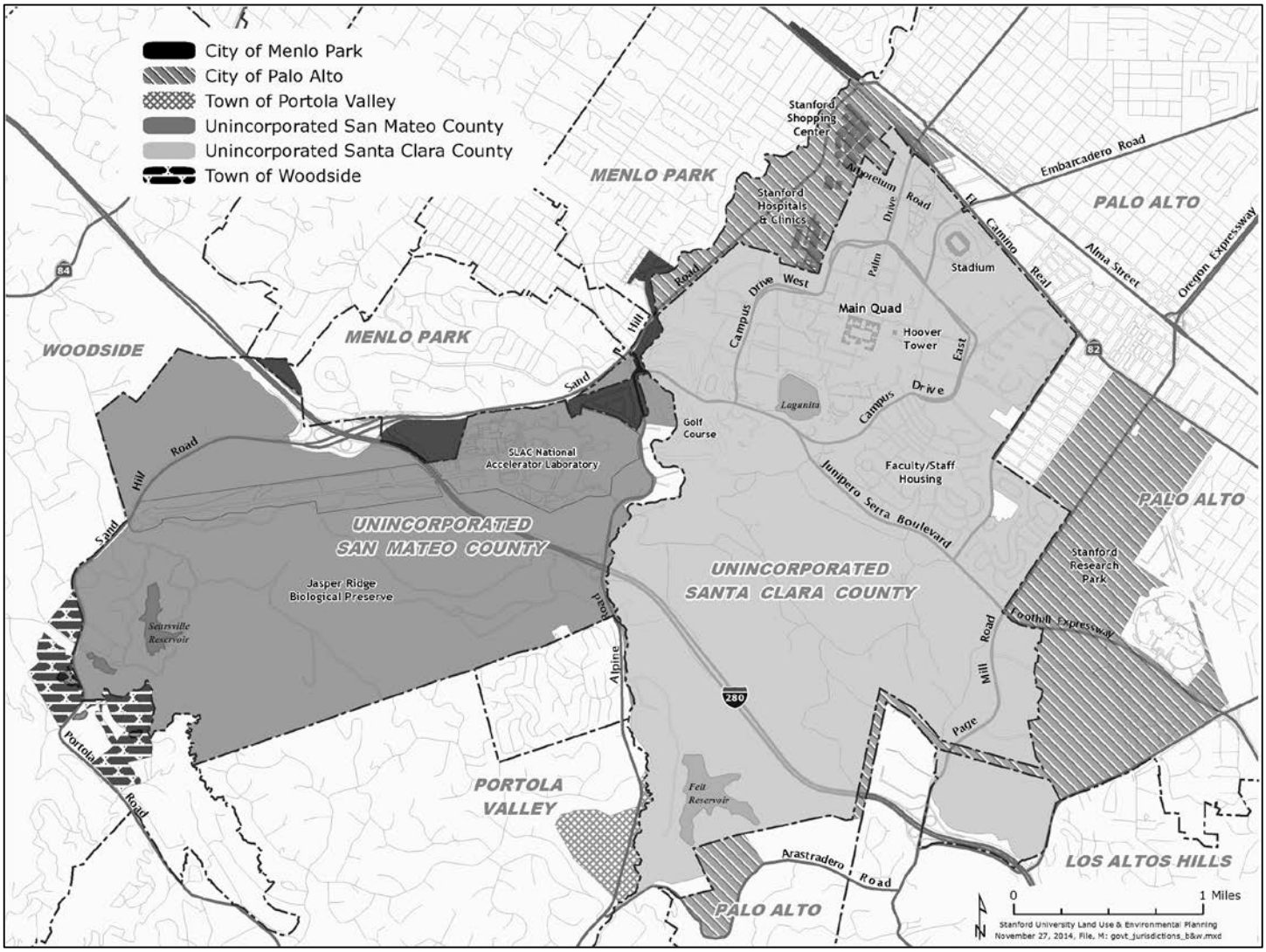
Appendix A
Reference Maps

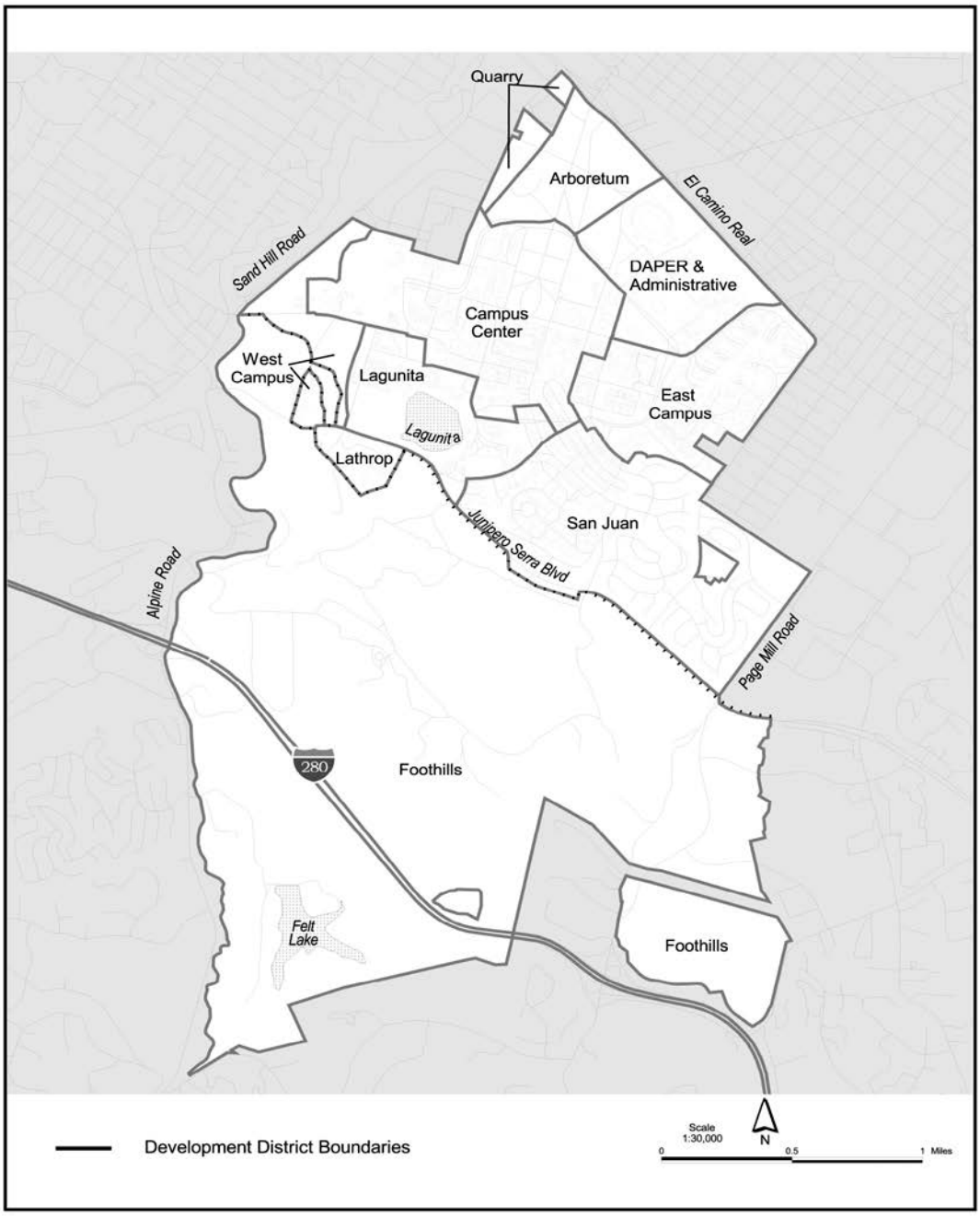
Appendix A
Reference Maps



Source: Stanford University 2014

MAP A-1
GOVERNMENTAL JURISDICTIONS ON STANFORD LANDS

Appendix A
Reference Maps

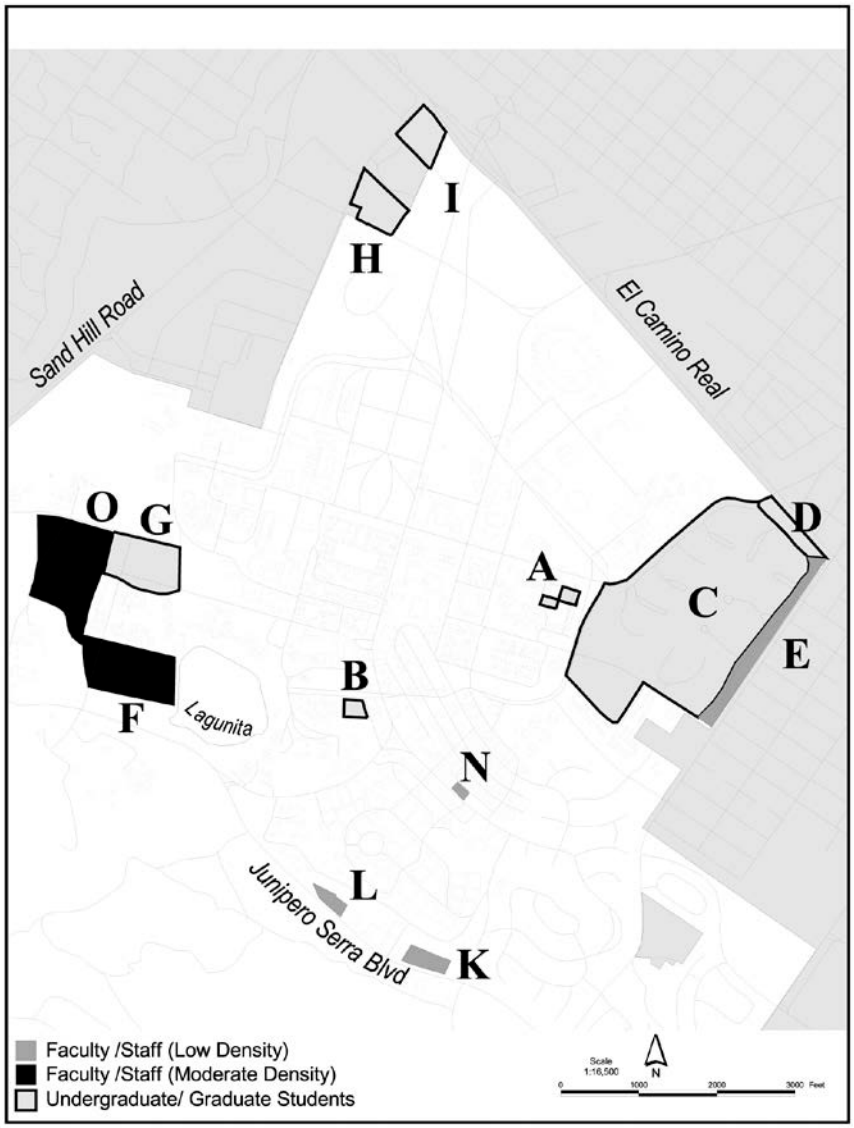


Source: Stanford University General Use Permit, December 2000

MAP A-2
STANFORD UNIVERSITY DEVELOPMENT DISTRICTS

Appendix A
Reference Maps

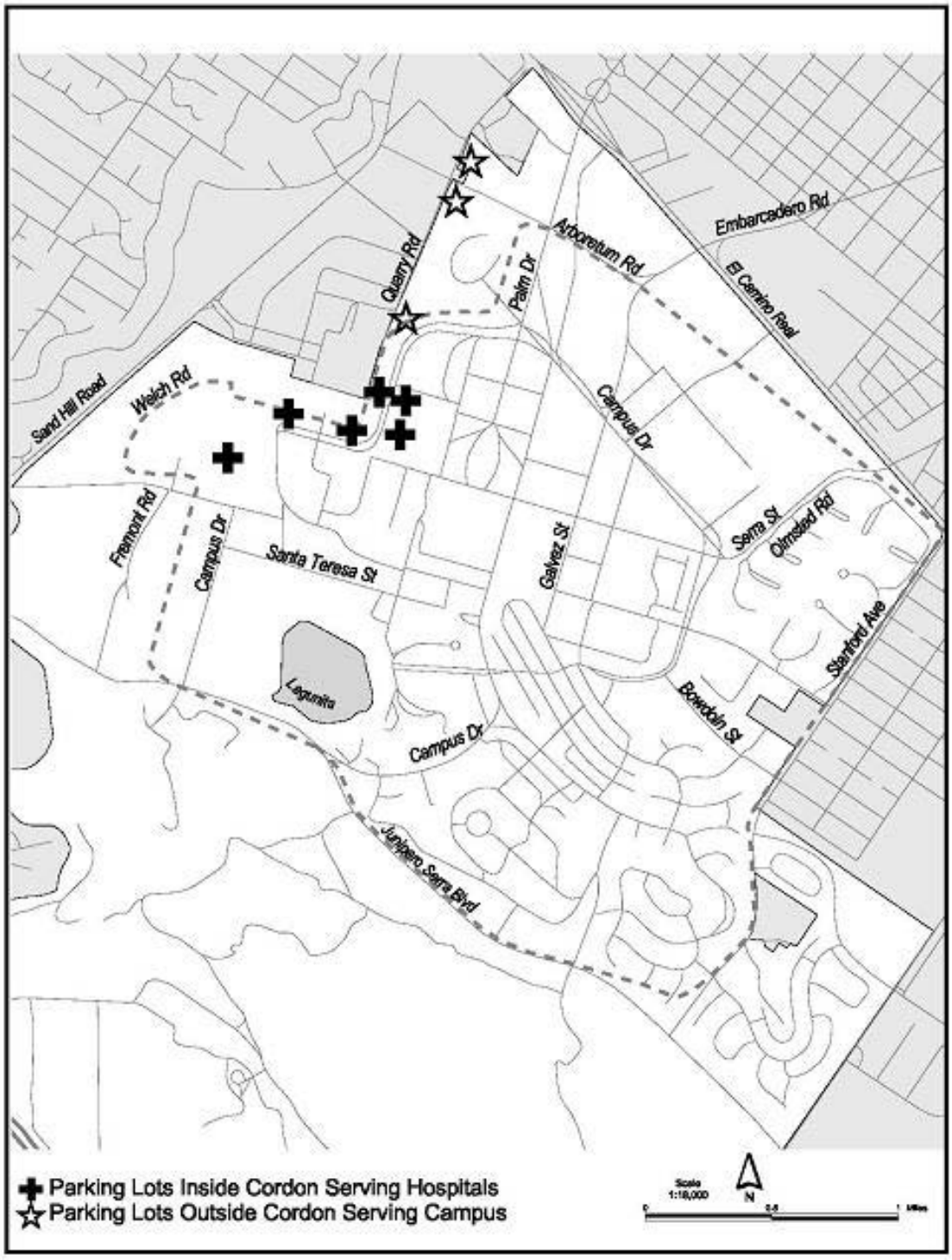
- ***A*** *Manzanita*
- ***B*** *Mayfield/Row*
- ***C*** *Escondido Village*
- ***D*** *Escondido Village*
- ***E*** *Escondido Village*
- ***F*** *Driving Range*
- ***G*** *Searsville Block*
- ***H*** *Quarry/Arboretum*
- ***I*** *Quarry/El Camino*
- ***K*** *Lower Frenchman's*
- ***L*** *Gerona*
- ***N*** *Mayfield*
- ***O*** *Stable Sites*



Source: Stanford University General Use Permit, December 2000

MAP A-3
POTENTIAL HOUSING SITES

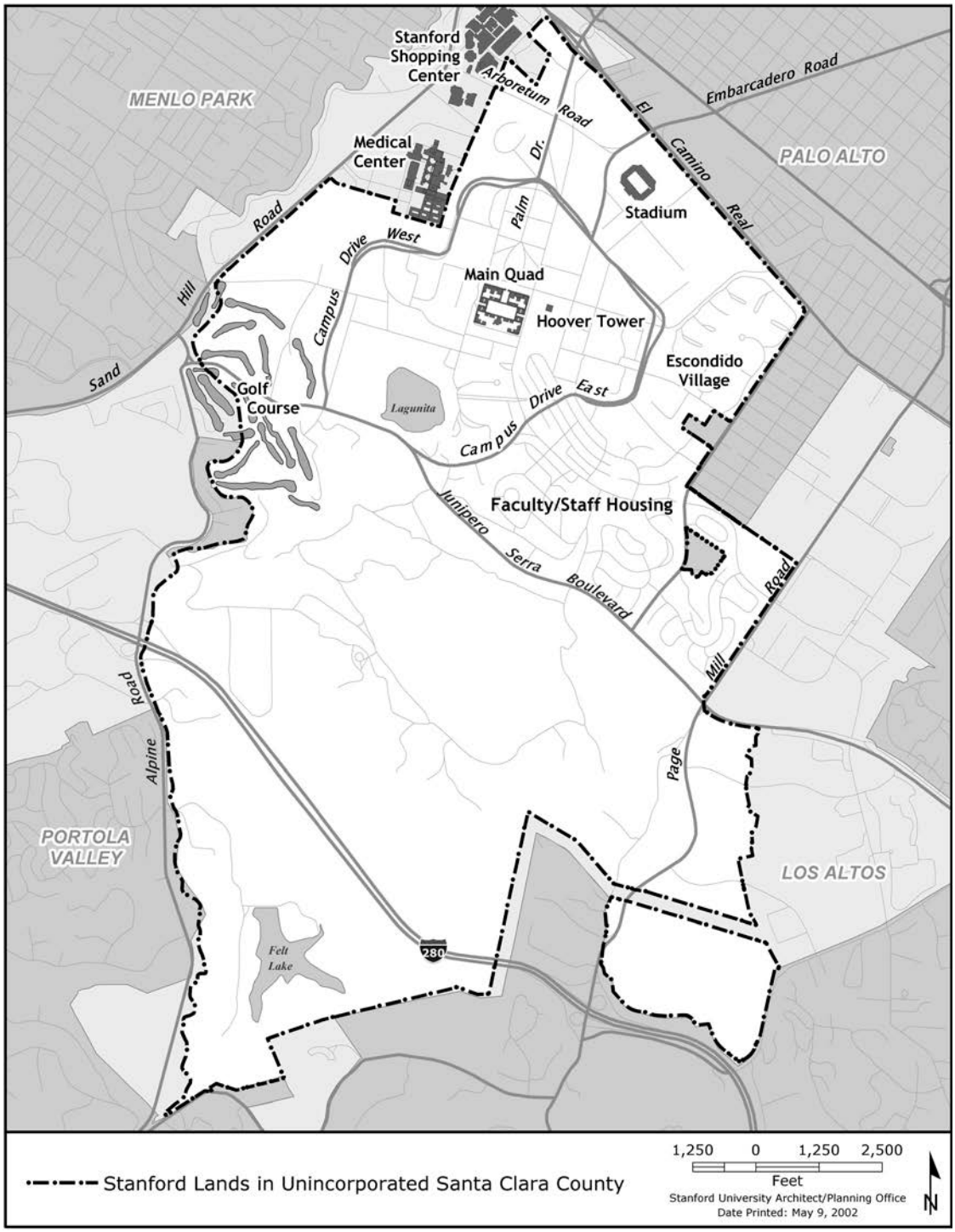
Appendix A
Reference Maps



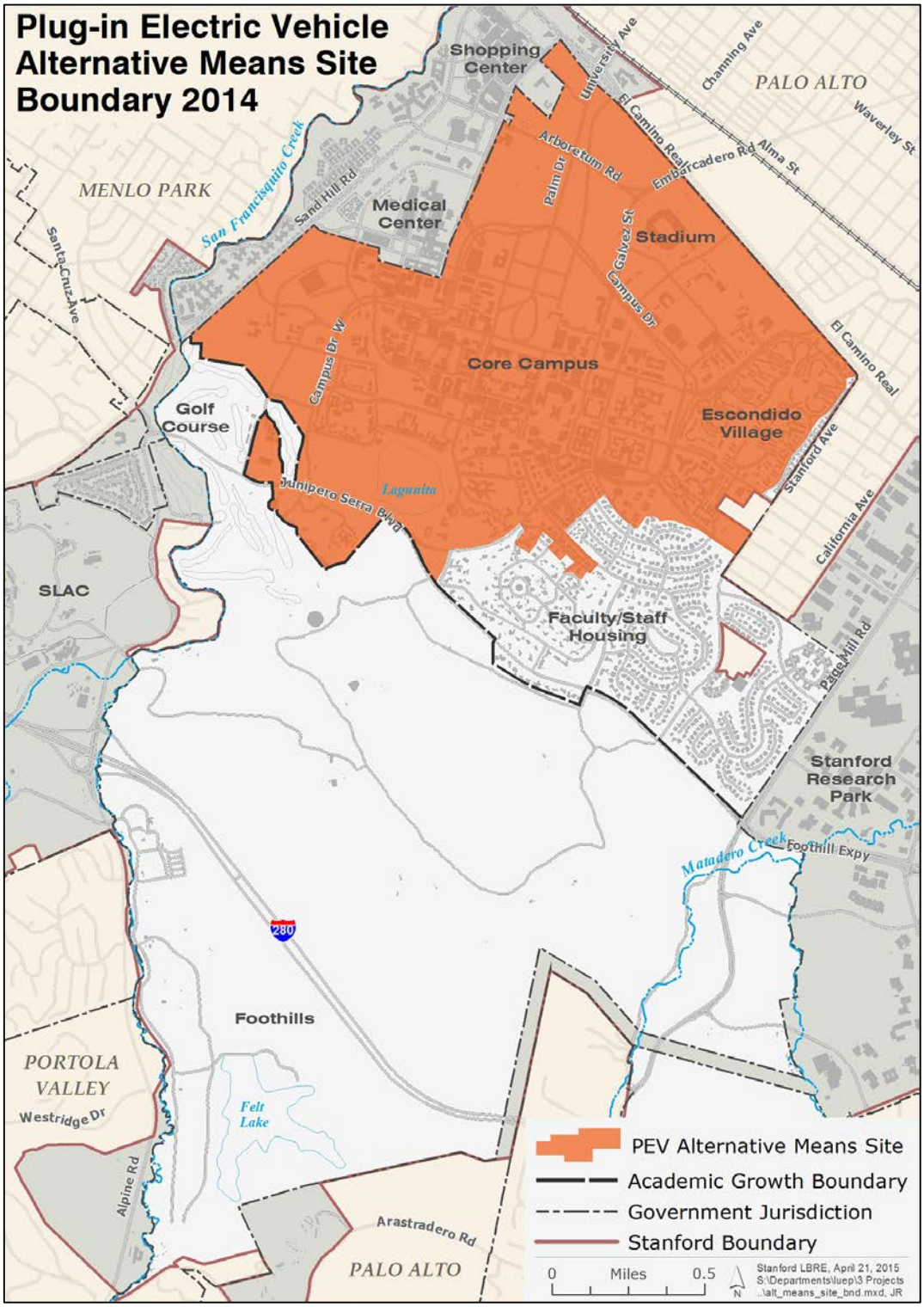
Source: Stanford University General Use Permit, December 2000

MAP A-4
TRAFFIC MONITORING CORDON BOUNDARIES

Appendix A
Reference Maps



MAP A-5
GENERAL ORIENTATION MAP OF STANFORD UNIVERSITY
(UNINCORPORATED SANTA CLARA COUNTY)



MAP A-6
PLUG-IN ELECTRIC VEHICLES ALTERNATIVE MEANS SITE BOUNDARY 2014

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Appendix **B**

GUP Conditions and Compliance Activities

Appendix B
GUP Conditions and Compliance Activities

GUP Condition		Stanford Compliance
A.	**Building Area**	
A.1.	GUP allowed construction on unincorporated Santa Clara County lands.	Illustrations and details are provided in Section IV of this report of all major projects that received ASA during the current reporting year. Projects are described in detail in the annual report for the period in which ASA was granted; however, academic and support building area is counted against the building area cap in the period during which the project received a building or grading permit. Table 1 in Section II of this annual report shows building area accounting during this reporting period relative to the "GUP building area cap." During this reporting period, 2 housing units received final framing inspection. As of August 31, 2014, the cumulative housing units are 1,886, as shown in Section II (Table 3). During the AR 14 reporting period, there was a net increase of 526 parking spaces. Changes that resulted from these projects are enumerated in Section II (Table 4).
A.2.	Building area allowed in addition to the GUP building area cap.	The remaining 1989 GUP approved square footage was consumed during the Annual Report 5 reporting period, per Condition A.2.a. The 2000 GUP (Condition A.2.c) allows Stanford University to install up to 50,000 sq. ft. as surge space during construction activities in the form of temporary trailers, which shall not be counted towards the GUP building area cap. During AR 14, there was no change in temporary surge space, as shown in Section II (Table 2).
A.3.	Construction that does not count toward the GUP building area cap.	The 2000 GUP (Condition A.3.a) allows up to 40,000 sq. ft. of additional building area for the purpose of new childcare or community centers. During AR 14, no additional projects in this category were constructed, as shown in Section II (Table 2).
B.	**Framework**	
B.1.	Development under the GUP must be consistent with the Community Plan and General Plan.	Twenty three ASA/ASX projects were approved consistent with the policies in the Community Plan and the General Plan.
B.2.	Definition of a proposed building project.	No action required.
B.3.	Minimum time duration of GUP (modification possible, subject to County Ordinance).	No action required.
B.4.	Funding of work associated with conditions of GUP.	Stanford paid all costs associated with work conducted by the County Planning Office in relation to the GUP (staff time, consultant fees, and direct costs associated

Appendix B
GUP Conditions and Compliance Activities

GUP Condition	Stanford Compliance
	with report production and distribution) in a timely manner.
C. Monitoring, Reporting, and Implementation	
C.1. Preparation of an Annual Report that summarizes Stanford's development over the preceding year, upcoming development, and compliance with GUP conditions.	This Annual Report fulfills Condition C.1. for the reporting period of September 1, 2013 to August 31, 2014.
C.2.a. County of Santa Clara Planning Office has the responsibility of preparing the Annual Report.	The County Planning Office staff prepared and distributed this 14th Annual Report pursuant to the 2000 GUP.
C.2.b. Funding for Annual Report by Stanford.	Stanford provided funding to the Santa Clara County Planning Office for all aspects of this Annual Report in a timely manner.
C.2.c Stanford to submit information related to Annual Report.	Stanford provided required information for this Annual Report in a timely manner.
C.2.d. Annual Report presentation to the Community Resource Group (CRG).	The Draft Annual Report 14 was presented to the CRG on April 9, 2015.
C.2.e. Presentation of the Annual Report to the Planning Commission in June of each year.	This Annual Report 14 is scheduled for presentation to the Planning Commission at the June 2015 public hearing.
C.2.f. Time period and content of the Annual Report.	This Annual Report documents Stanford's development activity and compliance with 2000 GUP conditions, and any specific conditions, associated with building projects proposed between September 1, 2013 and August 31, 2014.
C.3. Funding of work associated with implementing tasks identified in the CP and GUP.	Stanford paid all costs associated with work conducted by the County Planning Office in relation to the CP and GUP during this reporting period (including staff time and consultant fees) in a timely manner.
D. Permitting and Environmental Review	
D.1. Review of proposed building projects and issuance of all necessary permits and approvals in accordance with County requirements.	Twenty three projects received ASA/ASX during the reporting period, as described in Section II and detailed in Section IV of this Annual Report.
D.2. Compliance with adopted GUP conditions and adopted mitigation measures within the Mitigation Monitoring and Reporting Program (MMRP).	During this reporting period, Stanford submitted 34 ASA/ASX applications for projects proposed under the 2000 GUP. All approved projects were in compliance with GUP conditions. For additional details, see Section II of this annual report and Condition K.7 in Appendix B.
D.3. Compliance with CEQA requirements.	All projects that received ASA/ASX approval also received adequate CEQA review and clearance during the reporting period as specified in this GUP condition. (See also GUP Conditions D.4 and I.2).

Appendix B
GUP Conditions and Compliance Activities

GUP Condition		Stanford Compliance
D.4.	Determination of appropriate level of environmental assessment.	Relevant measures identified in the EIR, and incorporated into the GUP, have been incorporated into the conditions of approval for each project. Additional project conditions of approval were included where necessary.
D.5.	Project specific environmental assessment.	No environmental assessments were required for any other projects in the reporting period.
D.6.	Impact areas to be considered in environmental assessment.	Not applicable.
E.	**Academic Building Area**	
E.1.	Distribution of 2,035,000 square feet of academic and academic support facilities distributed among ten development districts.	During the reporting period, academic/academic support facilities were approved for the Campus Center District. (See Section IV Project Summaries for details).
E.2.	Deviation from the proposed distribution of academic development.	During the reporting period, the redistribution of 864 gsf from East Campus to West Campus was approved to support the Educational Farm.
E.3.	Maximum allowable development in the Lathrop District shall be 20,000 square feet.	No development was proposed for the Lathrop District during the reporting period.
E.4.	No academic development allowed in the Arboretum District.	No academic development was proposed for the Arboretum District.
E.5.	Complete and submit a Sustainable Development Study (prior to cumulative development total of more than 1,000,000 net square feet).	The Sustainable Development Study (SDS) was approved by the Board of Supervisors on April 7, 2009. More detail on the SDS process was provided in AR 9. Appendix E provides an Annual Report of Stanford's sustainable activities. Stanford is in compliance with GUP Condition E.5.
F.	**Housing**	
F.1.	Type and distribution of the 3,018 housing units allowed under the GUP.	Four dorm renovation projects adding 2 student units were completed. To date, 1,886 housing units have been built or framed. In AR 13, a GUP Housing Amendment was proposed to allocate 372 faculty/staff units in West Campus to 166 student units in Lagunita and 206 student units in East Campus. The Amendment was approved on November 26, 2013.
F.2.	Other allowed housing sites.	During AR 14 reporting period, no housing projects were proposed on sites other than those designated on Map 3, Appendix A.
F.3.	Allowable variation of housing development.	See compliance with GUP Condition F.2 above, and F.4 below.

Appendix B
GUP Conditions and Compliance Activities

GUP Condition		Stanford Compliance
F.4.	Deviation from estimated housing distribution.	128 student units were redistributed from Lagunita to East Campus for the Manzanita Park Residence Hall project, and 372 faculty/staff units were redistributed from West Campus to 166 student units in Lagunita and 206 student units in East Campus.
F.5.	No housing may be constructed in the Foothills, Lathrop, or Arboretum districts.	No housing projects were proposed for any of these districts during the reporting period.
F.6.	Compliance with affordable housing requirement.	Stanford has complied with the affordable housing requirement. Stanford pays the in-lieu fee for applicable projects prior to occupancy. Stanford University has complied with County requests for in-lieu. As of May 2014, the affordable housing fees are assessed at the rate of $19.31 per square foot of net new academic or academic support space approved under the building permit. Stanford has made affordable housing fee payments to date (as of August 31, 2014) totaling $23,791,494.94. Five affordable housing projects have been built so far with $13,345,811. These five projects were built within the 6 mile radius from Stanford Campus boundary and have provided 319 affordable housing units, with 137 units restricted to very low income to extremely low income families. Maybell Orchard by Palo Alto Housing, which was to provide 50 units, was canceled in November 2013. An additional $8 million of the SAHF fund was recently committed towards the Buena Vista mobile home park project, which is proposed to have approximately 117 units.
F.7.	Allowance for additional housing beyond 3,018 units.	No additional housing was proposed.
F.8.	Housing linkage requirements.	The GUP requires 1,210 housing units to be provided as part of a housing "linkage" to Stanford development of 1,000,000 cumulative sq. ft. of academic square footage. Stanford has constructed a total of 1,886 housing units, which complies with the housing linkage requirement.
F.9.	For purposes of the linkage requirement, the County will consider Stanford to have met housing compliance at the time of framing inspection.	The County has and continues to use the framing inspection for determination of the housing linkage requirement.
F.10.	Petition for modification of the housing linkage requirements.	Stanford made no petition for modification of the housing linkage requirement.
F.11.	Adoption of new zoning designations for Campus Residential – Low Density and Campus Residential – Medium Density.	Completed during Annual Report 1 reporting period.
F.12.	Allowed suspension of the housing linkage requirement.	There was no suspension of the housing linkage requirement.

Appendix B
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GUP Condition		Stanford Compliance
G.	**Transportation**	
G.1.	Intersection modifications.	Completed during Annual Report 1 reporting period.
G.2.	Continued compliance with 1989 GUP transportation requirements.	Stanford continues to offer and further expand the following programs that were in effect during the 1989 GUP: Marguerite shuttle system, carpool incentives, vanpool services, bicycle and pedestrian services, alternative transportation promotional activities, and staff support of alternative transportation programs. Several program changes were made in previous years, which have helped encourage the use of alternative transportation as a means of arriving and departing the campus, and are described fully in AR 9. Changes to the programs are described in subsequent annual reports. In 2013-14, the Zipcar program expanded to 66 cars. The Marguerite shuttle system was expanded, and now has 23 routes and over 65 buses, with some buses equipped with Wi-Fi. Thirteen 100% electric buses were added to the Marguerite fleet, and ridership grew to an estimated 2.5 million. Stanford's Ardenwood Express service was expanded for commuters from the East Bay. Stanford continues to be the first to be recognized as a Platinum level Bicycle Friendly University by the League of American Bicyclists for the outstanding bicycle friendly environment the university has created. The Commute Club introduced new membership gifts and incentives to support retention of its 9,000 members and recruitment of new members, including a vanpool and carpool promotion. The Capri program, an incentive program encouraging trips by car to take place during non-peak times, completed its final year as a pilot program. Two new pilot Go Pass programs were approved and announced, which will enable off-campus (commuting) graduate students and postdocs to purchase a Go Pass for unlimited rides on Caltrain beginning in September 2014.
G.3.	Mitigation of transportation impacts from additional development and population growth.	The County hired an independent consultant, AECOM Engineering, to complete traffic studies. See Appendix D of this document for a summary of results.
G.4.	No net new commute trips.	Year 14 cordon counts were conducted in Spring 2014 and completed in Fall 2014. The average AM trip count was 3,336, which is an increase of 17 vehicles over the baseline but 103 vehicles below the 90-percent confidence interval and 138 vehicles below the one-percent established trigger. The average PM trip count was 3,696, which is a 250 vehicles increase over the baseline. This represents an increase of 141 vehicles over the 90% confidence level. Stanford

GUP Condition		Stanford Compliance
		applied for a trip credit of 402 trips for the PM peak hour outbound traffic. With the application of the trip credits, the PM outbound traffic is 297 trips below the 1% established trigger. These peak hour counts were less than the trip limits established by the 2001 baseline counts with a 90% confidence level and 1% trigger once the trip credits were considered. Therefore, Stanford complied with GUP Condition G.6.
G.5.	Traffic counts cost.	Stanford submitted all requested funds in a timely manner.
G.6.	Baseline count established prior to construction of first new non-residential structure or by an alternative methodology determined to be more accurate.	Baseline cordon counts were completed during AR 1 and 2 reporting periods.
G.7.	Traffic counts and determination of traffic volume.	The traffic counts were conducted in Spring 2014 and completed in Fall 2014 by the County's traffic consultant, AECOM Engineering. As described in Appendix D of this report, the results of the 2014 counts were analyzed against the baseline counts previously collected, and were determined not to exceed the traffic limits threshold for the AM and PM peak hour traffic, once trip credits were applied.
G.8.	Off-campus trip reduction.	During AR 14, Stanford received 402 trip credits for off-campus trip reduction.
G.9.	Monitor cordon count volumes.	A summary report of traffic monitoring is provided as Appendix D to this annual report.
G.10.	Neighborhood traffic studies.	No additional neighborhood traffic study requests have been received by the County Planning Office.
G.11.	Project-specific traffic studies.	Project-specific traffic studies were prepared for the New Residences at Lagunita Court, Parking Structure 10, and the Searsville Parking Lot during the reporting period.
G.12.	Construction traffic management plan.	Stanford informed both its Public Safety Office and the University Fire Marshall's Office about site work and schedules for all construction projects that could affect emergency access. The University Fire Marshall's Office has regular coordination meetings with the Palo Alto Fire Department, where they update the Department on any emergency route changes. In addition, Stanford requires, through contract with the general contractors, that emergency vehicle access is always kept available through work areas. The Stanford Contracts office provides a general "Stanford Area truck routes map" to all general contractors and all the associated sub-contractors for the project at the time of contract release. The map also includes pedestrian zones, weight limits, service

GUP Condition		Stanford Compliance
		vehicle parking areas, and loading areas. In addition, Stanford provides copies of the map to contractors that come into the Parking and Transportation office to purchase Service Vehicle permits. This map and others are available on the web at http://transportation.stanford.edu/. The County and Stanford continue to work towards consistent inclusion of a traffic management plan as part of the construction plan set available on site.
G.13.	Special event traffic management plan.	Compliance with this requirement was achieved during the AR 3 reporting period.
G.14.	Junipero Serra Boulevard/ Stanford Avenue traffic group.	The full JSB/Stanford Avenue Multi-Jurisdictional Group did not meet during the reporting period; however, an ad hoc working group including Stanford, the SCRL and County Roads and Airports (CR&A) met on several occasions regarding the JSB traffic calming project. In June 2010, County Supervisor Liz Kniss announced that the County Board of Supervisors had approved $1.5M in funding to complete the project. CR&A awarded a design contract in March 2011. Construction documents (30% stage) were issued in August 2011. A draft Initial Study was issued for administrative review in November 2011. A final CEQA document was certified in March 2012. CR&A anticipated starting construction in spring of 2012 but as of March 2015, the project is awaiting permits from the Regional Water Quality Control Board and approval from the California Department of Fish and Wildlife. The project is fully designed and will be able to go into construction within a few months of these necessary permits/approvals.
H.	**Parking**	
H.1.	Net additional parking spaces shall not exceed 2,300 spaces, with the exception of parking provided for any housing in excess of 3,018 units.	During the reporting period, changes in parking resulted in a net increase of 526 parking spaces on the campus for a total cumulative decrease since September 1, 2000 of 555 spaces. Changes in parking occurred in the Lagunita, DAPER & Administrative, Campus Center, East Campus, Quarry, West Campus and San Juan Development Districts. See Section II, Table 4, and Appendix C-3 for details.
H.2.	Residential Parking Permit Program.	Stanford paid the City of Palo Alto $100,000 towards the development of a Residential Parking Permit Program. Stanford is in compliance with Condition H.2. The City of Palo Alto conducted a College Terrace Parking Permit Program experiment in 2008 and 2009 and subsequently adopted a permanent program in late

GUP Condition		Stanford Compliance
		2009. The program includes continued monitoring of the parking patterns in the neighborhood.
I.	**Parks and Recreation Facilities**	
I.1.	Improve parks in the San Juan faculty/staff residential area.	At the April 8, 2004 ASA meeting, the ASA Committee accepted the *Stanford University Program for the Replacement of Recreational Facilities in the San Juan District*. Stanford has complied with the requirement to submit the plan, and future compliance will be required through implementation of the plan, if triggered by infill development.
I.2.a.	In consultation with the County Parks and Recreation Department, identify and complete Trail Easements within one year of GUP approval.	Stanford entered into an agreement with the County on January 3, 2006, to construct the S1 trail in Santa Clara County and to make offers to Los Altos Hills for the funding of a trail extension through that town and to the Town of Portola Valley and San Mateo County for improvements to the C1/E12 Alpine Trail. Construction of S1 Trail: Construction of the off-road portions of the S1 trail was completed in May 2011. Santa Clara County accepted the trail easement and the trail opened in May 20, 2011. All aspects of the S1/ Matadero Trail in unincorporated Santa Clara County including trail construction, associated roadway improvements, and dedication of easements are complete. Construction of C1/E12 Trail: Stanford's proposal for the design and funding of the C1/E12 Alpine Trial (segment in Portola Valley) improvements was accepted by the Town of Portola Valley in 2009. All aspects of the C1/E12 Alpine Trial in Portola Valley including trail construction, associated roadway improvements, and dedication of easements are complete. Construction of C2/Arastradero Trail: Construction and trail improvements were completed and the trail was dedicated on November 1, 2013. The trail links the S1/Matadero Trail (at the Arastradero Road and Purissima Road intersection) to the Pearson-Arastradero Preserve. Pending Elements: San Mateo County and Stanford did not reach agreement for the San Mateo C1 segment and in February 2012, Stanford paid the County approximately $10.3 million. In August 2012, the County issued a request for applications for projects that would serve as alternative mitigation measures to address the loss of recreational facilities on the Stanford campus. The County received 15 project

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		applications from six local agencies. The Board of Supervisors declared its intent to fund six of the 15 projects, including $4.5 million to Stanford to construct a perimeter trail along El Camino Real and Stanford Avenue frontages. The Board also directed County Administration to negotiate projects agreements for the selected projects and submit approval to the Board consistent with the requirements of CEQA. As a part of this effort, a 3.4 mile Stanford Perimeter Trail has been proposed along Junipero Serra Boulevard, Stanford Avenue, and El Camino Real. It is expected that the project agreement for the Stanford Perimeter Trail will be considered by the Board in 2015.
I.2.b.	Work with County Parks and Recreation Department to identify responsibilities for trail construction, management and maintenance.	Identification of trail construction, management, and maintenance responsibilities had begun previously, based on Stanford's 2001 proposal (see Condition I.2.a above and "Overview of Monitoring Activities"). A trail management plan for S1 was accepted by Santa Clara County, along with the easement, in May 2011.
J.	**California Tiger Salamander (CTS)**	
J.1.	Habitat protection easements for protection of the CTS.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.2.	Specifics of habitat protection easements.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.3.	Creation of breeding ponds for CTS prior to issuance of a building permit for a proposed building project on occupied CTS habitat.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.4.	CTS monitoring.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.5.	Project specific measures in CTS Management Zone.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.6.	Operational measures required within the CTS Management Zone.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.7.	Continued compliance with 1998 CTS Management Agreement.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.8.	CTS passage ways across Junipero Serra Boulevard.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).

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J.9.	U.S. Fish and Wildlife Service permit prior to construction on occupied CTS habitat if CTS is listed as threatened or endangered.	The final Stanford University Habitat Conservation Plan (HCP) and Final Environmental Impact Statement (EIS) were published on November 23, 2012, and revised in March 2013. On August 13, 2013, the County Board of Supervisors acknowledged the determination that the HCP provides equal habitat value and protection for the California Tiger Salamander (CTS). Therefore, the HCP supersedes all conditions in the GUP that address the CTS, as stated in Condition J.9.
K.	**Biological Resources**	
K.1.	Special-status plant surveys.	One special species plant surveys were done during this reporting period.
K.2.	Preconstruction surveys for breeding raptors and migratory birds.	The County hired Environmental Science Associates to complete eight surveys for breeding raptors and migratory birds potentially affected by Stanford projects.
K.3.	Oak woodland habitat – create or restore at a 1.5:1 ratio for proposed building projects located in oak woodland area.	The Siebel Varsity Golf Training Complex was proposed within modified oak woodland. However, the entire site was reconstructed within the last decade. The project replaced trees according to the ratios in Condition K.4. No other projects were proposed within oak woodland habitat, as mapped in the 2000 EIR, during this reporting period.
K.4.	Tree preservation for proposed building projects affected by protected trees.	All projects were conditioned to protect existing trees during construction. Stanford proposed appropriate mitigation for the loss of protected trees greater than 12 inches diameter at breast height (dbh) in the ASA applications for all projects.
K.5.	Stanford to hire biological consultant to prepare wetlands description.	Compliance with this requirement was achieved during the AR 3 reporting period. Future wetland delineations may be required in compliance with Army Corps of Engineers guidelines.
K.6.	Updates to CA Natural Diversity Database.	Stanford submitted CNDDB sheets to the County for California tiger salamander (three seasons of data) and California red-legged frog (four years of data) in May 2003. No additional findings have been submitted.
K.7.	Special conservation area plan.	Stanford submitted a "Conservation Program and Management Guidelines for the Special Conservation Areas" to the County on December 11, 2001. The County waited for the Stanford HCP to be approved and adopted before directing Stanford with specific requirements for modification and resubmittal. The Stanford HCP was approved on August 13, 2013 (see Condition J.9). Stanford will submit a revised Special Conservation Plan in the AR 15 reporting period, consistent with the HCP conservation program.

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L.	**Visual Resources**	
L.1.	Streetscape design for El Camino Real prior to or in connection with submitting an application for development along El Camino Real.	During AR 8, Stanford completed and submitted a draft *Plan For The El Camino Real Frontage*, approved by the County of Santa Clara Architectural and Site Approval Committee on April 10, 2008. Stanford is in compliance with Condition L.1.
L.2.	Minimum 25-foot building setback from Stanford Avenue.	No building projects were proposed on Stanford Avenue during the reporting period.
L.3.	Lighting plan for development projects that include exterior light sources.	Project-specific lighting plans were submitted with ASA applications during the reporting period.
L.4.	Development locations in the Lathrop Development District.	No development was proposed in the Lathrop District.
M.	**Hazardous Materials**	
M.1.	Hazardous materials information/Risk Management Plan for each proposed building project.	Hazardous materials information was provided in the ASA applications for all projects proposed or approved during the reporting period. No projects were proposed or approved during the reporting period that triggers the California Accidental Release Prevention (CAL-ARP) law.
M.2.	Maintenance of programs for storage, handling, and disposal of hazardous materials.	University Dept. of Environmental, Health and Safety (EH&S) continues to provide key resources in the planning, development, and implementation of effective environmental and health and safety training programs. Where appropriate and possible, EH&S provides in-house training programs that enable University managers and supervisors to deliver health and safety training directly to their staff. Schools, Departments and Principal Investigators provide other levels of training throughout the University. During this reporting period, EH&S maintained a training catalog that included 97 separate training courses. Stanford staff, faculty, and students through both on-line and classroom sessions completed a total of 25,260 trainings. Stanford also extends its training efforts by providing training and information resources on the World Wide Web at http://ehs.stanford.edu. Surveys of campus and medical center labs, shops and studios are conducted on a routine basis to provide compliance assistance regarding hazardous materials, hazardous waste, fire safety, biological safety and chemical safety requirements. Personnel conducting the surveys often work one-on-one with personnel in labs, shops and studios to help them understand pertinent compliance requirements. Hazardous Materials Management Plans for existing buildings storing hazardous materials are submitted annually to the Santa Clara County Environmental

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		Health Hazardous Materials Compliance Division as online updates via the Cal/EPA California Environmental Reporting System Portal. To facilitate hazardous materials tracking and reporting, Stanford has implemented an on-line chemical inventory database system whereby authenticated chemical users may maintain their hazardous materials inventories, supporting timely and accurate submission of required regulatory reports. The University Committee on Health and Safety meet regularly during the reporting period, for this reporting period, there was one public meeting on July 15, 2014. The committee membership includes a member from the public as well as faculty, staff and students. Issues considered by the committee included environmental, health and safety activities, and initiatives conducted at the SLAC National Accelerator Laboratory. The EH&S Department reviews each set of plans for new structures and those for renovation and/or remodeling of existing structures to help ensure that the risks associated with activities conducted in Stanford's buildings are addressed, and that all facilities projects are undertaken in compliance with applicable environmental and health and safety laws, codes, and regulations. EH&S also conducts Environmental and/or Human Health Risk Assessments for new projects as required by the Bay Area Air Quality Management District and as appropriate as part of the building planning process. EH&S personnel specifically responsible for handling hazardous wastes and for emergency response are trained by certified independent professionals and by professional EH&S staff in accordance with all applicable regulations. The operational waste personnel are augmented and assisted by professional environmental engineers, chemists, and environmental managers. As a part of waste minimization activities, EH&S operates a Surplus Chemical redistribution program. In FY 2014, EH&S redistributed 70 unneeded chemical containers from laboratory inventories to other campus users.
N.	**Geology and Hydrology**	
N.1.	Compliance with all requirements of the Uniform Building Code, County Geologist, County Building Inspection Office, Stock Farm Monocline Agreement, and others defined under the GUP in regard to reduction of seismic risk.	Stanford is in compliance with Condition N.1 requirements. These are reviewed through the ASA applications submitted, and building and grading permits issued during the reporting period. See Section II of this report for project details.

GUP Condition		Stanford Compliance
N.2.	Hydrology and drainage study.	The Storm Water Detention Master Plan for the Matadero Creek watershed was submitted by Stanford and accepted by the County during the Annual Report 4 reporting period. Stanford is responsible for implementing phased measures consistent with the plan prior to development of new impervious cover within the watershed. Regarding storm drainage and flood control, Stanford and the County reached agreement on the approach and engineering design criteria for detention provisions to avoid increases in peak runoff flow rate from the campus in the San Francisquito Creek watershed. Stanford continued with implementation of its storm drainage master plan for both detention and protection of campus facilities, engineering the remaining barriers to divert overland flows away from structures to streets and malls, and Phase 1 of the West Campus detention basins. With these improvements and the detention basins constructed previously in the Matadero watershed, Stanford has mitigated anticipated runoff from a substantial portion of its future development under the 2000 GUP in compliance with Conditions N.2 and N.3.
N.3.	Storm water management facilities designed to only store storm water runoff temporarily and not create extended ponding.	The Serra/El Camino Real (ECR) and the West Campus Storm Water Detention Facilities projects are designed to accommodate increases in the 10-year and 100-year storm runoff associated with 2000 GUP development in the Matadero and San Francisquito Creek watersheds respectively. These projects are designed to drain within a couple of days, thereby avoiding extended ponding. An initial phase of this plan was implemented when the Stock Farm/Sand Hill Road Detention Basins were completed during the AR 4 reporting period.
N.4.	Groundwater recharge study in conjunction with projects located in unconfined zone.	Stanford has prepared and submitted a draft campus-wide groundwater recharge plan that describes the groundwater recharge mitigation approach in coordination with the Santa Clara Valley Water District and the County. This plan accounts for water from Stanford's Lake Water system that is directed to Lagunita (where it percolates) in an amount that exceeds the cumulative groundwater recharge lost from projects built in the unconfined zone. Stanford is working with County staff to finalize this plan in the 15th annual planning period.
N.5.	Review and approval for storm water/ groundwater recharge facilities.	The ASA and grading or building permit-approved projects during the 14th annual reporting period are anticipated to result in new impervious surface area in the Matadero Creek and San Francisquito Creek watersheds. The cumulative increase of impervious

GUP Condition	Stanford Compliance
	surfaces on campus has been mitigated by the Serra/ECR detention basins and West Campus detention basins Phase I, to avoid impacts with respect to reduced groundwater recharge. Stanford and the County will track whether the cumulative increase in impervious surface continues to be less than the amount that can be mitigated by the constructed basins.
N.6. Notice of Intent to State Water Resources Control Board (SWRCB) prepared each year for anticipated projects.	Stanford submitted a Notice of Intent (NOI) to join the State of California General Storm Water Construction Permit on June 29, 2001. Stanford received acceptance on July 10, 2001. An updated NOI was submitted to the State Water Resource Control Board as well as to the San Francisco Regional Water Quality Control Board in accordance with the NPDES General Permit on July 16, 2009. On September 2, 2009 the State Water Resources Control Board adopted a new construction permit for all construction projects over 1 acre. Due to reporting and sampling requirements listed in the new State permit, Stanford has been applying for permit coverage on a project-by-project basis for all new construction over 1 acre. All projects listed below were either terminated or started from the period September 2, 2013 through August 31, 2014 and can be viewed via the State Board's SMART system located at http://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp. Projects terminated from September 1, 2013 – August 31, 2014: • 3119 West Campus Rec Center, WDID # 2 41C361684 • Stanford 3114Satellite Research Animal Facility, WDID # 2 41C362972 • 3184 Anderson Collection, WDID # 2 43C364905 • BioE/ChemE Ginzton Demo, WDID # 2 41C360696 • Stanford Equestrian Center, WDID # 2 43C367877 Projects started/continuing from September 1, 2013 – August 31, 2014: • 3235 SESI Piping Distribution Storage, WDID # 2 41C363957 • 3051 RCEF Replacement Central Energy Facility, WDID # 2 43C364633 • 3277 Comstock Housing, WDID # 2 43C364771

GUP Condition		Stanford Compliance
		• McMurtry Art and Art History Building, WDID # 2 43C365823 • Graduate School of Business New Residence, WDID # 2 43C370238 • Parking Structure 10 & Roble Gym, WDID # 2 43C370396 • 408 Panama, WDID # 2 43C370010 • Stanford Educational Farm, WDID # 2 43C369636 • Searsville Parking Lot, WDID # 2 43C368566 • Northwest Data Center Communications Hub, WDID # 2 43C368506 • Stanford University Volleyball Arena, WDID # 2 43C368031 • Manzanita Park Residence Hall, WDID # 2 43C368567
N.7.	Monitor effectiveness of storm water pollution prevention best management practices; monitor at construction sites before and during storm events occurring during construction period.	Each construction site under the 2000 GUP is permitted through the General Permit for Discharges of Storm Water Runoff Associated with Construction Activity. The information submitted as part of the permit will be updated yearly to reflect the current construction projects. In accordance with that permit, the sites are required to have a Storm Water Pollution Prevention Plan (SWPPP). Each SWPPP outlines the Best Management Practices for preventing storm water pollution on that specific site. To ensure that the BMPs are working and in place, each construction project is required to monitor the construction site and BMPs before, during, and after rain events or weekly, whichever is more frequent. The project is required to maintain inspection logs on site, documenting the monitoring program. Stanford storm water staff visits the sites at least once per month to ensure compliance with BMPs and monitoring. In addition, Stanford is required to send an Annual Compliance Status Report to the State Water Resources Control Board, certifying compliance with the provisions of the General Permit for Discharges of Storm Water Runoff Associated with Construction Activity, including BMPs and monitoring.
N.8.	Surveys to determine presence and location of wells prior to issuance of any building permit or grading permit.	Stanford performed surveys to identify existing wells on building sites with ASA applications as required.
N.9.	Permit from Santa Clara Valley Water District for any proposed construction, demolition, grading, landscaping within 50-feet of the top of the bank.	In 2007, SCVWD adopted an approach to defer to local permitting agencies for work conducted in creeks, and no longer require SCVWD permits.

GUP Condition		Stanford Compliance
N.10	No new land use or practices within the unconfined zone that could pose a threat to the groundwater quality or supply.	In 2009, Stanford mailed an informative pamphlet to all residential leaseholders whose property is located within the unconfined zone. This pamphlet contains valuable information regarding the sensitive nature of these properties with respect to the potential for downward migration of contaminants to groundwater. The pamphlet also provides "Best Management Practices" regarding proper application of landscape chemicals, notifying Stanford of abandoned wells and fuel tanks, and safe management of household chemicals and hazardous waste. Stanford also mailed this pamphlet to all other residential leaseholders that are not located within the unconfined zone as a part of continuing outreach.
O.	**Cultural Resources**	
O.1.	Assessment of structure with potential historic significance for building projects that involve the demolition of a structure 50 years or older.	No buildings 50 years or older were demolished in this reporting period.
O.2.	Requirements for remodeling, alteration, or physical effect on structures that are 50 years old or more.	Ten renovation projects that received ASA or ASX were assessed because they were proposed to remodel or alter structures that are more than 50 years old. These projects included the renovations of the Science Teaching and Learning Center (Old Chemistry Project), six Row Houses (Mars, Sigma Nu, Roth, Durand, Phi Kappa Psi, and Kairos), Roble Gymnasium, and new locker rooms at the Football Stadium. The Graduate School of Business residences was analyzed and found to be compatible with the nearby historic Toyon Hall and Encina complex.
O.3.	Archaeological resources map.	The Stanford archaeologist provided draft maps to the County Planning Office in March 2001. These maps show the locations of all known prehistoric and historic archaeological resources in the unincorporated Santa Clara County portion of Stanford land. County and Stanford staffs will continue to work on revision and updates to these maps so they can be utilized by County staff to identify all known cultural resource site boundaries on Stanford land within the County's jurisdiction. All maps and updates will be maintained as confidential records.
O.4.	Required actions if fossilized shell or bone is uncovered during earth-disturbing activities.	No fossilized shell or bone was uncovered during 2000 GUP construction activities.

GUP Condition		Stanford Compliance
P.	**Public Services and Utilities**	
P.1.	Law Enforcement Agreement.	"Memorandum of Understanding Regarding Police Services Between Santa Clara County and Stanford University" was signed February 6, 2001. Per the GUP Condition, Stanford is providing funding for the Stanford Police Department to maintain 32 full-time sworn police officers (one officer per 1,000 daytime population). There was no decrease in the level of police services during the reporting period.
P.2.	Funding of Fire Protection Services.	The City of Palo Alto assesses the city's fire protection needs on an annual basis and adopts a yearly budget for fire protection services. As part of this process, the City identifies Stanford's share of this budget, and Stanford pays its annual allotment.
P.3.	Fire protection response times.	The City of Palo Alto did not notify Stanford of lengthened response times or the need to provide new routes.
P.4.	Water conservation and recycling master plan.	Stanford has performed effective conservation outreach and education, as evidenced by County staff discussions with campus facility managers. Stanford also has undertaken numerous water conservation projects, including installation of water misers, toilet retrofits, low flow jet spray nozzles, and Maxicom controls. The County continues to monitor Stanford implementation of the approved master plan as a measure of compliance with this condition. The County consults with the SCVWD to determine compliance. The SCVWD assessment is that Stanford appears to be implementing aggressive water conservation measures. The University has completed the plan and it was approved.
P.5.	Annual daily average water use.	The allowed average daily water allocation from the San Francisco Water Department is 3.033 million gallons per day (mgd). Stanford's average campus domestic water use for the 2013-14 year was 2.11 mgd.
P.6.	Information on wastewater capacity and generation.	Stanford submitted project-specific wastewater capacity information as necessary with ASA application materials.
P.7.	Palo Alto Unified School District school impact fees.	Stanford paid school impact fees for all applicable building permits.
P.8.	Community Services Study.	No study was required during this reporting year.
Q.	**Air Quality**	
Q.1.	Compliance with Bay Area Air Quality Management District (BAAQMD) measures for construction activities.	Grading activities associated with 2000 GUP projects that commenced during the reporting period complied

GUP Condition		Stanford Compliance
		with the BAAQMD control measures incorporated into the ASA conditions of approval.
Q.2.	Maintenance of equipment for construction activities.	Stanford requires all construction contractors to properly maintain equipment.
Q.3.	Conduct a risk screening analysis and obtain BAAQMD permit for building projects containing more than 25,000 square feet of laboratory space and 50 fume hoods.[1]	All approved projects were required to comply with BAAQMD's permitting, control measures, and recommendations, as appropriate. No projects crossed the 25,000 square feet of laboratory space and 50 fume hoods threshold.
R.	**Noise**	
R.1.a-e	Compliance with County Noise Ordinance during construction activities of each building project.	Construction activities associated with 2000 GUP projects complied with the County Noise Ordinance and incorporated noise reduction measures as required by ASA conditions of approval.
R.2.	Limits on construction hours.	Construction activities associated with 2000 GUP projects were limited to construction hours as specified by the County Noise Ordinance.
R.3.	Operational noise reduction measures.	ASA-approved building projects incorporated all county-specified noise reduction measures (listed in Section D of the MMRP) and complied with the County Noise Ordinance.
R.4.	Limits on fireworks displays.	The two fireworks events that are permitted under the GUP occurred during the reporting period.
R.5.	Maintenance of hotline for noise complaints.	A noise hotline is maintained (650) 724-4900. Six noise complaints were received during the AR 14 reporting period concerning party noise and loud music (band noise). Stanford and the County continue to work with and respond to neighborhood residents and their questions regarding the noise hotline.
S.	**Additional Conditions**	
S.1.	Acceptance of Conditions of Approval.	See Annual Report 1.

[1] Note: Q.3 has been confirmed to match BAAQMD regulations, which requires both triggers in order to do risk screening.

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Appendix C
Cumulative Project

Appendix C
Cumulative Projects

Completed building projects under the GUP cap, housing projects, parking, non-GUP building projects and grading projects are tracked in Appendix C. A map and table are provided for each category to illustrate the project, its location, its square footage/housing units/parking spaces counted toward the GUP cap, and in which annual report period the project was completed. Each table provides a cumulative total of square footage, housing, or parking to date. A table also provides a cumulative total of non-GUP building projects. Additional backup data is kept on file by Stanford and the County.

Section II of this annual report provides brief descriptions of each project on which there was activity during the current reporting year. Projects listed in Appendix C that were completed in prior years are not reported in the body of the Annual Report. Detailed information on these projects may be found in previous Annual Reports.

Appendix C
Cumulative Projects

KEY TO MAP C-1
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE BUILDING PROJECTS THAT AFFECT GUP BUILDING AREA CAP

Fiscal Year	Map No.*	Project	Built Area (sq. ft.)	Net Addition to GUP Building Cap
Annual Report 1 (2000-01)	N/A	None	N/A	0
Annual Report 2 (2001-02)	1	Student Services	20,000	22,790
		Demo Bridge Building	(-2,752)	
		Band Trailer	4,320	
		Demo existing Band Trailer	(-2,160)	
		Rugby Pavilion	3,382	
Annual Report 3 (2002-03)	2	Carnegie Global Ecology Center	18,164	32,023
		Demolish Carnegie Greenhouses	(-6,161)	
	3	Lucas Center Expansion	20,600	
		Electronics Communications Hub-West	1,500	
		Demolition of Ortho Modular	(-2,080)	
		SoM Trailer Replacement	0	
		Galvez Modular Re-Permit	0	
Annual Report 4 (2003-2004)	4	Maples Pavilion Addition	18,298	92,915
		Demolish Maples Ticket Booth	(-179)	
	5	Arrillaga Family Recreation Center	74,796	
Annual Report 5 (2004-2005)	6	Varian 2	63,869	39,763
		Building 500	3,254	
		Wilbur Modular Ext.	(-27,360)	
Annual Report 6 (2005-2006)	7	Environment and Energy Building	164,087	116,237
		GP-B Modular Demolition	(-8,640)	
		Varian 2 (gsf adjustment from AR 5)	8,305	
	8	HEPL Demolition	(-71,425)	
		Engineering Shed	(-929)	
		Galvez Too	(-4,320)	
	9	Football Stadium Renovations	33,050	
		Munger House Relocations	906	
		Avery Aquatic	1,445	
		Band Trailer	(-4,320)	
		Guard Shelter	42	
		579 Alvarado (Humanities Annex)	(-3,258)	
		Barnum Family Center	2,337	
		Brick Barn	4,690	
		Knoll Trailer A	(-2,912)	
		Knoll Trailer B	(-2,821)	
Annual Report 7 (2006-2007)		None	N/A	0
Annual Report 8 (2007-2008)	10	Lorry I. Lokey Stem Cell Research Building (SIM 1)	198,734	323,264
	11	Li Ka Shing Center for Learning and Knowledge (LKSC)	104,000	
		Demolish Fairchild Auditorium	(14,600)	
		Demolish Welch Road Modulars	(4,030)	

KEY TO MAP C-1 ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14 CUMULATIVE BUILDING PROJECTS THAT AFFECT GUP BUILDING AREA CAP				
Fiscal Year	**Map No.***	**Project**	**Built Area (sq. ft.)**	**Net Addition to GUP Building Cap**
Annual Report 8 (2007-2008) continued	12	Center for Nanoscale Science and Technology	99,297	
		Demolish Ginzton	(69,714)	
	13	Jen-Hsun Huang School of Engineering Center	125,639	
		Demolish Terman Engineering	(148,818)	
		Lorry I. Lokey (Stanford Daily) Building	4,783	
		Demolish Storke Building	(9,040)	
		Li Ka Shing Center for Learning and Knowledge - Connective Elements	5,890	
		Peterson Building Renovation	(661)	
	14	John A. and Cynthia Fry Gunn SIEPR Building	31,784	
Annual Report 9 (2008-2009)	15	Knight Management Center	331,093	72,776
		Demolish GSB South	(167,371)	
		Demolish Serra Complex	(84,000)	
		Demolish Kresge Auditorium	(13,042)	
		Cobb Track Bleacher addition	3,950	
		Arrillaga Gymnasium and Weight Room	19,951	
		Site 515 Demolition	(1,540)	
		Volkswagen Automotive Innovation Lab	8,000	
		Oak Road Restrooms	499	
		Golf Practice Storage Trailer	432	
		Cubberley Seismic Project	(3,654)	
		Press Building Demolition	(14,303)	
		Recalculation of gsf with Annual Reports 1 through 8	(7,239)	
Annual Report 10 (2009-2010)	16	Neukom Building	61,014	126,676
	17	Bing Concert Hall	78,350	
		DAPER Corps Yard Demolition	(12,688)	
Annual Report 11 (2010-2011)		Braun Music Center	167	174,723
		Bing Concert Hall adjustment	7,185	
	18	Retention of GSB South	167,371	
Annual Report 12 (2011-2012)	19	Arrillaga Outdoor Education and Recreation Center	75,000	223,725
	20	Bioengineering and Chemical Engineering	196,172	
	21	Satellite Research Animal Facility	20,507	
		Anatomy demolition	(66,579)	
		Cagan Soccer locker rooms	3,345	
		Cypress Annex demolition	(960)	
		Quonset Hut demolition	(3,760)	

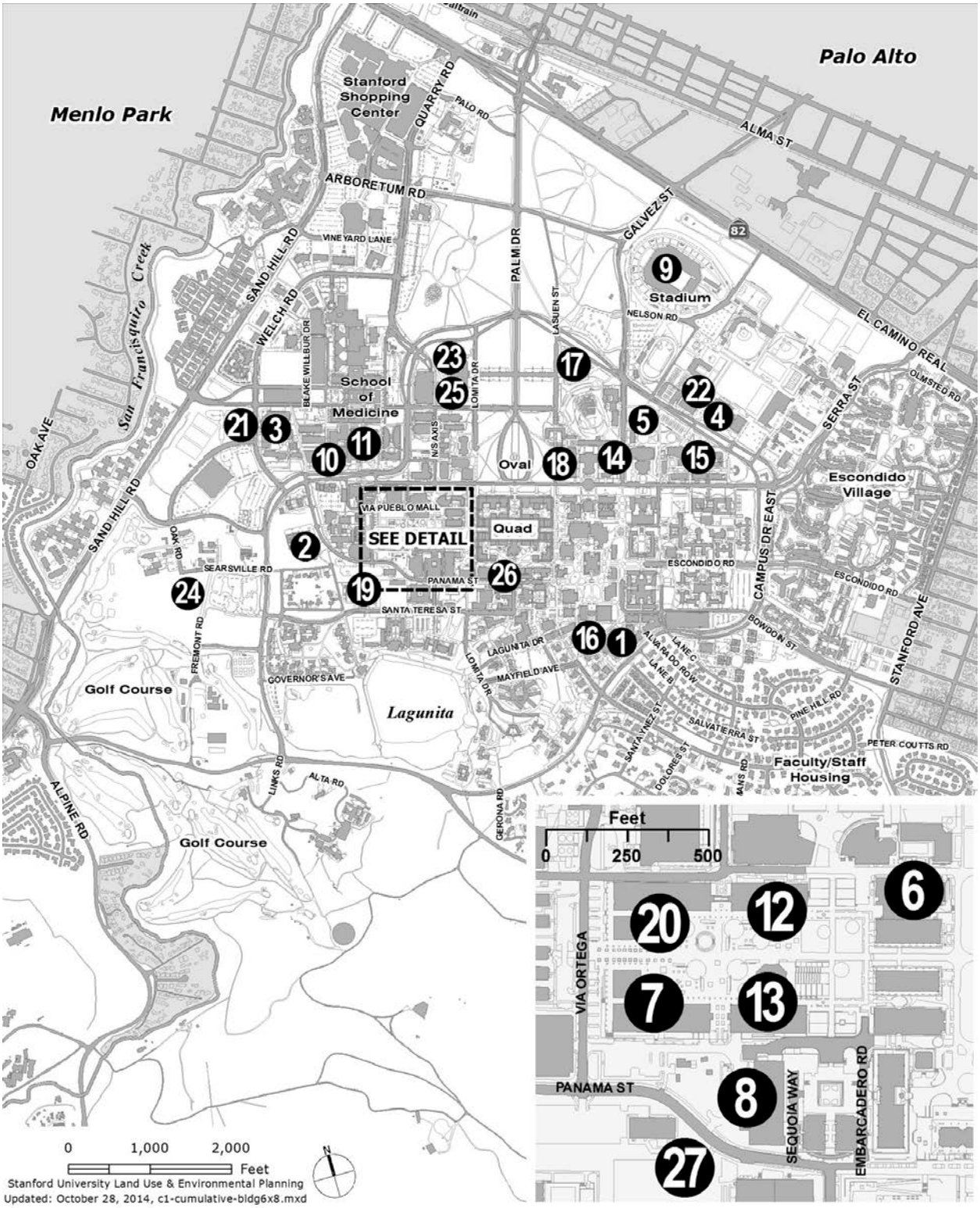
KEY TO MAP C-1
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE BUILDING PROJECTS THAT AFFECT GUP BUILDING AREA CAP

Fiscal Year	Map No.*	Project	Built Area (sq. ft.)	Net Addition to GUP Building Cap
Annual Report 13 (2012-2013)		Ford Center Addition (from AR 8)	8,710	165,092
	22	Arrillaga Family Sports Center Addition	27,709	
	23	Anderson Collection at Stanford	30,279	
	24	Replacement Central Energy Facility	14,715	
		Grounds trailer demolition	(722)	
	25	McMurtry Art - Art History	84,239	
		New Field Hockey Bleachers	2,397	
		Windhover Contemplative Center	3,928	
		Encina Modular Demolition	(8,400)	
		520/524 Renovation	2,237	
Annual Report 14 (2013-2014)		Northwest Data Center and Communications Hub	3,130	52,735
	26	408 Panama Mall	56,790	
		Educational Farm	864	
		Roble Gym Renovation	544	
		Field Conservation Facility	2,842	
	27	Demolition of Godzilla Trailer	(11,435)	
Cumulative Net Contribution toward 2000 GUP Building Cap:				**1,442,719**

1. Projects included at the time of building permit issuance.

2. Cumulative total includes the adjusted results from the recalculations for buildings and demolitions from previous annual reports under the 2000 GUP. Specific adjustments are not reflected in this table at this time.

*Map C-1 illustrates the locations of building projects 10,000 sq. ft. or greater. Projects smaller than 10,000 sq. ft. are not shown on Map C-1.



MAP C-1
CUMULATIVE BUILDING PROJECTS THAT AFFECT BUILDING AREA CAP
(GREATER THAN 10,000GSF)

KEY TO MAP C-2
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE HOUSING PROJECTS

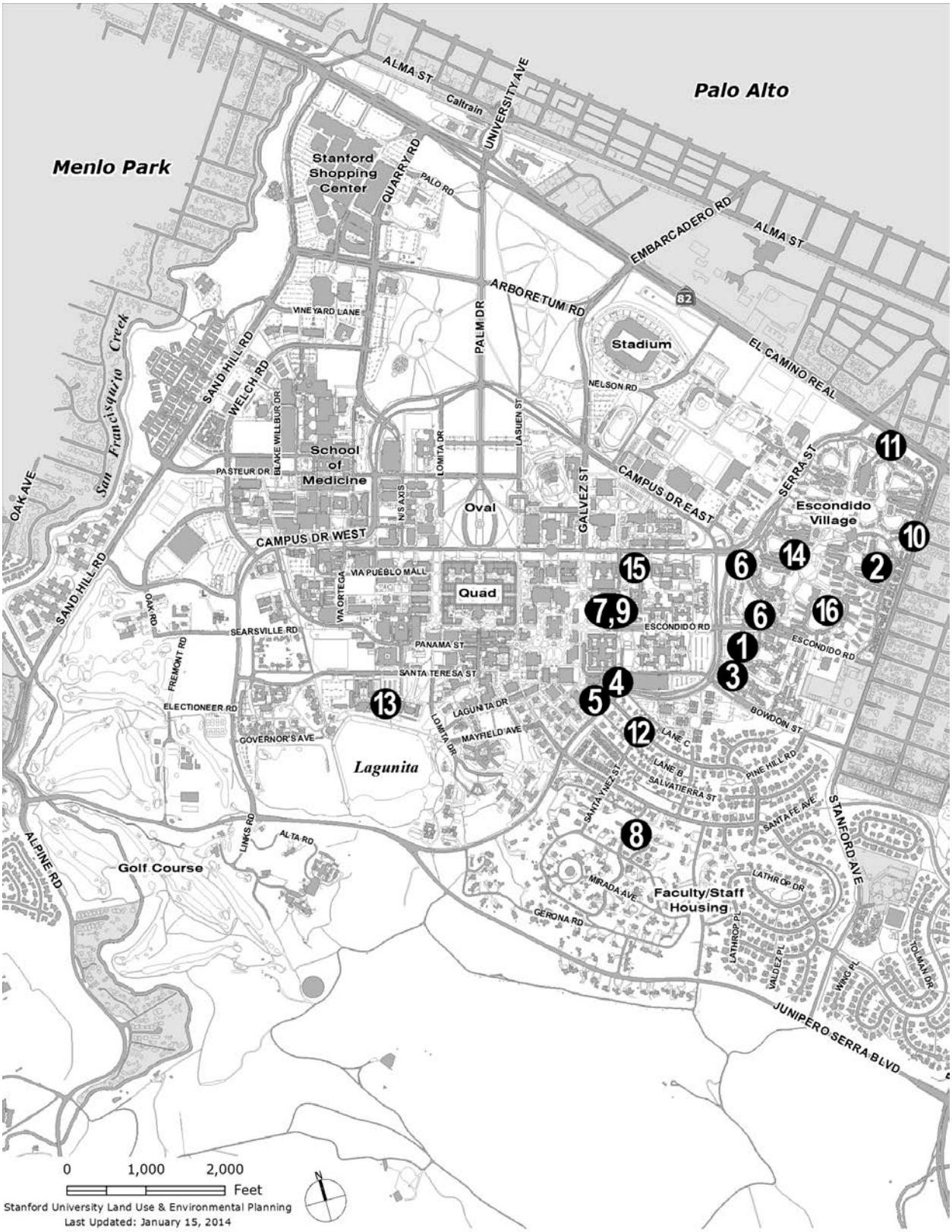
Fiscal Year	Map No.*	Project	Housing Units	Square Footage	Annual Units	RHNA Units
Annual Report 1 (2000-01)	1	Mirrielees – Phase I	102	0	102	
Annual Report 2 (2001-02)	2	Escondido Village Studios 5 & 6	281	139,258	331	281
	3	Mirrielees – Phase II	50	0		
		Branner Student Housing Kitchen	0	1,596		
Annual Report 3 (2002-03)	N/A	None	N/A	N/A	0	
Annual Report 4 (2003-04)	N/A	None	N/A	N/A	0	
Annual Report 5 (2004-05)	N/A	None	N/A	N/A	0	
Annual Report 6 (2005-2006)		Drell House (conversion to academic)	-1	(-906)	(-8)	-1
		579 Alvarado	1	3,258		1
	4	Casa Zapata RF Unit Replacement	-8	(-691)		1
Annual Report 7 (2006-2007)		None	N/A	N/A	0	
Annual Report 8 (2007-2008)	5	Munger Graduate Housing	349	267,683[1]	349	209
Annual Report 9 (2008-2009)	5	Munger Graduate Housing	251	192,517[1]	514	147
		Schwab Dining Storage	N/A	464		
	6	Blackwelder/Quillen Dorms	130	N/A		
	7	Crothers Renovation	133	N/A		
Annual Report 10 (2009-2010)	8	717 Dolores	4	0	70	
	9	Crothers	2	0		
	10	Olmsted Terrace Faculty Housing	39	103,127		39
	11	Olmsted Staff Rental Housing	25	53,831		25
		Arrillaga Family Dining Commons	N/A	28,260		
Annual Report 11 (2010-2011)	6	Quillen Dorm Phase 2	90	N/A	90	
Annual Report 12 (2011-2012)	12	Hammarskjold renovation	7	1,730	9	
		Haus Mitt renovation	1	210		
		Phi Sigma renovation	1	420		
Annual Report 13 (2012-2013)		Grove House Renovation	N/A	500	427	
		Columbae Renovation	N/A	950		
		Slavianskii Dom Renovation	N/A	961		
		Muwekma-Tah-Ruk Renovation	N/A	450		
	13	Ujamaa	2	N/A		
	14	McFarland	63	N/A		
		EV summer renovation	(2)	N/A		

KEY TO MAP C-2
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE HOUSING PROJECTS

Fiscal Year	Map No.*	Project	Housing Units	Square Footage	Annual Units	RHNA Units
	15	Toyonito Demolition	N/A	(13,298)		
	16	Comstock graduate housing demolition	(74)	(30,547)		(40)
	16	Comstock Graduate Housing	438	256,258		274
Annual Report 14 (2013-2014)		Mars Renovation	1	273	2	
		Sigma Nu Renovation	N/A	628		
		Roth Renovation	1	508		
		Durand Renovation	N/A	675		
Cumulative Net Contribution toward 2000 GUP Housing Units			**1,886**	**1,008,115**	**1,886**	**936**

*Map C-2 illustrates the locations of housing projects that add more than one unit. Individual housing projects are not shown on Map C-2.

1. Based on an average of 767 square feet per unit constructed for the Munger Graduate Student Housing project.



MAP C-2
CUMULATIVE HOUSING PROJECTS

KEY TO MAP C-3
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE PARKING PROJECTS

Fiscal Year	Map No.*	Project	Parking Spaces	Spaces Subtotal
Annual Report 1 (2000-01)	1	Removal of Arguello Lot	(55)	(29)
	2	Oak Road Angle Parking	52	
		Oak Road Parallel Parking	12	
		Student Services Building	(38)	
Annual Report 2 (2001-02)		Band Modular Project	23	31
	3	Parking Structure V	97	
	4	Oak Road (Angle to Parallel)	(66)	
		Closure of Anatomy Lot	(28)	
		Maples Lot	5	
Annual Report 3 (2002-03)		PS-1 Restriping/ADA	(29)	394
		Maples Lot	21	
	5	Escondido Village Expansion	212	
	6	Serra Street Reconstruction	50	
		Arguello Lot	37	
		Mirrielees Lot Reconfiguration	(23)	
	7	Cowell Lot Expansion	154	
		Carnegie Global Center Parking	17	
		Misc. reconstruction/restripe/ADA	(45)	
Annual Report 4 (2003-2004)		Anatomy Lot Reopening	26	(91)
		Encina Gym/ Arrillaga Rec Center Construction	(17)	
		Ventura Lot Closing-CSLI/EPGY Annex Construction	(21)	
		Housing Maintenance Yard Project	(25)	
		Graduate Comm. Center Parking Lot	(35)	
		Misc. reconstruction/restripe/ADA	(19)	
Annual Report 5 (2004-2005)		Stock Farm Bus Reconfiguration	(47)	(159)
		Dudley & Angell Recount	(20)	
		Mayfield 3 Recount	(23)	
		Misc. reconstruction/restripe/ADA	(69)	
Annual Report 6 (2005-2006)	8	Ginzton Lot Closure (for Environment & Energy construction)	(211)	(659)
		Humanities Lot (for Old Union Surge Trailers)	(20)	
		Law School Lot/ House Relocation/ Prep for Munger construction	(26)	
	9	Mariposa Lot/ Munger Law School/ House Relocation/ Columbae Renovation	(115)	
	10	Stock Farm Bus Reconfiguration	(64)	
	11	Tresidder Lot (for House Relocation)	(138)	
		Dudley & Angell/ Olmsted Road	24	
	12	Eating Clubs Lot (for Old Union Surge)	(87)	
	13	Stern Lot	(64)	
	14	Wilbur-Stern Temporary Lot	108	
	15	Wilbur Modulars Removal	131	
	16	Wilbur South Lot (for PS 6)	(128)	
		Misc. reconstruction/restripe/ADA	(69)	

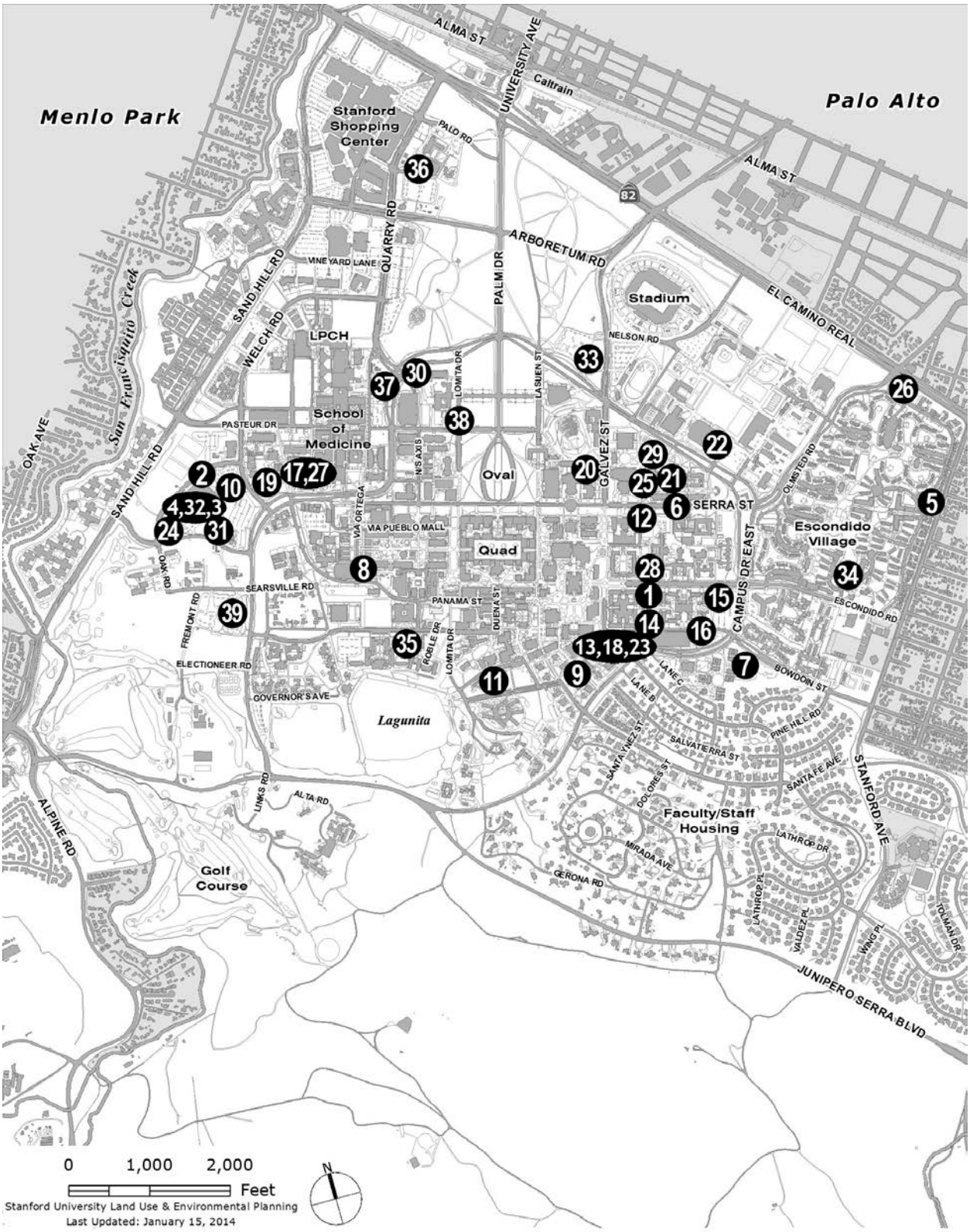
KEY TO MAP C-3
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE PARKING PROJECTS

Fiscal Year	Map No.*	Project	Parking Spaces	Spaces Subtotal
Annual Report 7 (2006-2007)	17	Li Ka Shing Center for Learning and Knowledge displacement	(505)	(798)
		Tresidder – Post House Relocation project	34	
Annual Report 8 (2007-2008)	18	Munger Displacement	(369)	
		Misc. Reconstruction/restripe/ADA	42	
		Dean's Lawn reconfiguraton	(27)	93
	19	Beckman/MSOB Closure for Li Ka Shing Center for Learning and Knowledge construction	(206)	
	20	Memorial Lot closure for John A. and Cynthia Fry Gunn SIEPR Building	(81)	
	21	Serra closure for Knight Management Center	(712)	
	22	Maples closure for Athletics Practice Gym	(75)	
	23	Parking Structure 6	1,185	
		Misc. Reconstruction/restripe/ADA	9	
Annual Report 9 (2008-2009)	24	Oak Road Parking Lot	197	(313)
	25	Arguello and 651 Serra Closure	(267)	
		Track House	(46)	
	26	Barnes & Abrams For Olmsted Road Staff Rental Housing	(96)	
		Dudley & Angell for Stanford Terrace Faculty Homes	(42)	
		Miscellaneous reconstruction/restripe/ADA	(59)	
Annual Report 10 (2009-2010)	27	Beckman Lot reopening	66	(56)
	28	Toyon lot closure for Arrillaga Family Dining Commons	(163)	
		Miscellaneous reconstruction/restripe/ADA	41	
Annual Report 11 (2010-2011)		Cypress lot closure for BioE/ChemE	(44)	810
		Stock Farm West reconfiguration for bus parking	(20)	
		Roth Way reconfiguration for bus loading	(36)	
	29	Parking Structure 7	858	
		Dudley & Angell	49	
		Miscellaneous reconstruction/restripe/ADA	3	
Annual Report 12 (2011-2012)		Lasuen@Arboretum – Bing and Galvez	39	(236)
	30	Anatomy-McMurty Art - Anderson	(95)	
	31	L-17 (Stockfarm South) – Temp Child Care	(75)	
		L-25 (Panama) – West Campus Rec Center	(23)	
		Lasuen – Bing Concert Hall	(26)	
		L-73 (Stern Annex) – East Campus Rec	(37)	
		Miscellaneous reconstruction/restripe/ADA	(19)	
Annual Report 13 (2012-2013)	32	L-20 (Stock Farm West) - SESI Project laydown	(202)	(68)
		L-25 (Panama) - West Campus Recreation Center	28	
	33	L-96 (Galvez) - Galvez Event Lot completion	423	
	34	Comstock - Comstock Graduate Housing Project	(84)	
		L-65 (Cowell @ Bowdoin) - Contractor laydown	(49)	
	35	L-31 (Roble) - Windhover Project	(69)	
	36	L-01 (Rectangle) - Parking Structure 9 construc. yard	(86)	
		Miscellaneous reconstruction/restripe/ADA	(29)	
	37	Dean's Lawn for SHC Steam Plant	(106)	526

KEY TO MAP C-3
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE PARKING PROJECTS

Fiscal Year	Map No.*	Project	Parking Spaces	Spaces Subtotal
Annual Report 14 (2013-2014)		Cypress lot reopening	40	
		Panama Lot for Roble Garage	(27)	
	38	Lomita at Rodin	(72)	
	36	Rectangle parking Lot reopening	75	
	39	Searsville Lot net loss on Searsville Road	592	
		Miscellaneous reconstruction/restripe/ADA	24	
Cumulative Net Contribution toward 2000 GUP Parking Cap:				**(555)**

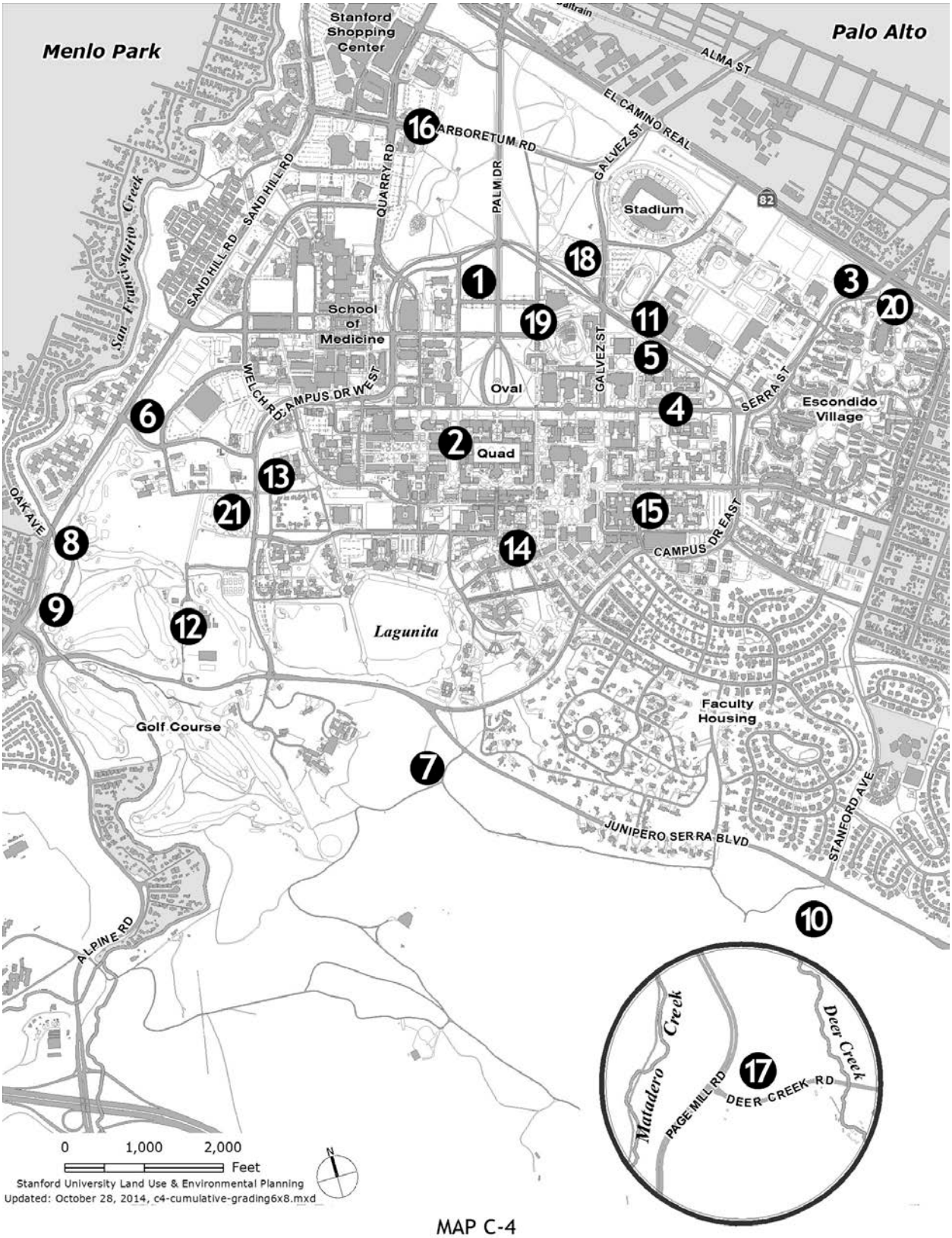
* Map C-3 illustrates the locations of parking projects that change the parking inventory by more than 50 spaces.



MAP C-3
CUMULATIVE PROJECTS THAT AFFECT PARKING INVENTORY (50 SPACES OR MORE)

KEY TO MAP C-4 ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14 CUMULATIVE GRADING PERMIT PROJECTS		
Fiscal Year	**Map No.**	**Project**
Annual Report 1 (2000-01)	1	Sandstone Sculpture
Annual Report 2 (2001-02)	2	Lomita Mall
	3	Serra/ECR Detention Basin
	4	Serra Street Reconfiguration
	5	Encina Tennis Courts
Annual Report 3 (2002-03)		None
Annual Report 4 (2003-04)	6	West Campus Storm Detention
	7	CTS Breeding Ponds
	8	Hole #3 Golf Cart Bridge Replacement
Annual Report 5 (2004-2005)	9	Hole #4 Golf Cart Bridge Replacement
	10	Temporary Art in Foothills
	11	Taube Tennis Practice Bleachers
Annual Report 6 (2005-2006)	12	Equestrian Center
	13	Carnegie Grading Permit
Annual Report 7 (2006-2007)		None
Annual Report 8 (2007-2008)		None
Annual Report 9 (2008-2009)	14	Dinkelspiel Stage
Annual Report 10 (2009-2010)		None
Annual Report 11 (2010-2011)		None
Annual Report 12 (2011-2012)	15	Arguello Recreation Field
	16	LPCH Contractor Parking Lot
	17	Page Mill Road Construction Laydown
Annual Report 13 (2012-2013)	18	Galvez Parking Lot
	19	Lasuen Street Parking Lot
	20	Acorn Parking Lot
Annual Report 14 (2013-2014)	21	Searsville Parking Lot

Note: These are reported at the time of completion. These are grading projects that were not associated with construction of academic or housing square footage.



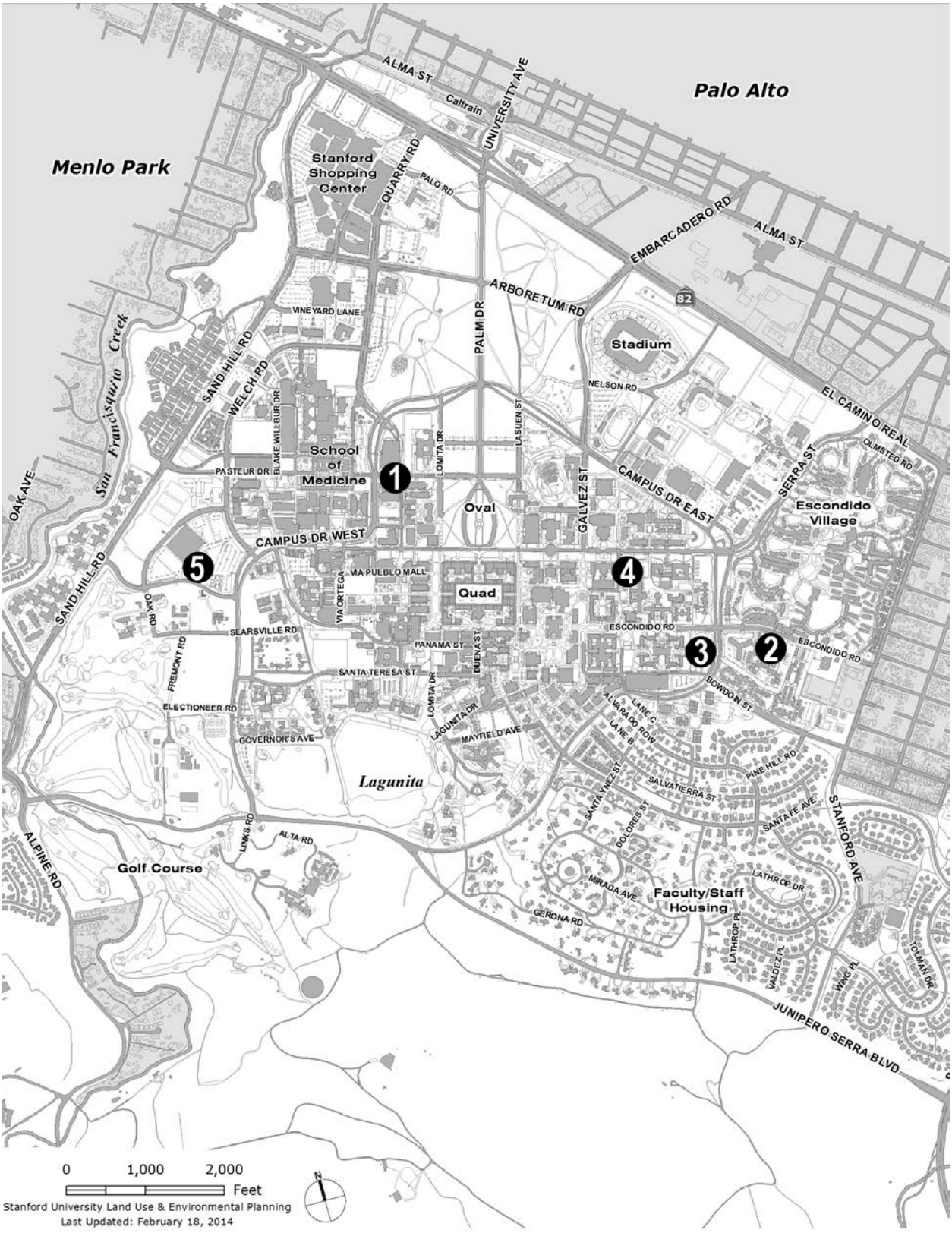
MAP C-4
CUMULATIVE COMPLETED GRADING PROJECTS

KEY TO MAP C-5
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE BUILDING PROJECTS THAT DO NOT AFFECT BUILDING AREA CAP*

				Applicable Category		
Applicable GUP Condition:				**A.2.a**	**A.2.b**	**A.3**
Fiscal year	**Map No.**	**Project**	**Size (sq. ft.)**	**1989 GUP (sq. ft.)**	**Temporary Surge Space (sq. ft.)**	**Community Childcare Center (sq. ft.)**
Annual Report 1 (2000-01)		None				
Annual Report 2 (2001-02)	1	Lokey Lab	85,063	85,063		
		Demolish Chem Storage	(-2,441)	(-2,441)		
		Demolish Shocktube Lab for ME	(-929)	(-929)		
		CCSC Modular Replacement	768			768
Annual Report 3 (2002-03)		None				
Annual Report 4 (2003-2004)		Maples Surge Trailers	2,688		2,688	
	2	Graduate Community Center	12,000			12,000
		CSLI/EPGY	8,270	8,270		
Annual Report 5 (2004-2005)	3	Wilbur Modular Ext.	27,360		27,360	
		Building 500	2,266	2,266		
		Maples Surge	(-2,688)		(-2,688)	
		Varian Surge	3,050		3,050	
Annual Report 6 (2005-2006)	3	Wilbur Modular Removal	(-27,360)		(-27,360)	
	4	Old Union – Serra	21,495		21,495	
		Old Union – Lomita	7,680		7,680	
Annual Report 7 (2006 – 2007)		Old Union – Lomita Removed	(-7,680)		(-7,680)	
		Durand Surge (formally Varian Surge)	3,050			
		Tower House Rehabilitation	3,241			3,241

KEY TO MAP C-5
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 14
CUMULATIVE BUILDING PROJECTS THAT DO NOT AFFECT BUILDING AREA CAP*

				Applicable Category		
Applicable GUP Condition:				**A.2.a**	**A.2.b**	**A.3**
Fiscal year	**Map No.**	**Project**	**Size (sq. ft.)**	**1989 GUP (sq. ft.)**	**Temporary Surge Space (sq. ft.)**	**Community Childcare Center (sq. ft.)**
Annual Report 8 (2007 – 2008)		Black Community Service Center Addition	2,500			2,500
		GSB Modulars	3,840		3,840	
		SCRA Sports Complex	3,701			3,701
		Demolish old SCRA complex	(2,617)			(2,617)
		Madera Grove Childcare Center (Acorn Building)	8,354			8,354
Annual Report 9 (2008-2009)		Recalculation of AR 1 - 8	197			197
Annual Report 10 (2009-2010)		None				
Annual Report 11 (2010-2011)		Welch Road modulars	4,030		4,030	
		GSB Modular demolition	(-3,840)		(-3,840)	
		Madera Gove Childcare Center (Mulberry Building)	8,218			8,218
Annual Report 12 (2011-2012)	5	Temporary Child Care Facility	10,560		10,560	
Annual Report 13 (2012-2013)	4	Encina Modulars Trailer demolition (Old Union – Serra)	(21,495)		(21,495)	
		Cowell Lot Construction Trailers	2,584		2,584	
Annual Report 14 (2013-2014)		None				
Cumulative Net Square Feet:			**151,865**	**92,229**	**20,224**	**36,362**



MAP C-5
CUMULATIVE BUILDING PROJECTS THAT DO NOT AFFECT BUILDING AREA CAP
(GREATER THAN 10,000GSF)

Appendix D
Summary Report of Traffic Monitoring, 2001-2014

Appendix D
Summary of Traffic Monitoring

The following tables summarize Stanford Traffic Monitoring to date. The requirements for establishment of the traffic baseline and performing annual comparisons to the baseline are contained within the December 2000 Stanford Community Plan/General Use Permit (GUP)/Environmental Impact Report (EIR) and within the 2000 Stanford General Use Permit.

Methodology for Evaluating Traffic Impacts

The GUP *Condition of Approval G.7* outlined the methodology for gathering baseline counts and monitoring. The process can be summarized as follows:

- Peak hour traffic is counted at least three times per year for a two-week period each time. The three counts shall be averaged to determine the annual traffic level.
- All counts are recorded at the 16 campus entry and exit points, which form a "cordon" around the campus.
- During the count, license plate numbers are recorded for each entering and exiting vehicle to determine the amount of non-campus traffic.
- Cordon volumes are adjusted for parking lots within the cordon used by the hospital (these volumes are subtracted from the cordon line counts) and parking lots outside the cordon used by the university (these volumes are added to the cordon line counts).
- A peak hour is then established for the campus based on the counts, adjusted for cut-through and parking lot location.

Condition of Approval G.4 defines the "no net new commute trips" standard as no increase in automobile trips during peak commute times in the peak commute direction, as counted at a defined cordon location around the central campus.

Condition of Approval G.6 defines the peak commute directions as entering the campus in the morning peak commute period and leaving the campus in the evening commute period. The peak commute period is defined as the one-hour period of time between 7 AM and 9 AM and again between 4 PM and 6 PM with the highest volume of traffic, as defined by the counts. Therefore, the two peak hours are considered to be independent events.

Condition of Approval G.9 states that the Planning Office shall monitor the cordon count volumes using the procedures described above. If the cordon counts, as modified by trip reduction credits, exceed the baseline volumes as calculated by the procedures outlined above by 1 percent or more for any two out of three consecutive years, mitigation of impacts to intersections identified in the December 2000 Stanford Community Plan/GUP EIR will be required. Since an increase in traffic during the AM peak hour is independent from an increase in traffic during the PM peak hour, an increase in traffic for two out of three years in one peak hour would trigger the additional elements of the monitoring program without a change, or even with a decrease in the other peak hour. Also a significant increase during one year in the AM and a sufficient increase in the PM for the following year would not trigger additional mitigation.

Appendix D
Summary of Traffic Monitoring

Monitoring Results

Annual Report 1 - Year 2001 – Baseline

The Stanford Traffic Monitoring began in Spring 2001. Monitoring counts are done each calendar year. The 2001 counts serve as the Baseline to which future years are compared.

Annual Report 2 - Year 2002

Two adjustments were made to the 2002 counts that are summarized in this report. On the basis of results of the 2002 counts, following the adjustments, it was concluded that the counts were below the threshold that would indicate an increase in traffic volumes. Stanford thus was found to be in compliance with the "no net new commute trips" GUP requirement for 2002.

An update to the original 2002 Monitoring Report was issued on October 15, 2003. Following the publication of the July 2003 report, Stanford and the County separately analyzed traffic data for the Stanford Homecoming week. Based on consultation with Stanford and independent analysis of County consultant traffic data, the County determined that data collected for the week of Homecoming should not be included in the comparison data set. The rationale for this decision was that Homecoming had been ongoing for years, was not included in the Baseline counts, and would continue to be an annual event. The County communicated to Stanford that other future "large events" would not be excluded from future counts. The revised analysis substituted the week of October 28, 2002, for the previously counted week of October 14, 2002. The results of this change are noted in the table below as the first revision.

Subsequent to the first adjustment to the 2002 Monitoring Report discussed above, Stanford informed the County that additional Marguerite Shuttle runs had been introduced to campus since the completion of the Baseline counts, and thus counted in the Year 1 (2002) comparison counts. This resulted in an increase of 12 vehicles in each peak hour. County staff determined that these new bus lines should be subtracted from the comparison count. The resultant counts are noted in the table below as the second revision.

Annual Report 3- Year 2003

The results of the 2003 counts were also below the threshold that would indicate an increase in traffic volumes. Stanford thus was also found to be in compliance with the "no net new commute trips" requirement for 2003.

Annual Report 4- Year 2004

The results of the 2004 counts were below the threshold that would indicate an increase in traffic volumes for the inbound AM peak hour traffic. However, the 2004 count for the outbound PM peak hour traffic exceeded the threshold by 51 vehicles. On March 2, 2005 Stanford submitted a 2004 Trip Credit Report that was reviewed by Korve Engineering. This report documented a credit of 66 for the increase in the number of bus trips across the cordon points and the number of transit passengers served outside the cordon area in the PM peak hour between the 2001 baseline and 2004. Most of the trip credits claimed are for passengers (primarily Stanford Hospital employees) getting on the shuttle outside the cordon area and traveling to the Palo Alto Caltrain station. Factoring in the trip credit of 66 trips Stanford did not exceed the no net new commute trip standard based on the 2004 Monitoring Program.

Annual Report 5 - Year 2005

The results of the 2005 Monitoring Report concluded that the adjusted AM inbound count totaled 3,383 vehicles. This represented an increase of 64 vehicles, which fell within the 90% confidence interval and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,735 vehicles which was an increase of 422 vehicles from the baseline, which is above the 90% confidence interval by 289 vehicles and above the 1% increase trigger by 144 vehicles. Stanford applied for 182 trip credits for the 2005 monitoring period, consistent with the Cordon Count Credit Guidelines.

Annual Report 6 - Year 2006

The 2006 Monitoring Report concluded that the adjusted AM inbound count totaled 3,048 vehicles. This represented a decrease of 271 vehicles from the baseline and does not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,427 vehicles, which was a decrease of 19 vehicles from the baseline, which is 128 vehicles below the 90 percent confidence interval and 164 vehicles below the 1 percent established trigger. Stanford submitted a 2006 Trip Credit Report showing 223.36 trip credits – this report has been received and confirmed by the County's traffic consultant.

Annual Report 7 - Year 2007

The 2007 Monitoring Report concluded that the adjusted AM inbound count totaled 3,058 vehicles, which was a decrease of 261 vehicles from the baseline, this decrease falls below the 90 percent confidence interval by 141 vehicles and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,494 vehicles, which was an increase of 48 vehicles from the baseline counts. This increase falls below the 90 percent confidence interval by 61 vehicles and 97 vehicles below the 1 percent established trigger. Stanford submitted a 2007 Trip Credit Report showing 201 trip credits – this report has been received and confirmed by the County's traffic consultant.

Annual Report 8 - Year 2008

The 2008 Monitoring Report concluded that the adjusted AM inbound count totaled 3,020 vehicles, which was a decrease of 419 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,460 vehicles, which was a decrease of 95 vehicles below the baseline count and did not represent a significant PM outbound traffic increase. Stanford submitted a 2008 Trip Credit Report showing 240 trip credits – this report has been received and confirmed by the County's traffic consultant.

Annual Report 9 - Year 2009

The 2009 Monitoring Report concluded that the adjusted AM inbound count totaled 2,840 vehicles, which was a decrease of 479 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,227 vehicles, which was a decrease of 219 vehicles below the baseline count and did not represent a significant PM outbound traffic increase.

Annual Report 10 - Year 2010

The 2010 Monitoring Report concluded that the adjusted AM inbound count totaled 2,921 vehicles, which was a decrease of 553 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,459 vehicles, which was a decrease of 132 vehicles below the baseline count and did not represent a significant PM outbound traffic increase.

Annual Report 11 - Year 2011

The 2011 Monitoring Report concluded that the adjusted AM inbound count totaled 3,081 vehicles, which was a decrease of 393 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,743 vehicles, which was a decrease of 51 vehicles below the baseline count, after the trip credit was applied, and did not represent a significant PM outbound traffic increase.

Annual Report 12 - Year 2012

The 2012 Monitoring Report concluded that the adjusted AM inbound count totaled 3,287 vehicles, which was a decrease of 187 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,590 vehicles, which was a decrease of 302 vehicles below the baseline count, after the trip credit was applied, and did not represent a significant PM outbound traffic increase.

Annual Report 13 - Year 2013

The 2013 Monitoring Report concluded that the adjusted morning (AM) inbound count totaled 3,332 vehicles which was an increase of 13 vehicles from the baseline, which falls within the 90% confidence interval, and does not represent a significant AM inbound traffic increase. The afternoon (PM) outbound count totaled 3,744 vehicles, which is an increase of 298 vehicles from the baseline. However, after applying 339 trip credits submitted by Stanford and verified by the County, the PM peak hour outbound traffic is 186 trips below the 1% established trigger.

Annual Report 14 - Year 2014

The 2014 Monitoring Report concluded that the adjusted morning (AM) inbound count totaled 3,336 vehicles which was an increase of 17 vehicles from the baseline, which falls within the 90% confidence interval, and does not represent a significant AM inbound traffic increase. The afternoon (PM) outbound count totaled 3,696 vehicles, which is an increase of 250 vehicles from the baseline. However, after applying 402 trip credits submitted by Stanford and verified by the County, the PM peak hour outbound traffic is 297 trips below the 1% established trigger.

Appendix D
Summary of Traffic Monitoring

2001 Baseline

Original Publication Date: **July 2002**
Updated Publication Date: **October 15, 2003**

Changes between the July 2002 and October 2003 reports were minor editorial corrections.

Inbound AM:	
Adjusted Average 2002 Count	3,319
90% Confidence Interval (2001)	+/- 120
Significant Traffic Increase (2001)	3,439
1% Increase Trigger (2001)	3,474
Outbound PM:	
Adjusted Average 2002 Count	3,446
90% Confidence Interval (2001)	+/- 109
Significant Traffic Increase (2001)	3,555
1% Increase Trigger (2001)	3,591

2002 Monitoring Report

Original Publication Date: **December 2002**
Updated Publication Date: **October 15, 2003**

Inbound AM:	**Original Data**	**First Revision Data**	**Second Revision Data**
Adjusted Average 2002 Count	3,390	3,287	3,275
Baseline-established 90% Confidence Interval (2001)	+/-120	+/-120	+/-120
Baseline-established Significant Traffic Increase (2001)	3,439	3,439	3,439
Baseline-established 1% Increase Trigger (2001)	3,474	3,474	3,474
Result	-84	-187	-199

Outbound PM:	**Original Data**	**First Revision Data**	**Second Revision Data**
Adjusted Average 2002 Count	3,678	3,598	3,586
Baseline-established 90% Confidence Interval (2001)	+/-109	+/-109	+/-109
Baseline-established Significant Traffic Increase (2001)	3,555	3,555	3,555
Baseline-established 1% Increase Trigger (2001)	3,591	3,591	3,591
Result	+87	+7	-5

Appendix D
Summary of Traffic Monitoring

2003 Monitoring Report

Original Publication Date: **January 29, 2004**

The following table summarizes the results of traffic monitoring for 2003.

Inbound AM:

Adjusted Average 2003 Count	3,413
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result	-61

Outbound PM:

Adjusted Average 2003 Count	3,476
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result	-115

2004 Monitoring Report

Original Publication Date: **January 18, 2005**

The following table summarizes the results of traffic monitoring for 2004.

Inbound AM:

Adjusted Average 2004 Count	3,413
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result	-298

Outbound PM:

Adjusted Average 2004 Count	3,642
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (Falls above the 90% Confidence Interval by 87 vehicles)	+87
Result (Falls above the 1% Trigger by 51 vehicles)	+51
2004 Trip Credit	-66
Result With Trip Credit (Falls below the 1% Trigger by 15 vehicles)	-15

Appendix D
Summary of Traffic Monitoring

2005 Monitoring Report

Original Publication Date: **December 21, 2005**

The following table summarizes the results of traffic monitoring for 2005.

Inbound AM:

Adjusted Average 2005 Count	3,383
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (Falls below the 90% Confidence Interval by 56 vehicles)	-56
Result (Falls below the 1% Trigger by 91 vehicles)	-91

Outbound PM:

Adjusted Average 2005 Count	3,735
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (Falls above the 90% Confidence Interval by 313 vehicles)	+180
Result (Falls above the 1% Trigger by 277 vehicles)	+144

2006 Monitoring Report

Original Publication Date: **November 20, 2006**

The following table summarizes the results of traffic monitoring for 2006.

Inbound AM:

Adjusted Average 2006 Count	3,048
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (falls below the 90% confidence interval by 391 vehicles)	-391
Result (falls below the 1% increase trigger by 426 vehicles)	-426

Outbound PM:

Adjusted Average 2006 Count	3,427
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (falls below the 90% confidence interval by 128 vehicles)	-128
Result (falls below the 1% trigger by 164 vehicles)	-164

Appendix D
Summary of Traffic Monitoring

2007 Monitoring Report

Original Publication Date: **November 2007**

The following table summarizes the results of traffic monitoring for 2007.

Inbound AM:

Adjusted Average 2007 Count	3,058
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (falls below the 90% confidence interval by 381 vehicles)	-381
Result (falls below the 1% increase trigger by 416 vehicles)	-416

Outbound PM:

Adjusted Average 2007 Count	3,494
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (falls below the 90% confidence interval by 61 vehicles)	-61
Result (falls below the 1% trigger by 97 vehicles)	-97

2008 Monitoring Report

Original Publication Date: **November 2008**

The following table summarizes the results of traffic monitoring for 2008.

Inbound AM:

Adjusted Average 2008 Count	3,020
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (falls below the 90% confidence interval by 381 vehicles)	-419
Result (falls below the 1% increase trigger by 416 vehicles)	-454

Outbound PM:

Adjusted Average 2008 Count	3,460
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (falls below the 90% confidence interval by 61 vehicles)	-95
Result (falls below the 1% trigger by 97 vehicles)	-131

Appendix D
Summary of Traffic Monitoring

2009 Monitoring Report

Original Publication Date: **November 2009**

The following table summarizes the results of traffic monitoring for 2009.

Inbound AM:

Adjusted Average 2009 Count	2,840
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (falls below the 90% confidence interval by 381 vehicles)	-599
Result (falls below the 1% increase trigger by 416 vehicles)	-634

Outbound PM:

Adjusted Average 2009 Count	3,227
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (falls below the 90% confidence interval by 61 vehicles)	-328
Result (falls below the 1% trigger by 97 vehicles)	-364

2010 Monitoring Report

Original Publication Date: **December 2010**

The following table summarizes the results of traffic monitoring for 2010

Inbound AM:

Adjusted average 2010 count	2,921
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 518 vehicles)	-518
Result (falls below the 1% increase trigger by 553 vehicles)	-553

Outbound PM:

Adjusted average 2010 count	3,459
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls below the 90% confidence interval by 96 vehicles)	-96
Result (falls below the 1% increase trigger by 132 vehicles)	-132

Appendix D
Summary of Traffic Monitoring

2011 Monitoring Report

Original Publication Date: **December 2011**

The following table summarizes the results of traffic monitoring for 2011

Inbound AM:	
Adjusted average 2011 count	3,081
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 358 vehicles)	-358
Result (falls below the 1% increase trigger by 393 vehicles)	-393
Outbound PM:	
Adjusted average 2011 count	3,743
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls above the 90% confidence interval by 188 vehicles)	+188
Result (falls above the 1% increase trigger by 152 vehicles)	+152
2011 trip Credit	-203
Result with trip credits (falls below the 1% trigger by 51 vehicles)	-51

2012 Monitoring Report

Original Publication Date: **December 2012**

The following table summarizes the results of traffic monitoring for 2012

Inbound AM:	
Adjusted average 2012 count	3,287
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 152 vehicles)	-152
Result (falls below the 1% increase trigger by 187 vehicles)	-187
Outbound PM:	
Adjusted average 2012 count	3,590
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (exceeds the 90% confidence interval by 35 vehicles)	+35
Result (falls above the 1% increase trigger by 1 vehicle)	-1
2012 Trip Credit	-301
Result with trip credits (falls below the 1% trigger by 302 vehicles)	-302

Appendix D
Summary of Traffic Monitoring

2013 Monitoring Report

Original Publication Date: **March 2014**

The following table summarizes the results of traffic monitoring for 2013

Inbound AM:	
Adjusted average 2013 count	3,332
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 358 vehicles)	-107
Result (falls below the 1% increase trigger by 393 vehicles)	-142
Outbound PM:	
Adjusted average 2013 count	3,744
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls above the 90% confidence interval by 188 vehicles)	+189
Result (falls above the 1% increase trigger by 152 vehicles)	+153
2011 trip Credit	-339
Result with trip credits (falls below the 1% trigger by 51 vehicles)	-186

2014 Monitoring Report

Original Publication Date: **April 2014**

The following table summarizes the results of traffic monitoring for 2014

Inbound AM:	
Adjusted average 2014 count	3,336
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 103 vehicles)	-103
Result (falls below the 1% increase trigger by 138 vehicles)	-138
Outbound PM:	
Adjusted average 2014 count	3,696
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (exceeds the 90% confidence interval by 141 vehicles)	+141
Result (exceeds the 1% increase trigger by 105 vehicles)	+105
2014 Trip Credit	-402
Result with trip credits (falls below the 1% trigger by 297 vehicles)	-297

Appendix D
Summary of Traffic Monitoring

Definitions

The following definitions are provided to assist in understanding for procedures of the Stanford Traffic Monitoring.

Adjusted Traffic – The raw traffic counts defined below are adjusted to add in University traffic that does not cross the cordon, and to subtract hospital traffic that does cross the cordon, and cut-through traffic through the campus that is not university related. The adjusted traffic volumes are used to compare the Baseline traffic volumes to subsequent year volumes to assess potential changes in commute traffic volumes.

AM Peak Hour – The 60-minute time period with the highest volume of traffic within the 2-hour AM Peak Period. During the AM Peak Period, traffic counts are aggregated by 15-minute increments. The AM Peak Hour is the highest four consecutive 15-minute intervals during the Peak Period for all 16 entrance/exit points combined.

AM Peak Period – The 2-hour period beginning at 7:00 AM and ending at 9:00 AM. The AM Peak Hour is calculated for traffic volumes collected during the AM Peak Period.

Average Count – Traffic data are collected for 16 entry and exit points. The entering data are averaged for the AM peak and the existing data are averaged for the PM peak. The average counts are used to compare one year to a subsequent year to determine if a change in traffic volumes has occurred.

Baseline – The Baseline traffic data are the counts from calendar year 2001, the first year of monitoring after approval of the Stanford GUP in 2000. Subsequent year's counts are compared to the Baseline to determine if the GUP condition requiring no net new commute trips is being satisfied.

Cordon Line – A cordon line is an imaginary line that completely encircles an area and crosses all roads leading into and out of the area. By counting traffic volumes on the cordon by direction, the amount of traffic entering the area and exiting the area can be determined. For Stanford traffic monitoring, the cordon line surrounds the campus and crosses all entry and exit roads, such that all vehicles entering and exiting the campus can be counted.

License Plate Survey – The last four digits of the license plates of each vehicle entering and exiting the campus is recorded for one day during each week of traffic counts. The time period during which each identified vehicles enters and exits the campus cordon is also recorded. If an entering vehicle's license plate matches an exiting vehicle's license plate with a 15-minute interval, that vehicle is assumed to represent a cut-through trip (i.e. not campus-related) and is subtracted from the total traffic count for Stanford since it does not represent traffic related to Stanford. In order for a vehicle trip to be identified as "cut-through", it must be identified by license plate match as having entered via one roadway and exited via another. If a car is identified by license plate match as using the same entering and exiting roadway, the trip purpose is assumed to be to drop-off a passenger within the campus, and the trip is assumed to be Stanford related and is not subtracted from the trip count total.

PM Peak Hour – The 60-minute time period during which the highest volume of traffic is counted, within the 2-hour PM Peak Period. During the Peak Period, traffic counts are aggregated by 15-

minute increments. The PM Peak Hour is the highest four consecutive 15-minute interval during the Peak Period for all 16 entrance/exit points combined.

PM Peak Period – The 2-hour period beginning at 4:00 PM and ending at 6:00 PM. The PM Peak Hour is calculated for traffic volumes collected during the PM Peak Period.

Raw Data – The total traffic volumes counted at the cordon line before adjustments are made. Adjustments are made to the raw data to subtract hospital parking within the cordon, and cut-through traffic from the total count, and to add university parking outside the cordon to the total count, in order to accurately account for traffic attributable to Stanford University.

Significant Traffic Increase – In comparing the change in traffic volumes between the Baseline and subsequent years, only statistically significant changes are considered. The following parameters define how a significant traffic increase is calculated:

- Ninety Percent Confidence Interval – A confidence interval is calculated to determine if a subsequent set of data is statistically different from the Baseline data. The County selected a 90 percent confidence interval as the significance threshold. Based on the daily variation in the Baseline counts, the 90 percent confidence interval for the AM peak hour is +/- 120 vehicles. The 90 percent confidence interval for the PM peak hour is +/- 109 vehicles. Therefore, if a subsequent year count exceeds the Baseline count by more than 120 vehicles, there is a 90 percent likelihood that the increase in traffic volumes has increased significantly.
- One Percent Increase Trigger – The 1 percent trigger is a second criterion for identifying significant increases in traffic volume. Condition of Approval G.9 stipulates that if traffic volumes increase above the Baseline volumes by 1 percent or more in two out of three consecutive years, this will "trigger" a requirement for additional mitigation.

Trip Credits – *Condition of Approval G.8* specifies that the County will recognize and "credit" Stanford off-campus trip reduction efforts after the approval data of the GUP (December 12, 2000), but not before, within a specified area surrounding the campus. These credits can be used to offset a significant increase in peak hour traffic into and out of the campus. Specific guidelines have been established that define how credits can be applied. An example of a credit would be Stanford providing bus service to someone traveling from the Caltrain Station to the hospital. By reducing overall travel in the area around the campus, Stanford can receive a credit against increases in travel onto the campus.

Appendix E
Sustainability at Stanford Annual Report

Sustainability at Stanford
2013 - 2014

Annual Report to Santa Clara County

November 2014

Introduction to Featured Topics

Annual Highlights

Sustainability is a core value at Stanford, deeply integrated into academics, campus operations, communications, and events. Sustainability teachings and practices are enriching our students' academic experience, reducing the university's environmental impact, saving resources, and engaging the
campus community.

This section of Sustainability at *Stanford: A Year in Review, 2013-14* features a number of sustainability topics, with each article summarizing key accomplishments, results and trends, and academic integration, as well as offering some insight into the work ahead. Here are some of the most significant accomplishments featured:

- **Overall sustainability:** For the second consecutive year, Stanford is on the Princeton Review's Green Honor Roll, which lists universities that achieve the highest score—99—on the Princeton Review's annual green rating. The Princeton Review tallied green rating scores for 861 institutions and included this information in its print and online guides. The Green Honor Roll can be found online here: http://www.princetonreview.com/green-honor-roll.aspx.

  For the fifth consecutive year, *Sierra* magazine has named Stanford as one of its top 10 "Cool Schools," out of 173 institutions ranked in 2014. The "Cool Schools" feature story is published in the September/October 2014 issue of *Sierra* magazine, the official publication of the Sierra Club. Stanford's 2014 profile, as well as information on the other top 10 schools, can be found online here: http://sierraclub.org/coolschools.

  Finally, in July Stanford submitted a comprehensive sustainability assessment report to the Sustainability Tracking, Assessment & Rating System (STARS) of the national Association for the Advancement of Sustainability in Higher Education and received a Gold rating, increasing its 2012 score by 6 percentage points. Stanford's score became the highest earned to date by any institution to date within the new STARS framework. A total of 314 colleges and universities report into various versions of STARS.
- **Interdisciplinary research:** Stanford continues to produce leading interdisciplinary research to develop solutions to the world's most pressing environmental problems. The Stanford Woods Institute for the Environment, the Precourt Institute for Energy (PIE), and other institutions award millions of dollars each year to innovative new research projects.
- **Greening of the energy supply:** Stanford is transforming its energy system through Stanford Energy System Innovations (SESI), which will reduce greenhouse gas emissions by 50% and total campus potable water use by 15% upon completion in 2015. Progress on the $485 million program is shown live via the SESI website.
- **Expanded and flexible sustainability curricula:** The 2010 Study of Undergraduate Education at Stanford resulted in a number of recommendations, including new breadth requirements for all students. This new system, launched in 2013-14, shifts undergraduate requirements from a discipline-based to a capacity-based model, which will enable students to take sustainability-related courses that will also count towards breadth requirements. Today, all seven schools offer

a wide range of environmental and sustainability-related courses and research opportunities, with over 750 sustainability-related graduate and undergraduate courses offered across campus.

- **Reduced drive-alone rate:** In 2013, the employee drive-alone rate is at 49%, compared to 72% in 2002 at the inception of the enhanced Transportation Demand Management program. More than 3,800 Stanford commuters started using alternative transportation during this period, and the Commute Club more than doubled its membership. Commute-related emissions remain below 1990 levels.
- **Higher landfill diversion rate:** Stanford increased its landfill diversion rate from 30% in 1994 to 64% in 2013 and reduced its landfilled tonnage to an all-time low.
- **Behavioral sustainability:** The Celebrating Sustainability festival, focused on behavioral sustainability, was held on Earth Day in April. Over 45 departments/entities and 60 presenters hosted over 1,200 guests. Cardinal Green campaigns continued to provide various conservation opportunities throughout the year.
- **Collaborative governance:** The Provost's Committee on Sustainability finished its second year of collaboration and made progress in integrating sustainability further into campus programs and life.

Leadership in Sustainability

Central to the academic endeavor has been the Initiative on the Environment and Sustainability, which boosted interdisciplinary research and teaching in all seven of Stanford's schools, as well as in interdisciplinary institutes, centers, and associated programs across campus, in recognition of the fact that solutions to complex challenges demand collaboration across multiple fields. The School of Earth Sciences, the School of Engineering, the Graduate School of Business, the Graduate School of Education, the School of Humanities and Sciences, the School of Law, and the School of Medicine are leaders in sustainability research and teaching. Leading institutes such as Woods (founded in 2006) and PIE (founded in 2009) serve as the academic integration points and coordination platforms for interdisciplinary research and programs.

The Department of Sustainability and Energy Management (SEM) within Land, Buildings & Real Estate (LBRE) leads initiatives on campus physical infrastructure and programs in energy and climate, water, transportation, building operations, and information systems. The Office of Sustainability (founded in 2008 as an entity of SEM) connects campus departments and other entities and works collaboratively with them to steer sustainability-specific initiatives. The office works on long-range sustainability analysis and planning, evaluation and reporting, communication and outreach, academic integration, behavior-based programs, and governance coordination.

Creating a bridge between operational groups and academic entities are the Provost's Committee on Sustainability and the Sustainability Working Group. With a commitment to uphold sustainability as a visible priority at Stanford, these committees work to encourage and promote collaborations among sustainability programs across schools, institutes, the Office of Sustainability, and students. Additional critical sustainability partners at Stanford include all LBRE departments; Residential & Dining Enterprises, which houses its own sustainable food and student housing programs; the Stanford Recycling Center, run by Peninsula Sanitary Service, Inc.; University Communications; Government and Community Relations; the Alumni Association; and over 20 student organizations.

Feature Topics Ahead

The feature topics in this report provide background and outline progress on sustainability initiatives across key operational, academic, and programmatic areas. The operations section focuses on the year's milestones and performance achievements, while the section on academia focuses on key programs in schools and institutes, as well as research highlights from this academic year. The Office of Sustainability section showcases the broader programs that enhance the experience of sustainability at Stanford. All of the initiatives highlighted in our feature stories represent collaborative efforts across multiple entities and areas of expertise at Stanford. To demonstrate the fundamental interconnectedness of these campus initiatives, we highlight related sustainability topics at the start of each feature story. Check out the Topic Guide to view a list of these related topic areas and icons.

Trends in Sustainability Performance

Background

Proper assessment of Stanford's success in achieving a culture of sustainability depends heavily on tracking performance metrics and reporting them both internally and externally. A commitment to transparency and accountability helps the university strengthen its sustainability programs and services.

Changes in Resource Consumption

The first graphic below depicts trends in resource consumption this past year and compared to baseline program years. Key information on these trends includes the following:

- Because of consistent campus growth, total campus energy use continues to gradually increase. The increase has been small relative to the growth of the campus footprint, meaning that energy intensity is decreasing.
- Decreases in energy intensity since 2000 reflect the effectiveness of construction of energy-efficient facilities as well as retrofits of existing buildings.
- Total greenhouse gas (GHG) emissions decreased slightly from both 2007 and 2012 because a portion of Stanford's power portfolio comes from the City of Palo Alto, which has a newly carbon-neutral electricity supply. These minor reductions mean that GHG emissions intensity also decreased slightly.
- The amount of Stanford's waste that is landfilled has decreased significantly since 2000 as recycling and composting have become prevalent. However, landfilled waste increased from 2012 because of changes in the way that mixed construction waste is sorted and recycled based on compliance with LEED 4.0 standards.
- Stanford has lowered the number of employees who drive to campus alone since 2002. While the absolute number continues to decrease year to year, due to overall change in population size, the trend since the past year is neutral.
- Total water use and water intensity decreased in 2013 due to the success of Stanford's water efficiency programs. The university's dedicated drought response efforts in the first half of 2014 have reduced its water consumption even further.

Operational Sustainability Metrics Summary

	Annual Trend (2013 vs. 2012)	Baseline Trend (2013 vs. Base)	Baseline Year
Total Energy Use	▲ 1%	▲ 12%	2000
Total Energy Intensity	◀▶ 0%	▼ 6%	2000
GHG Emissions	▼ 3%	▼ 1%	2007*
GHG Intensity	◀▶ 0%	▼ 4%	2007*
Landfilled Waste	▲ 11%	▼ 24%	2000
Drive-Alone Rate	◀▶ 0%	▼ 32%	2002*
Domestic Water Use	▼ 2%	▼ 23%	2001*
Domestic Water Intensity	▼ 7%	▼ 37%	2001*

* Years other than 2000 are formal program start dates and/or the earliest years for which data are available.

Mindful of the continued growth necessary to support and advance its academic mission and enroll more students, Stanford maintains an unrelenting commitment to reducing its impact on resources. An analysis of absolute values over time, displayed in the spread on the following pages, demonstrates this trend.

Individual Impact: A Look at Per Capita Consumption

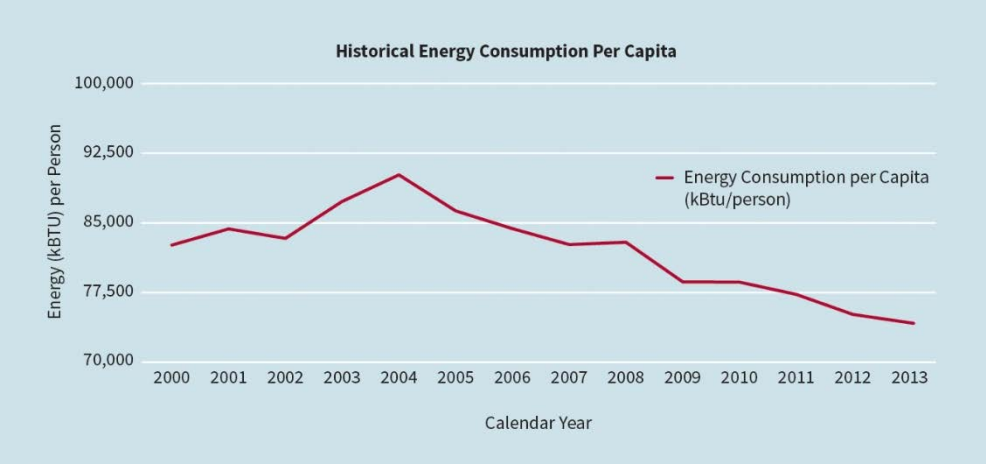
In addition to tracking absolute consumption and intensity trends, Stanford considers annual per capita resource use. As the university grows to support its academic mission, responsible growth is both a priority and a tool for informing long-range strategic planning. As the total campus population continues to grow, the suite of efficiency and conservation programs implemented by the Department of Sustainability and Energy Management and its partner organizations ensures that each individual footprint shrinks. Per capita consumption dropped from 2012 to 2013 in most categories; in all categories, it has decreased significantly since the baseline year. A detailed look at the magnitude of these per capita changes, demonstrated in the charts on the next page, illustrates the priority and effectiveness of resource management
at Stanford.

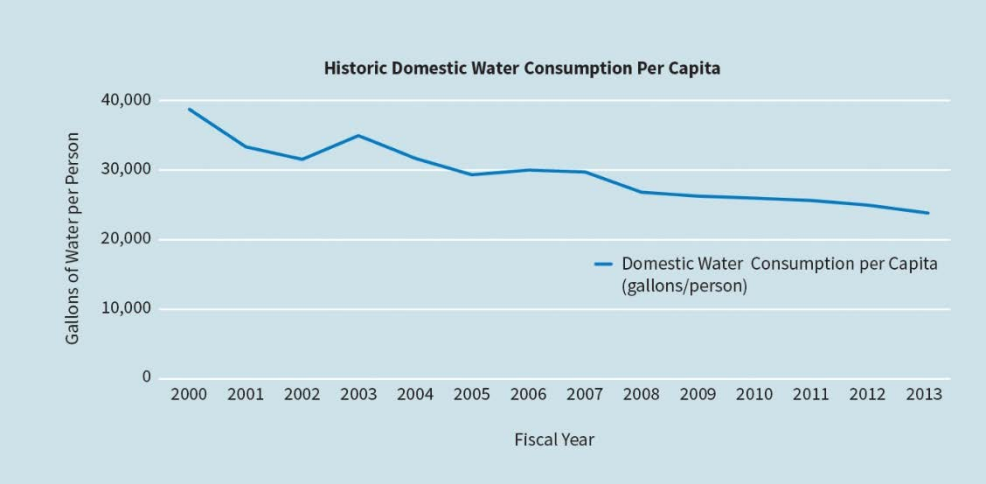
Per Capita* Consumption Trends

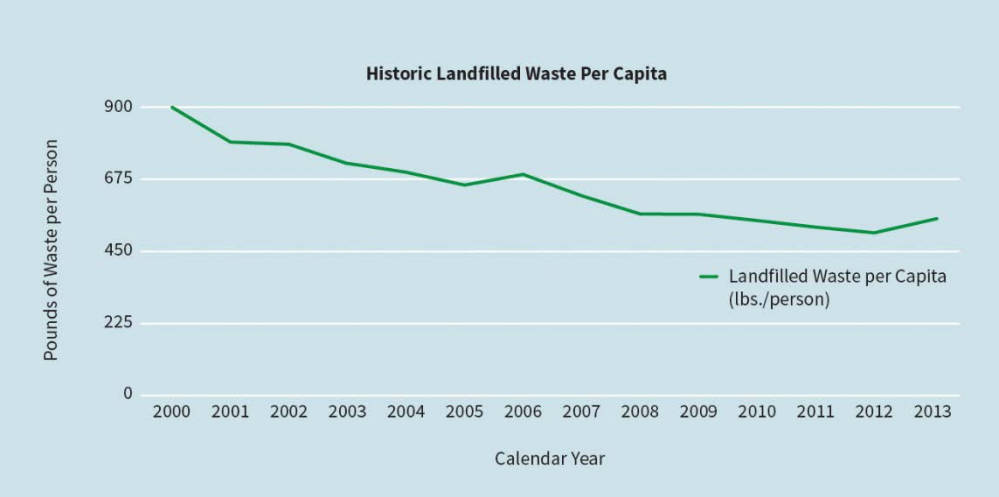
	Annual Trend (2013 vs. 2012)	Baseline Trend (2013 vs. Base)	Baseline Year
Total Energy per Capita	▼ 1%	▼ 10%	2000
GHG Emissions per Capita	▼ 8%	▼ 12%	2007
Domestic Water per Capita	▼ 5%	▼ 38%	2001
Landfilled Waste per Capita	▲ 8%	▼ 39%	2007

* Population numbers sourced from the annual Stanford Population Report, compiled by the Office of Institutional Research and Decision Support and publicly available.

Stanford is dedicated to driving resource conservation at the individual and operational levels. In the features following these summary graphics, operational departments and initiatives provide detail on the programs and services Stanford employs to improve efficiency, conserve resources, and ultimately reduce its impact while enhancing learning opportunities across campus.






Historic Landfilled Waste Per Capita
Pounds of Waste per Person
900
675
450
225
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Calendar Year
Landfilled Waste per Capita (lbs./person)

Stanford Operational Sustainability Metrics 2000-2013

Sustainability Area	Metric	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ENERGY															
Electricity	kwh *(in millions)*	175.4	175.1	176.3	180.9	186.8	190.3	194.5	198.2	199.0	198.9	206.2	207.8	210.2	212.3
	kwh/usf [1,2,3]	17.5	17.1	16.8	17.3	17.5	17.7	18.0	18.0	18.2	17.7	17.9	17.2	17.9	18.0
Steam	lbs *(in millions)*	798.7	847.7	860.5	865.4	878.8	904.4	876.1	858.4	883.5	825.7	848.2	839.0	815.0	811.3
	lbs/usf	91.5	97.1	98.8	99.8	98.8	100.5	97.7	93.4	96.2	86.5	86.1	80.8	81.2	80.5
Chilled Water	ton-hr *(in millions)*	48.0	48.0	49.8	54.3	59.9	55.3	53.5	53.6	56.3	56.2	52.8	55.1	55.3	57.6
	ton-hr/usf	6.7	6.7	7.0	7.6	7.9	7.2	6.9	6.7	7.1	6.8	6.2	6.1	6.3	6.5
GREENHOUSE GAS EMISSIONS															
Publicly Reported Emissions [4]	Metric Tons of CO2	n/a	n/a	n/a	n/a	n/a	n/a	168,400	182,900	180,700	182,400	195,800	198,300	187,500	181,700 [5]
Emissions Intensity	lbs CO2/gsf [6]	n/a	n/a	n/a	n/a	n/a	n/a	25.54	26.65	26.49	27.49	28.08	27.25	25.74	25.66
WASTE MINIMIZATION															
Total Diverted	tons	11,276	11,300	11,587	11,047	13,629	12,668	14,732	13,193	14,686	15,251	14,261	12,814	15,039	15,718
Total Landfilled	tons	11,495	10,194	10,429	9,533	9,262	9,094	9,558	8,820	8,180	8,384	8,104	7,995	7,867	8,739
Total Discards	tons	22,771	21,494	22,016	20,580	22,891	21,762	24,290	22,014	22,866	23,635	22,369	20,809	22,906	24,457
Diversion Rate		50%	53%	53%	54%	60%	58%	61%	60%	64%	65%	64%	62%	66%	64%
TRANSPORTATION															
Commuter Drive-Alone Rate (employees only)		n/a	n/a	72%	65%	63%	58%	54%	52%	51%	48%	48%	46%	47%	49%
Commuter Drive-Alone Rate [7] (all off-campus commuters)		n/a	n/a	n/a	60%	59%	54%	50%	46%	46%	42%	42%	39%	41%	46%
FOOD PURCHASING															
Sustainable Food Purchases [8]		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	41.9%	43.6%	41.6%	40.0%
		00/01	**01/02**	**02/03**	**03/04**	**04/05**	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**	**13/14**
WATER															
Domestic	gals *(in millions)*	997.2	862.8	840.1	921.1	843.1	811.8	832.4	841.8	778.6	780.8	774.7	786.7	784.1	766.2
	gals/usf [9]	96.8	82.1	78.0	85.7	76.6	73.5	75.1	74.7	69.6	67.8	65.5	63.7	65.2	60.7
Lake	gals *(in millions)*	431.4	406.6	362.7	364.2	332.1	270.5	347.2	446.8	378.8	375.2	391.3	430.7	445.4	395.7

Notes:

1. In 2010 Stanford transitioned to usable square footage (USF) in lieu of gross square footage (GSF) since tracked campus GSF data now includes attic areas and other spaces not normally used or conditioned. Thus, USF represents utility service area more accurately and is used in this table starting in 2000.
2. In 2012 more accurate historic USF information became available and therefore the service areas have been updated starting in 2000 to better reflect the state of campus at that time.
3. Service areas for electricity, steam, chilled water, and domestic water are different, and USF served by electricity and domestic water exclude parking structures.
4. Emissions for 2006 - 2009 verified per the California Climate Action Registry General Reporting Protocol, including de minimus emissions. Emissions for 2010 &2011 verified per the Climate Registry General Reporting Protocol, including simplified estimation (de minimus equivalent) emissions.
5. Emissions for 2013 per the Climate Registry General Reporting Protocol, including simplified estimation (de minimus equivalent) emissions, verification pending.
6. GSF included in the emissons intensity calculation corresponds to the properties included in the emissions inventory as defined by the operational control boundary method.
7. In June 2013 the methodology for calculating commuter drive-alone rates was updated to reflect the differing commute survey response rates in various sub-populations.
8. Calculations for sustainable food purchasing by Stanford Dining correspond to the criteria defined by the Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment, and Rating System. This includes food and beverages grown or processed within 250 miles of campus and/or third-party certified (USDA Certified Organic, Marine Stewardship Council Blue Ecolabel, Monterey Bay Aquarium Seafood Watch Approved, Fair Trade, Certified Humane Raised and Handled).
9. The square footage of Faculty Staff Housing is not included in the service area for domestic water.

Stanford Energy System Innovations in Implementation

In December 2011, Stanford's Board of Trustees approved the Stanford Energy System Innovations (SESI) program, designed to meet the university's future energy needs while reducing greenhouse gas (GHG) emissions and water consumption. Stanford has historically done much to reduce GHG impacts, and in late 2007, the university set out to develop a formal action plan incorporating existing best practices in innovative new ways. The resulting Stanford Energy and Climate Plan is one of the most ambitious carbon reduction programs at any major U.S. university. The plan includes high efficiency standards for new buildings; continued efficiency improvements for existing buildings; and the cutting-edge energy supply system known as the SESI project, which in 2015 will reduce campus emissions 50% from 1990 levels. Conceived in the Department of Sustainability and Energy Management (SEM) and being implemented in collaboration with the Department of Project Management (DPM), the university architect's office, Land Use and Environmental Planning, Zones Management, Buildings and Grounds Maintenance, and many other departments, the SESI program is an all-hands Land, Buildings & Real Estate engagement that will deliver great benefits for Stanford University in decades to come.

Results

Because there is a large overlap between campus heating and cooling demands, the new Central Energy Facility (CEF) will include an innovative heat recovery design that is significantly more efficient than the existing cogeneration process. Heat collected from buildings via the chilled-water loop will be captured for reuse, minimizing the use of conventional chillers to discharge waste heat via cooling towers. Heat recovery chillers will move the heat collected from the chilled-water loop to a new hot-water loop that will replace Stanford's aging steam distribution system. The $485 million project represents a significant transformation of the university energy supply from fossil-fuel-based cogeneration to a more efficient electric heat recovery system. Key benefits and results of the SESI program are as follows:

- As the CEF comes online in 2015, the campus will reduce its carbon emissions by 50% from 1990 levels. Simultaneously, an electricity-dependent energy supply system will offer higher reliability, lower cost, and greater flexibility for green power procurement. Having achieved direct access to the California electricity market in early 2011, Stanford is now developing opportunities for a more economical and environmentally sound power portfolio.
- Because of the significant opportunity for heat recovery and the lower line losses of hot-water compared to steam piping, the new energy system will be 57% more efficient than the combined heat and power process of the current cogeneration facility.
- Since the majority of the waste heat from the chilled-water loop will be reused, rather than discharged via evaporative cooling towers, total campus potable water use will be reduced 15%.
- The SESI program is the best-cost option compared to continuation of the current cogeneration system, with a net additional $100 million capital investment projected to yield $300 million in savings over the next 40 years.

The Road to Carbon Reduction

For the seventh consecutive year, Stanford completed and verified its inventory of Scope I and Scope II CO_2 emissions. The 2012 inventory was verified through the Climate Registry. Net emissions decreased for the first time since 2008, despite continual campus growth. Newly available and more precise utility-specific emission factors from non-CEF electricity purchases contributed to the 5% decrease.

Stanford reported approximately 181,700 metric tons of CO_2 emissions for 2013 (verification pending), a 3% decrease from 2012 levels. The City of Palo Alto's adoption of a carbon-neutral electricity supply helped Stanford achieve this decrease.

The university's emissions intensity remains lower than it was in 2007, which confirms the efficiency of Stanford's new high-performance buildings and the impact of its numerous retrofit programs. Emissions will significantly decrease in coming years as a result of the SESI program, dropping 50% below 1990 levels upon completion of construction in 2015.

Implementation

The implementation of the SESI program involves significant work throughout the campus between 2012 and 2015. The DPM is managing design and construction of 22 miles of hot-water pipe, conversion of 155 buildings to receive hot water instead of steam, and installation of the CEF and a new campus high-voltage substation.

Hot-water pipe installation: With the removal of steam as the campus heating utility, over 22 miles of new low-temperature hot-water (LTHW) piping are being installed underground throughout campus. This project has made significant progress this past year. The piping was 98% installed as of July and will be complete by October 2014.

- Building conversion: All of the 141 campus building mechanical rooms that were fed by the outgoing steam service need to be converted to accept the new LTHW utility. By the end of July 2014, 62 buildings were converted, with all 141 scheduled to be converted by March 2015.

  This work is being carefully sequenced in multiple phases to minimize disruption to campus life. As each phase of piping and building conversion is completed, that section of campus will be moved off steam to hot water via a regional heat exchanger that will convert steam from the existing cogeneration plant to hot water at a district level. Once all phases of the conversion are complete, a full transition from the cogeneration plant to the new CEF will be made in April 2015, the regional heat exchange stations will be removed, and the cogeneration plant will be decommissioned and removed to make way for new academic buildings within the campus core. The SESI website launched in the summer of 2012 to provide an avenue for interested community members to learn about the program. It includes project fact sheets and links to related articles. Most notably, it contains an interactive campus map and real-time view of associated construction.

- New CEF: In 2012, design of the new CEF was completed, equipment manufacturers were selected, a general contracting firm was hired, and construction began in early October that year. Thus far, the plant foundations and underground utilities have been constructed, thermal energy storage tank installation is one-third complete, and structural steel for the plant building is going up rapidly. Construction of the plant is projected to be complete by April 2015. The CEF will be a state-of-the-art heat recovery plant featuring both hot- and cold-water thermal

storage that relies on a diversified mix of electricity sources for power, unlike the cogeneration plant, which relies on 100% natural gas. SEM will operate the CEF with a new automated control system, Energy Oracle System, invented at Stanford (patent pending) and currently under commercial development by Johnson Controls, Inc. This will assure optimal operation through predictive economic dispatching based on load and market electricity pricing forecasts. The system will also allow fully automated operation to eliminate guesswork by plant operators in running a complex combined heating and cooling system with both hot and cold thermal storage.

Academic Integration

The Energy and Climate Plan, which was first released in 2008 and evolved into SESI, has been a high priority and incorporated various faculty peer reviews from inception through approval. The first faculty GHG task force convened in 2009 to review the initial plan. Throughout 2011, the heat recovery scheme and proposed financial models were extensively peer reviewed by faculty from the School of Engineering and the Graduate School of Business, as well as a Board of Trustees advisory committee. SESI program studies have also periodically engaged graduate student researchers to supplement industry findings, verify models, and assist with other assessments. SEM partnered with the Stanford Solar and Wind Energy Project, a student group, to study the campus's solar potential. Solar photovoltaic (PV) integration is one aspect of SESI currently under investigation, and the students assisted in analyzing data while gaining practical hands-on experience. Stanford staff will continue to partner with students and faculty as SESI proceeds.

Looking Ahead

As core elements of the SESI program are implemented, additional potential enhancements to the campus energy system are being considered. These include:

- Rooftop on-campus PV power installations (the provost has already approved installations generating 4 megawatts of power);
- Development of a ground source heat exchange system to complement the core heat recovery process;
- Installation of a new high-voltage transmission line to improve the reliability of the electrical grid serving the university;
- Installation of a plug-in electric vehicle infrastructure to support both private and university electric vehicles and electrification of the Stanford bus, truck, and car fleet; and
- Installation of a natural gas–based centralized emergency generation and distributed electrical storage system to replace the current distributed diesel fuel emergency generation system.
- Detailed feasibility studies of these potential enhancements are under way and will be completed within the next few months.

Advancements in Energy Efficiency

Background

Since 2010, a redesigned Facilities Energy Management (FEM) team in the Department of Sustainability and Energy Management has been responsible for coordinating the university's efforts to reduce energy use in existing buildings and to incorporate energy efficiency best practices into all new buildings. The team works with Operations and Zone Management to ensure buildings are operated efficiently and manages multiple programs that offer technical as well as financial assistance to facility managers, department leads, and building occupants to encourage implementation of energy efficiency projects.

Results

As of 2013, Stanford has reduced energy intensity on campus 6% from a 2000 baseline, despite continued campus growth. Energy efficiency programs have been prominent on campus since the '80s. Metering campus buildings has paid dividends throughout the last decade in developing more advanced programs to improve energy efficiency. Specific results this year include the following:

- The Whole Building Energy Retrofit Program (WBERP) seeks to reduce energy consumption in Stanford's most energy-intensive buildings. This $30 million capital program began in 2004 to address the 12 largest energy-consuming campus buildings and now includes the top 27, which represent 60% of total campus energy use. Retrofits have been completed in 14 buildings thus far and have saved more than $3.9 million a year in energy costs. The program has also yielded over $2 million in financial incentives via Pacific Gas & Electric (PG&E) rebates. In 2013-14, construction was completed on controls upgrade projects at the Alumni Center and the Paul Allen Building and Annex. An HVAC upgrade at Research Animal Facility (RAF) II was also completed and will save an estimated $325,000 in energy costs per year. Construction began on a controls upgrade for Clark Center that is expected to save over $400,000 per year. Designs were completed for retrofits at Mitchell Earth Sciences and the Mechanical Engineering Lab, and energy studies were completed for two large School of Medicine buildings, the Center for Clinical Science Research and the Medical School Lab Surge (MSLS) building.
- Since 1993, the Energy Retrofit Program (ERP) has provided rebates to Stanford Utility users who install efficiency upgrades within their facilities. Rebates cover some or all of the upgrade costs, depending on the project payback period. Projects completed in 2013-14 include new LED lighting, better lighting controls, fluorescent fixture retrofits, variable frequency drives (VFDs) for electric motors, and server virtualization. Over 40 projects were completed in academic buildings, with a total estimated savings of over $90,000/year. In addition, the School of Medicine completed lighting retrofit projects at Fairchild, the Medical School Office Building (MSOB), MSLS, and Hagey; these are saving over $82,000 per year and improving light quality. Air flow modifications at Hagey are saving over $10,000 per year. Air handler upgrades at Falk and MSOB will save over $40,000 per year. The Department of Athletics, Physical Education and Recreation installed VFDs on fans at the Arrillaga Center for Sports and Recreation and is completing a major HVAC upgrade at the Arrillaga Family Sports Center with ERP support, and has several more projects slated for fiscal year 2015-16. Residential & Dining Enterprises (R&DE) Stanford Dining undertook an LED upgrade at Wilbur Hall.
- Operations staff continue to monitor building performance, looking for improvement opportunities related to operating schedules, HVAC set points, and maintenance work.

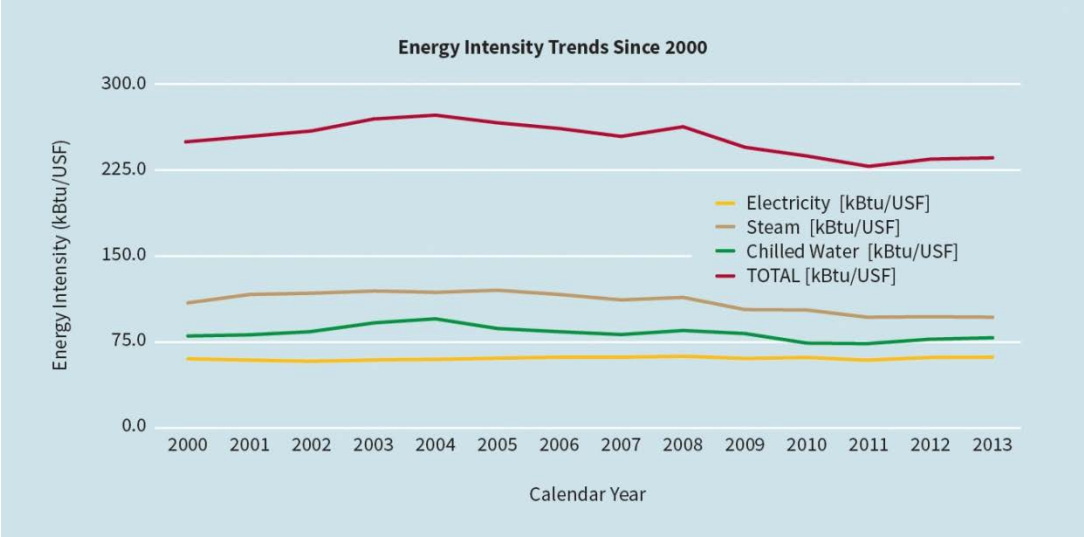
Program highlights for 2013-14 include the completion of 26 building HVAC recommissioning projects.

- The FEM team received rebates from PG&E totaling over $120,000 for 2013-14 projects, including various projects at Packard Electrical Engineering and Hagey, as well as multiple lighting retrofits. City of Palo Alto Utilities rebates totaled nearly $40,000 for 2013-14 projects, including a major lighting upgrade in the Grant, Alway, Lane, and Edwards buildings and the HVAC measures at Falk Center.
- The FEM team worked closely with the campus planning office to conduct a life cycle cost analysis of various new high-efficiency outdoor lighting technologies. All of the technologies were first evaluated in the field to ensure they will meet rigorous aesthetic and safety requirements. LED technology was found to be more cost effective than the alternatives, with a potential life cycle benefit on the order of $1.8 million if all Stanford-owned fixtures were upgraded. Large-scale demonstrations are now under way, and if all goes well, the combined effort will culminate in a retrofit program that will reduce the electricity used for lighting campus streets, walking paths, and parking lots by half.

Overall energy intensity (measured in thousand British thermal units per usable square foot, kBtu/USF) remains less than it was in 2000. The suite of energy-saving programs targeting large-scale building retrofits, small-scale retrofits, and HVAC controls, coupled with new construction standards, has contributed to this trend.

Other notable performance trends include the following:

- Steam consumption per usable square foot has remained relatively flat. A notable decrease starting in 2009 correlates with the completion of major HVAC upgrade projects in multiple buildings.
- Chilled-water consumption per usable square foot also remains lower than it was in 2000. This further illustrates the benefits of energy retrofits in multiple large buildings.



Academic Integration

The FEM team engages frequently with research faculty to better understand energy demand inherent to their work and tailors program offerings accordingly. FEM staff also continue to participate in ideation meetings with the Energy & Environment Affiliates Program. FEM provided input on the types

of HVAC and energy management sensors deployed in buildings, the quality and resolution of the resultant data, how the data are currently managed and utilized, and future opportunities for improvement in sensor performance, data storage, and smart applications for processing the data. FEM staff also regularly interact with faculty in the Center for Integrated Facility Engineering (CIFE). FEM team members serve as guest speakers for CIFE courses, help review student projects, and provide feedback on research needs regarding the operation of high-performance buildings.

Stanford's Energy Conservation Incentive Program, established in 2004, provides schools and administrative units a financial incentive to use less electricity. The program sets budgets based on past consumption and lets participants "cash in" unused kilowatt-hours; those that exceed their electricity budgets pay the difference out of their own funds. FEM completed a large analysis in 2013 to recalibrate the budgets of the schools and units to more closely match them with expected performance. The analysis highlighted that on average, most units are coming in well under budget.

Looking Ahead

Under WBERP, construction will begin early next year at Mitchell Earth Sciences and the Mechanical Engineering Laboratory. An HVAC upgrade at RAF I will also be under way. When completed, these projects are expected to save over $250,000 per year.

In the coming year the FEM team will be working collaboratively with building occupants and operations and management staff to develop a formal implementation program to further improve air flow management in large laboratory buildings. These facilities are typically the largest energy consumers on campus due to the high air change rates required for occupant safety, which represent a large HVAC load. Studies conducted in 2014 have identified innovative strategies to reduce HVAC-related energy needs in lab buildings, while also improving occupant comfort and enhancing safety. The metrics derived from the studies will be used to develop cost-effective retrofit plans.

Stanford will continue to develop means to leverage the "big data" available through the operation systems used to monitor and control buildings and the critical processes within. This entails the evolution of data management systems and the deployment of new, smart analytic systems. Examples include next steps for the Automated Fault Detection and Diagnostics pilot project conducted last year; completion of a study on real-time building energy use modeling and demand forecasting; and research into data analytics technologies that can automate the identification of maintenance needs and integrate with maintenance work order systems.

In 2015, the FEM team will start to leverage the benefits of the Stanford Energy System Innovations project to further optimize the energy efficiency of the campus. The new Central Energy Facility (CEF) and campus buildings will work together with unprecedented synergies that enable macro-level tuning of energy efficiency. Actively managing building-level energy demand will maximize the efficiency of the CEF, and conversely, optimizing the energy supply conditions to the campus can optimize building efficiency. Using the controls and instrumentation at the CEF and the buildings, the team will develop smart algorithms to pursue the best energy performance possible for the campus.

Strides in Water Efficiency and Conservation

Background

Stanford has expanded its sustainable water use practices by managing available resources to meet its needs while preserving ecological systems and this vital resource for future generations. The university has developed innovative alternative water supplies and expanded water conservation efforts for its buildings, grounds, and residential leaseholders. Stanford increased water use efficiencies even further in the face of the 2014 drought.

Results

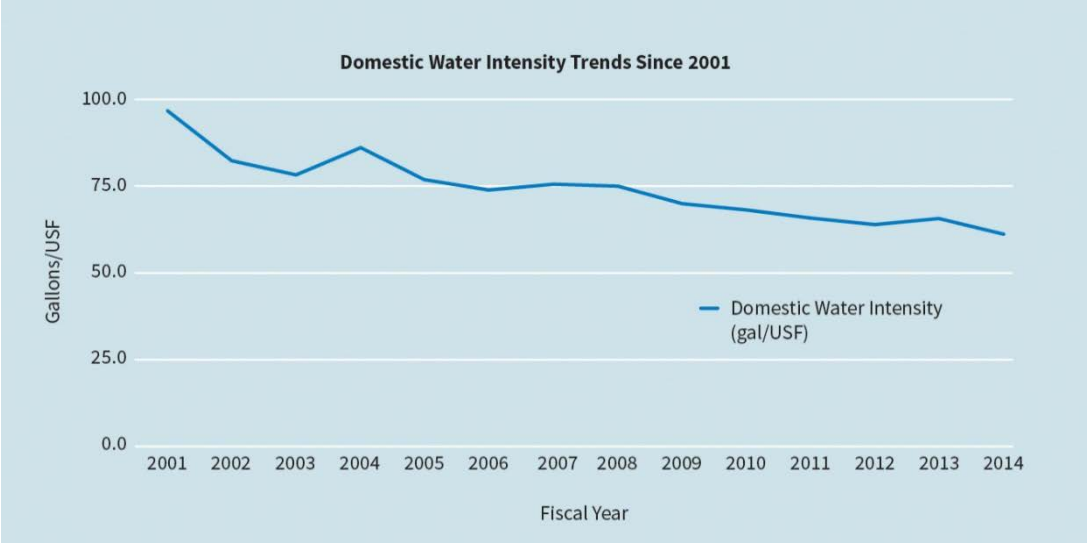
As of fiscal year 2014, Stanford has reduced domestic water use on campus 23% from a 2001 baseline, despite adding nearly 2 million gross square feet to the campus buildings portfolio and over 1,400 units of faculty, staff, and student housing. The 2003 Water Conservation Master Plan identified 14 water conservation measures for campus implementation; today, more than 20 such measures are employed. Campus domestic water use averaged 2.1 million gallons per day in 2014, the lowest average daily use since the start of the water conservation program in 2001. Specific activities this year included the following:

- Governor Brown declared a drought in California in January 2014, asking Californians to reduce water use by 20%. The San Francisco Public Utilities Commission, which supplies domestic water to Stanford and many other Bay Area agencies, then announced a 10% voluntary reduction goal for its water agency customers. In response, Stanford expanded its ongoing Water Efficiency (WE) program, developing and implementing drought conservation measures. These measures include monthly water use reports to each campus group, updates on drought conditions on the WE website, a call for action to the campus community, which yielded hundreds of pledges to conserve water, and WE program rebates for campus residents.
- Since the beginning of 2014, WE staff have sent over 50 monthly reports to campus zones and groups to track water usage, compare it to the 10% reduction goal, and promote savings. The reports have helped inform campus managers and residents and reduce water consumption. The statewide metric for drought water use reductions is a comparison of use from February through December 2014 to use in the same months in 2013. Comparing February through September 2014 to February through September 2013, Stanford has reduced its campus-wide domestic water consumption by 6%. Landscape irrigation with nonpotable lake water has been reduced by 20%. Areas showing the most savings have been those with an integrated approach to water-saving best management practices, including open communication between area managers and WE staff, the use of smart or weather-based irrigation controllers (for landscape sites), and the use of smart or real-time water meters. The chart below depicts Stanford's consistent monthly domestic water savings as a result of dedicated drought response efforts.
- WE staff collaborated with Gilbert Biology Building staff to retrofit their steam sterilizer equipment, which is used to sterilize glassware and lab instruments. Upgrading the water misers on the sterilizers allows use of cold quenching water only when the sterilizer is emitting hot condensate/effluent, eliminating the constant flow of quenching water. Since the upgrade, in April 2014, the building's water use has been cut by 50%.
- Drought and monthly supply updates have been posted on the water efficiency website to make information and resources more easily accessible for the campus commWnity. The

website, which has proved to be a successful outreach tool, also includes information about rebates for water-efficient fixtures and landscaping.

- WE staff have conducted residential landscape water audits at more than 50 residences and other campus grounds and buildings. The purpose of the audits is to identify leaks, eliminate irrigation runoff, and improve overall efficiency while maintaining healthy plants.
- A new pilot study begun in early 2014 encourages faculty and staff who live in single-family residences on campus to use weather-based irrigation controllers (WBICs). The 19 pilot participants received WBICs at an extremely reduced price, as well as free rain sensors and free outdoor irrigation surveys. Elsewhere on campus, use of WBICs has saved at least 25% of irrigation water. The purpose of the study is to determine if residential use can achieve similar savings.
- The Stanford Water Shop has continued to find innovative ways to maintain water quality in the domestic water distribution system while reducing the amount of water flushed and discharged from hydrants and blow-offs (a practice routine for almost all water systems). Water Shop staff, in collaboration with Stanford Grounds, found a use for this water. The Stanford Grounds mobile watering truck as well as the sewer and storm service truck have been filling at locations where water is frequently stagnant in the distribution system, turning it into a water source for trees and necessary maintenance around campus. This solution reduces both the water demand by Grounds and the amount of water discharged. A win for both groups and Stanford University!
- Utilities Services partnered with Residential & Dining Enterprises Stanford Dining to install 25 efficient pre-rinse nozzles at campus dining facilities. These nozzles operate at 0.99 gallons/minute. The project estimates that each dining hall will save over 10,000 gallons of water per year.
- As part of a pilot project, two new WBICs were installed in the faculty/staff housing parks in summer 2013. One is currently using new wireless valve technology. The project has replaced manual operation and less efficient irrigation controllers, and the hope is that this will not only improve water efficiency, but also save staff time.
- The water conservation program has maintained and updated an interactive map, featured on the WE website, that details water conservation retrofit projects from 2002 to the present. A variety of sorting parameters allow users to quickly search more than 300 indoor and outdoor projects. Clicking on the map's icons provides details on the water-efficient equipment installed during retrofit projects, as well as the estimated water savings, when available. The map also includes general water profiles for each new building opened since 2007.
- In 2014, WE hosted the first annual water conservation video contest for students. The winners were honored during the Celebrating Sustainability event on Earth Day, and the video is available on the WE website.

The chart above shows the cumulative effect of water conservation on campus: domestic water intensity has dropped 37% since 2001.



Looking Ahead

Later in 2014 and into 2015, the water services group will continue investigating Stanford's water resources and demands to inform the development of a sustainable water management plan. Investigations are being conducted on Stanford's surface water supplies (reservoirs and creeks), groundwater, and storm water capture opportunities. A wide-ranging study of options for the future of Searsville Dam and Reservoir, including a public input process, is well under way and is expected to be completed later this year. Based on this information, campus leadership is expected to make decisions about the long-term future of the facility, which will then allow development of a campus-wide Sustainable Water Master Plan.

The WE team will continue to work with students, faculty, staff, campus groups, and residents to promote efficient practices, track water savings, and implement projects that promote water conservation. Staff will continue to reach out to residential landscape water users for water-saving actions and conduct outdoor water surveys at the homes of customers in the top 10% in monthly water use.

Distinction in Building Design, Construction & Renovations

Background

To evolve as a center of learning, pursue world-changing research, and respond to pressing environmental concerns, Stanford designs and creates buildings that use resources wisely and provide healthy, productive learning environments. Energy generation for building heating, cooling, and electricity accounts for the majority of Stanford's carbon emissions—and from 2000 to 2025, the university expects to add nearly 4 million usable square feet of building space to the core campus, as well as housing for 2,400 students, faculty, and staff.

The Department of Project Management (DPM) oversees major construction on campus. Advancements in high-performance building design, construction, and renovation continue to ensure that Stanford delivers and maintains new facilities in accordance with its project delivery process guideline. Since 2001, DPM has incorporated sustainability through guidelines for life cycle cost analysis, sustainable buildings, and salvage and recycling programs, as well as a strong emphasis on commissioning. Designing buildings to be more efficient reduces the demands on the main campus heating, cooling, and electrical systems, creating a ripple effect of cost savings and environmental benefits.

Results

The specific examples below highlight achievements from 2013-14 that help the Stanford campus progress towards sustainability in new construction and major renovations.

- Stanford Energy System Innovations (SESI) has been the most pervasive construction project on campus throughout 2013-14. SESI construction, including construction of the new, state-of-the-art Central Energy Facility, will continue through spring 2015 and finish on time. The project has made significant progress this past year. With the removal of steam as the campus heating utility, over 22 miles of new low-temperature hot-water (LTHW) piping are being installed throughout campus. Installation of this underground utility piping was 98% complete as of July and will be complete by October. All of the 141 campus building mechanical rooms fed by the steam service need to be converted to accept the LTHW utility. At the end of July, 62 buildings had been converted, with all 141 scheduled to be converted by March 2015.
- The Anderson Art Collection building is now complete and will open to the public in September 2014. This 30,000-square-foot gallery houses a permanent collection of 121 works by 86 artists. In addition to an innovative heating, ventilation, and air conditioning system, the building uses a state-of-the-art LED lighting system that meets the curators' demands for high-quality display lighting, yet uses significantly less energy and produces much less heat than standard art display lighting. The highly controllable window and shading system also allows for diffuse natural light and ideal viewing conditions without glare while further reducing energy use. The energy reduction target for this building is 32% below code requirements.
- The fourth and final building in the Science and Engineering Quad (SEQ), Shriram Bioengineering and Chemical Engineering, was also completed in 2014. This building employs the same high-performance features that define the other SEQ buildings, including a high-performance building envelope and a large (83.2kW) photovoltaic system. Other key features include variable-volume fume hoods, zone-level heating and cooling, and heat recovery systems similar to those in the Lokey Stem Cell Research Building (completed in 2010 and performing 43% better than required by energy codes). This building also has 21 electric submeters that will be used to evaluate efficiency performance and help provide a critical database of how energy is used in large laboratory buildings. Since research laboratories are typically the largest energy users on campus, the benefits of these high-efficiency building components are magnified.
- Construction continued on several components of the Stanford University Medical Center Renewal Project, including the Welch Road Utility Project, renovation of the Hoover Pavilion, and site work for the Lucile Packard Children's Hospital (LPCH) expansion. Both the LPCH expansion and the new Stanford Hospital are expected to achieve LEED New Construction Silver equivalency.
- Finding new uses for older buildings is now a common practice at Stanford. The former home of the Graduate School of Business (GSB) is now the Lathrop Library and will contain the East

Asian collection, Academic Computing Services, and other programs currently housed in Meyer Library. As mentioned below, the Old Chemistry Building is being transformed into the Science, Technology, and Learning Lab. The underutilized Roble Gym is currently undergoing renovation to become a more efficient space for the Theater and Performance Studies Department.

Academic Integration

Collaboration with faculty and research staff, particularly in the programming of interdisciplinary space, remains a DPM hallmark. The school/department user group is the program advocate throughout each project. This group may include the dean/director, faculty, staff, and/or students. It designates a representative who is responsible for gathering and disseminating information and communicating it from the project team to the group and vice versa, within project schedule constraints. The DPM project manager coordinates directly with this representative. DPM relies on this collaboration to express the needs of the program to the university administration and to manage communication and decision making within the school/department.

One great example from 2013-14 is the Start.Home. The two-bedroom, one-bath house was Stanford's entry in the Solar Decathlon, a biennial competition run by the U.S. Department of Energy that challenges students to design and build innovative solar houses that will help usher green technology into modern home construction. Students worked with faculty and campus staff to design the house and received guidance during construction. In the October 2013 competition, the Start.Home placed first in the affordability and energy balance categories and fifth overall. A new team has convened to prepare a new house for the 2015 competition with plenty of lessons learned from the 2013 team. The 2013 Start.Home was moved to the 1,000-acre Jasper Ridge Biological Preserve and is now the home for the resident ranger and his family.

Looking Ahead

Stanford is further revising its energy and water efficiency targets for new construction and large remodels. In 2008, an exceedance goal of 30% for energy and 25% for water beyond current code requirements was given to each design team. Each project had the flexibility to determine the best way to meet the goal while attending to budget and programming realities. However, additional energy and water code requirements from state and local jurisdictions made straightforward target setting more of an accounting challenge than an actual feature improvement exercise. As a result, Stanford is considering a new methodology that will include processes for setting, tracking, and enforcing energy targets. In addition, Stanford continues to explore methods to increase space efficiency to reduce the need for new construction.

To support excellence in building design, post-occupancy energy studies of high-performance buildings will continue. These studies compare expected building performance with actual measured data. Stanford uses this information to further optimize building operation and to inform design decisions for future projects, thus optimizing conservation of resources in those buildings as well.

The Old Chemistry Building, built in 1903 but not occupied since the 1989 earthquake, will be transformed into the Science, Technology, and Learning Lab and will promote sustainability through reuse of materials. The building will include teaching laboratories for chemistry and biology and a new library facility. With a prime location facing Palm Drive, this building will create a new formal entrance to the biology/chemistry district. While the design team is still working to determine specific water and

energy targets, the building is expected to combine the best of historic Stanford architecture with innovative energy features found in the rest of the recently completed laboratories on campus.

The Bass Biology Building will be constructed as part of Stanford's Science, Engineering, and Medical Campus Initiative. The building will be located between Gates Computer Science and Mudd Chemistry and will provide shared spaces for collaboration, innovative instrumentation, and laboratories for students, faculty, and research staff. Two institutes—Chemical Biology and Neuro Institute for Chemical Biology and Neurosciences—will occupy this new 180,000-gross-square-foot facility. Because this building will have a combination of fume hood labs, engineering labs, and computational space, it will be the first "test case" for the new energy and water goals.

Several large residence halls and housing complexes are in design or construction in an effort to further improve the out-of-classroom academic experience, reduce traffic, and reduce commutes. The Kennedy Graduate Residences (Comstock was the working project title) will be ready for occupancy in September 2014. Four residential buildings and a common area will provide a net increase of 362 beds for graduate students. Manzanita Park Residence Hall will provide 125 beds for upper-class undergraduate students and will be open in August 2015. A new dorm near Lagunita will provide beds for 200 students and open in 2016..

Additional high-performance renovation and construction projects under consideration for the 2014-15 academic year include the Crown Quad renovation, C. J. Huang (780 Welch), and McMurtry Art and Art History. Continued renovation of Panama Mall, to be completed in 2014, will fully convert a former back alley into an open boulevard and inviting academic space.

The Redwood City campus for Stanford is about to become a reality. After over five years of project design, environmental review, and community outreach, the City Council of Redwood City adopted the conceptual master plan for the new campus in September 2013. The university intends to redevelop the site in phases over time, depending on its needs. Due to General Use Permit limitations on core campus development, the university studied options for relocating administrative organizations off campus, thus reserving core campus space for Stanford's highest academic priorities and objectives. The satellite campus will accommodate nonacademic user groups not required to be on the main campus. The concept design responds to guiding principles and objectives that will enrich and carry forward the existing Stanford culture, as well as offering benefits to the surrounding community. The project will also set an example of Stanford's commitment to environmental responsibility and sustainability. High-performance strategies for the structures and landscape, coupled with an aggressive transportation management program, will demonstrate responsible stewardship of the site and respect for the community.

All these construction projects will ensure that Stanford has the most environmentally responsible and innovative facilities possible, allowing the university to fulfill its academic mission.

Expanded Offerings in Transportation

Background

Stanford's Transportation Demand Management (TDM) program to reduce university-related traffic impacts is one of the most comprehensive in the country. Stanford developed the program to meet peak-trip reduction goals in its General Use Permit, issued by the County of Santa Clara, which governs campus growth and development. Despite significant campus growth, the TDM program has resulted

in measurable reductions in commuter emissions, and it plays an essential role in the university's sustainability effort.

The Stanford Commute Club is a key element of the TDM program. The Commute Club rewards each member with up to $300 a year, among other incentives, for commuting primarily by alternative transportation. Stanford has also continued to expand other transportation programs, including car sharing, which has grown from three Zipcars in 2007 to more than 65 cars at 26 locations today, making it the largest university Zipcar program in the nation.

Designated the nation's first Platinum-Level Bicycle-Friendly University in 2011, Stanford has expanded its bicycle program to accommodate the estimated 13,000 bikes on campus each day. The expansion has included adding bicycle safety repair stands, which now total seven, and increasing bicycle parking capacity. Stanford now has 395 secure bike parking spaces (286 bike lockers and 109 bike cage spaces). In addition, bike racks provide more than 18,000 bike parking spaces on campus.

These TDM advances, coupled with extensive marketing outreach and promotions, have enabled Stanford to reduce its drive-alone rate, with more than half of university employee commuters now primarily using sustainable transportation.

Results

Stanford has been transitioning to more sustainable campus shuttles and fleet vehicles, expanding electric vehicle (EV) charging stations, and increasing shuttle route efficiency. It expanded its sustainable transportation efforts in 2013-14, and performance achievements include the following:

In 2014, the employee drive-alone rate was 49%, compared to 72% in 2002 at the inception of the enhanced TDM program. Commute-related emissions remain below 1990 levels, decreasing from 1.82 metric tons of CO_2 per commuter in 2000 to 1.47 metric tons of CO_2 per commuter in 2013. The Commute Club has more than doubled its membership since 2002, with more than 8,750 members today.

Marguerite shuttle passenger numbers rose from 1.9 million in 2012 to an estimated 2.3 million in 2013.

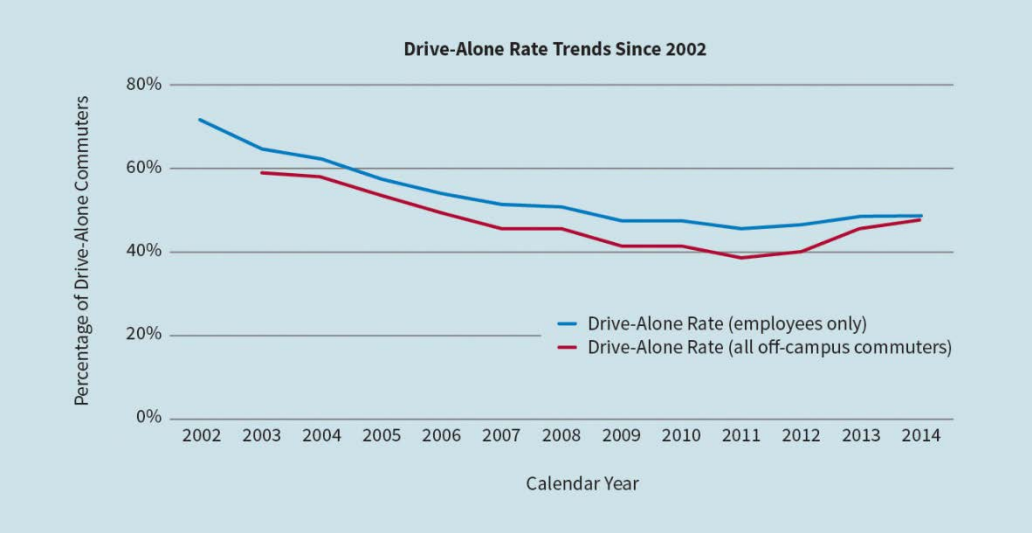
Bike to Work Day at Stanford saw a record turnout in 2014. More than 2,034 riders were counted, and 829 riders reported logging a total of 8,783 miles, for an average of 11 miles per trip. By biking instead of driving, these commuters eliminated an estimated 7,958 pounds of CO_2 emissions on Bike to Work Day.

In 2013-14, Stanford bolstered support for vanpools by increasing its subsidy from $200 to $300 per month for each Stanford vanpool. The Commute Club marketed special offers to drive-alone commuters, including a new carpool and vanpool promotion and free monthly transit parking, to encourage new riders. The Commute Club also offered a new, sustainable membership gift: a reusable mug with the Commute Club "every trip counts" logo. In addition, members were encouraged to submit photos of what motivates them to choose a sustainable commute. Selected photos will be used to encourage others to consider the benefits of sustainable commuting.

In June 2014, Stanford's vice provost for graduate education announced that graduate students and postdocs would be able to purchase the Caltrain Go Pass as part of a pilot program beginning on Sept. 1, 2014. The Go Pass provides unlimited rides in all zones throughout the calendar year.

Larger 49- and 57-passenger motor coaches were added to the East Bay Ardenwood Express route to serve increasing ridership.

Over one-third of Stanford's 1,177 fleet vehicles are electric, and the number of hybrid vehicles increases each year. Several electric bicycles are also being piloted in the campus fleet. The Marguerite shuttle fleet increased from 3 to 13 electric buses, and includes five diesel-electric hybrid buses and 53 buses fueled by biodiesel and renewable diesel.



Academic Integration

Stanford's Parking & Transportation Services (P&TS) office is working with the School of Education's Social Ecology Lab to examine the relationship between learning and travel behavior: what conditions and mechanisms impact that link and the role(s) that institutions do or do not play in commute choices and behavior?

The research will span five to seven months. Research methods include a survey of employees; interviews and commute documentation with a subset of up to 10 employees; observation of transportation-related events (e.g., Bike to Work Day, employee orientation events, Commute Club events); focus groups; and document analysis. Existing survey and other data from P&TS will be used as background and baseline data.

The findings of this research are expected to be reported through academic (peer-reviewed) journals and through recommendations to P&TS.

Looking Ahead

Many new and exciting TDM initiatives are in development, including plans to address Stanford's long-term growth both on and off campus. P&TS is assessing various aspects of campus growth in its continued commitment to support the academic mission of the university.

The existing EV charging policy is undergoing a review that includes assessing the number and location of stations to be installed in the future and determining charging-level options. Seven EV charging stations on campus are available to Stanford commuters, residents, and the public. In keeping with its development of renewable and efficient energy supplies through the Stanford Energy System Innovations program, the university is developing plans to potentially add more EV charging stations on campus.

Based on the performance of three electric buses added to the Marguerite fleet as a trial project in 2013, Stanford plans to add 20 more electric buses, which will replace older buses in the fleet.

TDM remains a priority sustainability program at Stanford, with implications beyond the university's main campus. With current commute trends in Silicon Valley pointing to an increase in traffic congestion, Stanford is also launching a regional transportation planning initiative under the leadership of Land, Buildings & Real Estate.

Minimizing Stanford's Waste

Background

Minimizing waste contributes to a more sustainable Stanford. By using less, reusing more, recycling, and composting, the university sends less waste to landfill; preserves natural resources by providing recyclable materials to manufacturers; and contributes to efforts to reduce greenhouse gas emissions and other pollution, to conserve water, and to save energy. Stanford has increased its landfill diversion rate, also referred to as its recycling rate, from 30% in 1994 to 64% in 2013.

Stanford's waste reduction, recycling, and composting program serves all academic and athletic areas, student housing and dining, Faculty & Staff Housing, Stanford University Medical Center, SLAC National Accelerator Laboratory, and construction sites. The university continually improves and expands recycling and composting collection activities, identifies new markets for waste materials and recyclables, and raises awareness so that reducing, reusing, recycling, and composting become an ingrained set of behaviors. Stanford partners with Peninsula Sanitary Service, Inc. (PSSI), its recycling and waste management service provider, to reduce waste, increase landfill diversion, achieve the new state goal of 75% diversion by 2020, and move closer to zero waste (defined as at least 90% diversion).

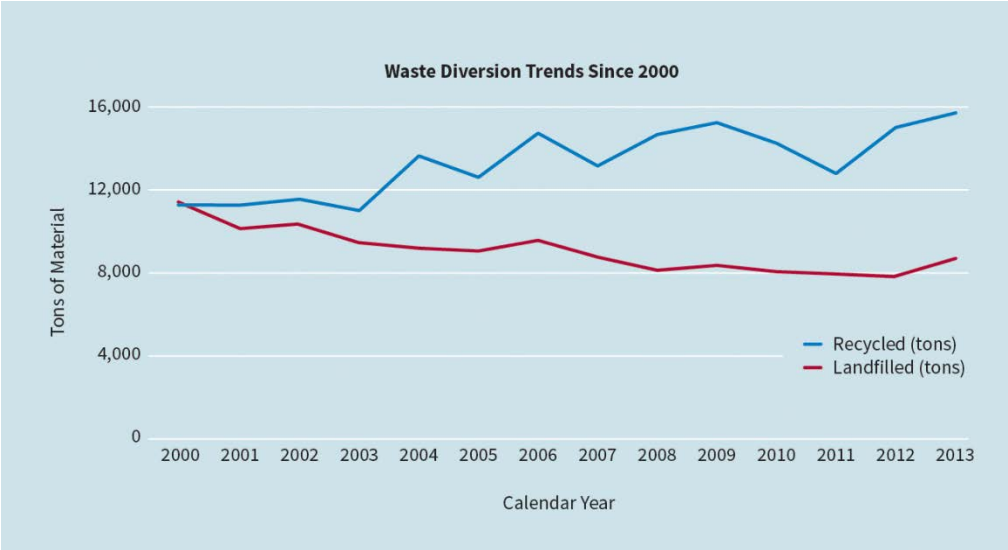
Results

Efforts to reduce waste have significantly reduced the total amount of material Stanford sends to landfill: 8,739 tons in 2014 compared to 14,000 tons in 1998. This year:

- Stanford achieved a recycling rate of 64% in 2013, up from 30% in 1994.
- The recycling rate for construction and demolition waste generated by campus projects (which is taken to a specialized facility) was 89%.
- Stanford scored in the top 20 in six of the eight categories in the RecycleMania 2014 contest: Gorilla (6th), corrugated cardboard (9th), bottles and cans (11th), paper (13th), food service organics (16th), and per capita classic (20th). Stanford designed a professional video about the campus recycling and composting program for the RecycleMania Campaign and played a RecycleMania relay game during halftime at a women's basketball game to promote waste reduction, recycling, and composting.
- The deskside recycling and mini–trash can program expanded into 30 buildings after successful completion of the pilot program. PSSI has plans to expand it into all academic buildings.
- Education efforts on composting were refocused based on data analysis from the compostable collection route to determine which student housing locations composted the most and which composted the least. New educational posters were created showing how to distinguish between what is compostable serviceware and what is not, how important it is to compost

uneatable food so it can go back to growing new food (fork to farm), how recycling saves water, and how to order event recycling and compost bins.

- Composting collection sites were doubled on campus, in collaboration with Residential & Dining Enterprises (R&DE) Student Housing. All student residences with kitchens now have access to collection sites, an increase of 80% over the past year. The overall addition of 80 campus collection sites allowed PSSI/Stanford Recycling to collect 88 more tons of food waste this academic year than last.
- Over 70 individuals are participating in the Voluntary Compost Program, which enables buildings and departments to collect food and other compostable materials from break rooms and kitchens and take them to nearby compostable collection bins.
- Students, with support from RD&E and PSSI, held a Food Waste Awareness Week.
- Stanford's R&DE Student Housing completed pilot projects to collect more compostable materials in undergraduate dorms and bathrooms.
- PSSI conducted regular waste audits of campus buildings and determined that more than 50% of the remaining landfilled waste is either recyclable or compostable. Food waste makes up the largest percentage of material sent to landfill and remains the primary target for program development.
- SLAC National Accelerator Laboratory expanded its food waste and paper towel composting program to additional office buildings as well as its premier experimental facility, the Linac Coherent Light Source (LCLS). Over one-third of SLAC's 1,400 staff and LCLS's visiting research scientists are now participating in the program.



Academic Integration

PSSI regularly partners with faculty and student groups to conduct waste audits across campus. These events enable the campus community to experience Stanford's waste story in a hands-on setting while providing valuable data to PSSI about the content of campus landfill bins. In addition, PSSI continues to provide tours of the university's recycling facility to classes and other groups on campus. In keeping with a tradition of engaging students with ideas for improving Stanford's waste program, PSSI worked this year to advise students on a variety of initiatives. Student projects on waste-related issues ranged from designing infographics to studying the connection between psychology and recycling bin design. PSSI

also organized a field trip for students to visit the Newby Island Compost Facility, where Stanford sends its compostable materials.

Looking Ahead

The state of California (through AB 341) has set a policy goal of a 75% recycling rate by 2020. Stanford's Department of Buildings and Grounds Maintenance (BGM) has completed a comprehensive review of all current recycling and diversion programs and identified several new waste management initiatives and technologies that will further increase the university's recycling rate. The primary focus will be on capturing more organics and paper.

BGM is evaluating several new technologies related to capturing and processing food waste, and prototype or demonstration projects are likely. PSSI will continue to focus on increasing the availability of composting services on campus by expanding compost collection in offices, cafés, and student housing, as well as at Stanford Stadium and other event venues.

PSSI will continue to work with the Department of Athletics, R&DE, and the Office of Sustainability to promote and improve recycling and composting at the stadiums and increase green cleaning practices. These projects will be part of efforts related to Stanford's membership in the Green Sports Alliance.

Expansion of the deskside recycling and mini–trash can system to more campus buildings will continue to make paper recycling more convenient. Capturing clean, source-separated paper represents a major opportunity for the university.

Ongoing waste audits will provide relevant information, including building-level waste data, to guide expanded program implementation and a building rating system that the Office of Sustainability is developing for 2015.

Enriched Sustainable Food and Living Programs

Background

Residential & Dining Enterprises (R&DE), which comprises R&DE Student Housing, R&DE Stanford Dining, R&DE Stanford Hospitality & Auxiliaries, Stanford Conferences, and Central Support Services, is one of Stanford's largest auxiliary departments. R&DE has strategically aligned itself with the academic mission
of the university by providing the highest-quality services to students and
other members of the university community in a sustainable and fiscally responsible manner.

R&DE provides housing and food for over 12,000 students and family dependents, and hosts over 20,000 summer conference visitors each year, in nearly 350 buildings that make up one-third of the campus. R&DE is also the largest provider of food service on campus, serving more than 4 million meals annually. R&DE's efforts directly impact student learning, the overall campus culture, and the lives of Stanford's students after graduation.

Sustainability Programs

An ongoing commitment to two full-time professionals on staff again in 2014 honors R&DE's core value that sustainability is a way of life. R&DE Student Housing's Sustainable Living Program and R&DE Stanford Dining's Sustainable Food Program are two hallmark sustainability initiatives among many across R&DE. Both programs seek to create positive impacts by collaborating with strategic partners such as students, staff, faculty, other campus stakeholders, vendors, and suppliers; reporting on sustainability indicators; providing education and outreach for staff and students by hosting lectures and instructional sustainability events; and auditing operational practices and standards for conservation across R&DE.

The Sustainable Living Program is committed to influencing generations of students to lead sustainable lifestyles. The program creates awareness on matters from how students can set up their rooms using environmentally preferred purchasing to the impact of plug loads from their room devices. Students have an awareness of how they can interact with their residence's building design and heating and cooling systems to be sustainable. The program fosters behavioral change through residence workshops, competitions, and campaigns that incentivize individual action. All residences are equipped with energy- and water-saving features and offer access to recycling and composting for students and staff, thus making a sustainable lifestyle convenient. The Sustainable Living Program also advises on green building practices for new buildings and renovations and provides guidance on sustainable purchasing throughout R&DE Student Housing.

The Sustainable Food Program is committed to meaningfully participating in the education of the world's future leaders by sharing knowledge and creating awareness of food culture, food systems, and food production. R&DE Stanford Dining's purchasing guidelines favor food that is grown using environmentally sound practices that encourage biodiversity and utilize earth-friendly systems. The organization also favors food that comes from farms that respect the land and are committed to ensuring future generations' food supply. By that R&DE means sourcing product that is local, organic, humanely raised, fair trade, and from family-owned farms and sustainable fisheries. Hands-on experience is also offered for students throughout the year in cooking classes and at organic gardens at all of the major dining halls. The program is aligned with wellness through the EatWell program. R&DE continues to demonstrate that the freshest, seasonal, sustainably grown, "farm to table" ingredients not only are more nutritious, but also taste better.

Results

Key programs for R&DE Student Housing in the 2013-14 academic year included the following:

- Sustainability internships offered throughout R&DE connected students interested in creating more sustainable residences and food programs with the mentorship and support needed for success. The program ran the full academic year, with eight students working on a variety of different projects, including reducing waste during student move-out, expanding composting in undergraduate housing, reducing energy usage for heating, and creating a video complement to the Stanford Sustainable Living Guide that all students receive upon moving to Stanford.
- Rebranded in 2013, the Give & Go program seeks to reduce waste sent to landfill as students move out at the end of the academic year, and to motivate students to "give" to their local community conveniently as they "go" on to their next adventure. The 2014 program increased outreach materials and visibility, broadened availability to multiple locations at all residences, increased recycling and donation opportunities for bulky and difficult-to-handle materials,

added incentives to better track student participation, and achieved an even higher reduction in materials sent to landfill.

- Compost collection was expanded to all students living in graduate housing and all kitchens throughout undergraduate housing. This emphasis on access to compost bins increased students' ability to compost 80% while saving R&DE Student Housing nearly 10% in annualized costs for waste management.
- A rainwater catchment system made possible by funds received from the Office of Sustainability's Green Fund was installed by R&DE at the Synergy residence. The 1,500-gallon system will enable residents to maintain fruit trees and landscaping by using captured rainwater.
- Sustainability interns in R&DE Student Housing conducted a study to explore thermal comfort and energy efficiency problems in the residences at Stern Hall. Over three weeks the students collected data on the frequency and timing of windows being opened and compared them with recorded temperature and CO_2 levels using data loggers. Additionally, they conducted surveys and several in-depth interviews with residents. After collecting the data, the students partnered with a consulting firm to perform a more in-depth analysis of the mechanical system. The project resulted in documented demand for improved thermal comfort, individual room control, and improved ventilation. As a result, control valves have been installed on a pilot basis to provide more control over heating in individual rooms. Their efficacy is being determined before more widespread use throughout Stern Hall and elsewhere on campus.
- R&DE Stanford Dining and R&DE Stanford Hospitality & Auxiliaries focus on buying local, organic, and fair food. Food is sourced from many local farms, bakers, ranchers, and others, and over 40% of food purchases are locally grown, raised, or processed. R&DE Stanford Dining's commitments include organic apples (apples are number one on the "Dirty Dozen" pesticide list); organic, local spring mix from Earthbound Farms; organic, local tofu; organic, cage-free eggs (both liquid and whole) from Wilcox Farms; seafood designated as "good" and "best" choices by the Monterey Bay Aquarium Seafood Watch (with which R&DE Stanford Dining is a business partner), including wild Alaskan salmon direct from the Taku River Reds fishery; hamburger patties made of local, grass-fed beef from Marin Sun Farms and Bartels Farm; Fair Trade coffee from Starbucks; and pork butt from pigs raised sustainably and humanely at Niman Ranch. R&DE Stanford Dining also continues to manage the organic gardens by all the dining halls and has created a seed library that makes 10 free organic seeds available to all Stanford affiliates.

New programs in 2013-14 include the following:

- R&DE Stanford Dining is purchasing organic and local milk from Straus Family Creamery, organic and local herbs from Jacobs Farm, organic and local swiss chard from Coke Farm, sustainably caught canned tuna fish from American Tuna, and local and organic romaine from Earthbound Farms.
- R&DE Stanford Dining increased its purchase of wild Alaskan Taku River Red salmon from the Hardcastle family fishery by 10,000 pounds to 25,000 pounds in total. The Alaska Seafood Marketing Institute recognizes Stanford as the only university it knows of that buys directly from a single-family fishery in Alaska. R&DE Stanford Dining pays for the salmon during the fishing season and prior to delivery to Stanford, which supports the social and economic viability of the fishery. This process and relationship support not only the current fishing community but a healthy and sustained fishing community for future generations.
- R&DE Stanford Dining shifted its beef purchasing to Australian beef. The Australian cattle industry is committed to producing beef sustainably. This includes restoring natural

ecosystems, managing water resources, increasing biodiversity, and ensuring good animal welfare. Cattle are raised on land and vegetation that are largely unsuitable for food production. Angus Pure livestock (served in the Schwab Executive Dining program) are never treated with antibiotics or hormones. The Australian beef R&DE Stanford Dining serves is halal certified and guaranteed to adhere to Islamic laws. All of our beef is shipped from Australia by container ship.

- R&DE Stanford Dining created a drought response plan and reduced domestic water use by 12% and irrigation water use by 79% through more efficient equipment. Over 50 replacement sink aerators use 75% less water; replacement nozzles, including 25 pre-rinse spray nozzles and 10 hose nozzles, are also more efficient. The drought response plan set a goal of a 20% reduction in the dining halls and put a process in place to achieve this goal.
- R&DE's Love Food Hate Waste campaign encourages students and employees to actively participate in reducing food waste. Reduced plate sizes, appropriately sized food portions, a voluntary trayless program, and having diners scrape their own plates to witness the amount of food waste they are responsible for have significantly reduced food waste (and cultivated healthier eating habits) and have reduced water and energy usage for cleaning trays. This year, R&DE Stanford Dining added Lean Path waste-weighing trackers to all dining halls and worked with two student groups to donate leftovers to homeless shelters.
- Over the summer of 2013, Florence Moore Dining Hall was renovated to a sustainable design standard. The renovation included using Energy Star–rated and water-efficient equipment, uncovering the clerestory to use daylighting, and changing the layout to encourage healthy and sustainable dining.
- In October, R&DE Stanford Dining hosted Sustainable Seafood Week, which featured a seafood-focused menu, cooking classes, film screenings, a guest chef, and a visit from the Hardcastles, owners of Taku River Reds, which supplies R&DE Stanford Dining's Alaska wild salmon.
- The Sustainable Food Program partnered with BeWell to create five new classes focused on sustainability for staff, including classes on gardening, tea, and sustainable food labels.
- R&DE Stanford Dining hosted the second annual Earth Day Celebration and Earth Day Dinner in Arrillaga Family Dining Commons. It featured a local, seasonal, and organic menu, and many key sustainability vendors hosted tables to meet and answer questions from Stanford students. R&DE also supported Stanford's Celebrating Sustainability event in ways ranging from sustainable catering by Stanford Catering to educational tables hosted by R&DE Stanford Dining and R&DE Student Housing.
- In addition to making its regular events even more sustainable (such as by purchasing pasture-raised, local, organic turkeys for Thanksgiving), R&DE Stanford Dining expanded participation in Jamie Oliver's Food Revolution Day with a green-roof food truck. R&DE Stanford Dining hosted a vegetarian cooking demonstration at the Stanford Wellness Fair. Stanford Hospitality & Auxiliaries expanded Healthy Taste of Stanford to include more sustainable vendors, educational tables from food-related student groups, and a farmers' market.
- The Sustainable Food Program created a biweekly sustainable food newsletter that reaches over 1,000 students, staff, and faculty.
- R&DE Stanford Dining partnered with the Mushroom Council to provide a reduced-carbon-footprint burger patty that blended beef and mushrooms. The umami of the mushrooms also increased the flavor of the burger. In addition, the partnership offered a vegan mushroom-cooking class for students.

Academic Integration

R&DE supports students and faculty interested in performing academic research throughout its facilities. This year R&DE Student Housing and R&DE Stanford Dining partnered with students and faculty from the departments of Sociology, Civil & Environmental Engineering, and Psychology, as well as the Woods Institute, the Stanford Persuasive Tech Lab, the School of Education, and the Stanford d.school, to research and create behavior change campaigns around reducing energy and water consumption in on-campus residences.

A faculty member from Civil & Environmental Engineering advised the two students who created and implemented the Stern Hall heating study described above. With a faculty adviser from the Woods Institute, a graduate student in the School of Education developed and implemented an intervention to test the effectiveness of different messaging methods in reducing soap use and encouraging the washing of full loads to save water in laundry rooms in Escondido Village. In partnership with R&DE Stanford Dining, a psychology PhD student studied behavioral change messages and reducing meat consumption. Other R&DE Stanford Dining partnerships involved multiple classes and students working on food waste best practices. Still more partnerships are being explored with students and faculty across campus on the potential impacts of normative messaging, social networks, and tools such as shower timers on energy and water conservation behaviors in residences.

R&DE works with many schools and academic disciplines to benefit from the extensive resources of Stanford's renowned faculty. In partnership with Residential Education, R&DE supports student community building in the living and learning environment of the residential community–based dining halls. Further, faculty regularly collaborate with R&DE to provide educational opportunities to students. R&DE's program includes sponsoring a faculty speaker series, partnering with faculty to teach in various classes throughout the university, and promoting food as a multidisciplinary educational experience. R&DE engages students in food issues such as those related to health, the environment, social equity, and the global economy. Examples of these offerings include the Food Summit (an interdisciplinary food conference involving all seven schools at Stanford) and the Farm to Fork lecture/workshop series.

In addition, R&DE hires a group of student gardeners each year to manage seven organic gardens across campus. These gardens, strategically located adjacent to campus dining halls, are designed to provide an experiential model of the food system for students to observe at every meal.

R&DE also supports student groups, students working on class projects, and student interns implementing projects within residences and dining halls. For example, R&DE provides the student-run Green Living Council with funding, staff mentors, and access to utility data, among other resources, to help them educate their peers about sustainable living and to implement sustainable practices in their residences.

Looking Ahead

R&DE's sustainability programs continue to strive toward many enhancements:

- The purchase of antibiotic-free chicken (all chicken but halal chicken breast) and local and organic vegetables direct from the educational farm Pie Ranch for all dining halls
- Increased sustainability outreach and education in the dining halls and cafés
- Green Restaurant Association certification for Florence Moore Dining Hall and U.S. Healthful Foods Council Responsible Epicurean and Agricultural Leadership (REAL) certification for all dining halls
- The development of an animal protein reduction strategy

- Green building and green equipment standards for all dining halls
- Continued progress on plans for improving utilities management through a new platform that allows more access to and flexibility with usage data and installation of more smart meters
- Continued design of awareness events and sustainability campaigns in alignment with and support of R&DE's strategic partners
- Expanded opportunities for students to design, implement, and manage Sustainable Food Program and Sustainable Living Program initiatives
- Establishment of an ongoing initiative with faculty, researchers, and student groups to implement creative design solutions that promote and encourage healthy and sustainable behaviors in the dining halls and residences

Office of Sustainability Programs & Services

Background

Formed in 2008, Stanford's OOS works in six key programmatic areas: evaluations and reporting, outreach campaigns, training and education, communications and events, infrastructural planning support,and collaborative governance. In its first few years, the office focused on institutionalizing sustainability through conservation and communication programs and services. In academic year 2013-14, it focused on expanding program adoption and creating new assessment programs to strengthen the foundation for a pervasive culture of sustainability. This article provides an overview of the office's key programmatic areas, as well as program results from 2013-14.

In addition to promoting a campus culture of sustainability through outreach and behavior programs, the office works directly with operational and academic leadership to incorporate sustainability thinking into planning for the university. In a unique position to articulate sustainability initiatives across all campus stakeholder groups, OOS places priority on communicating Stanford's sustainability efforts not only across campus, but also to external groups, peer institutions, and rating entities.

Highlights

This section highlights programmatic developments and achievements from this academic year, provides a glimpse of initiatives that lie ahead, and outlines how the collaborative governance that is the engine for all OOS programmatic areas works. Through strategic partnerships among administrative departments, faculty, and students, sustainability is embedded as a core value and value-add supporting Stanford's mission of education, research, and outreach.

Evaluations and Reporting

OOS diligently tracks key performance indicators related to campus resource use and trends. This evaluation work is critical to assessing Stanford's success in advancing the sustainability of both its physical campus and its programmatic and academic offerings. The following overview provides background and results for the key elements of the OOS evaluations and assessment program.

Third-party evaluations: OOS regularly participates in various annual third-party sustainability evaluations. Its 2013-14 results in this area include the following:

- In early 2014 OOS collated and submitted data for the Association for the Advancement of Sustainability in Higher Education (AASHE)'s Sustainability Tracking, Assessment & Rating System (STARS) evaluation, version 2.0. This year Stanford achieved the Gold rating for overall sustainability performance. The Gold remains the highest rating awarded to date. Among all reporting institutions, as of the date it submitted its report, Stanford had the highest raw score under the new rating system.
- The Princeton Review's "Guide to Green Colleges" featured Stanford on its honor roll in 2014. The university earned 99 out of 99 points on the annual national survey for the second consecutive year.
- *Sierra* magazine's annual "Cool Schools" edition ranked Stanford in the top 10 for the fifth consecutive year.

Building performance: OOS has worked closely with buildings and facilities staff to determine the best path towards building sustainability and how to engage the campus community in improving building performance.

- To better understand plug load energy consumption in buildings, OOS planned and executed a Plug Load Equipment Inventory collecting data on standard types of electricity-consuming equipment campus-wide. The data will be used to quantify plug load energy consumption on campus and determine the most compelling conservation opportunities in the coming years.
- In 2013-14, OOS continued to refine its campus-wide existing-building rating system, which is set to launch in 2015. The system uses the Leadership in Engineering and Environmental Design (LEED) for Existing Buildings: Operations and Maintenance (EBOM) rating system as a foundation, complemented by collaboratively developed Stanford-specific criteria that enable a more complete story of building performance on campus. A pilot of the new rating system in 2012 highlighted opportunities to further refine it through streamlined data collection and automation and underscored the opportunity for action. Development of the system was enabled by the collaborative LEED-EBOM equivalency analysis, which confirmed that all buildings on Stanford's campus are LEED-EBOM-certified equivalent.

Building dashboards via systems integration project: The Department of Sustainability and Energy Management (SEM) has initiated a systems integration project that will address immediate and long-term information system needs. The Utilities, Metering, Billing, Reporting & Sustainability (UMBRS) project is expected to come online in late 2014. UMBRS will directly support the creation of school-level sustainability report cards via sustainability metrics, as well as populate intuitive and user-friendly dashboards. Over 100 buildings across campus will have their own sustainability dashboards available through the new Sustainable Stanford portal.

Outreach Campaigns

Individual awareness and actions conserve resources, lower utility bills, and contribute to a campus experience consistent with the university's overall commitment to sustainability. To increase institutional awareness and achieve results, OOS annually launches campus-wide Cardinal Green conservation campaigns on specific programs led by the office or its partners. Each campaign has a specific program goal, relevant messaging, and meaningful incentives to drive conservation and efficiency. The following overview provides background and results for each of the campaigns.

- The 2013 Cardinal Green Buildings campaign combined Turn Off for Break/Winter Closure and the Building Level Sustainability Program (BLSP). The campaign was a success, with 33 buildings volunteering to participate in BLSP and 177 in Winter Closure. A new online tool was created to streamline the process and record response and feedback from hundreds of building managers across campus. The resulting savings totaled nearly $250,000 in energy costs, which represents 1.6 million kilowatt-hours of electricity or 838 metric tons of CO_2 emissions avoided.
- We Recycle, Stanford Wins includes the annual RecycleMania contest and the programs supported by the Stanford Recycling Center. Through a series of online pledges, trainings, and communications, Stanford has been able to increase awareness of waste reduction best practices and ultimately reduce the amount of waste sent to landfill. In 2013-14, Stanford competed against over 250 other universities in the national RecycleMania competition and scored in the top 20 in six of the eight categories: Gorilla (6th), corrugated cardboard (9th), bottles and cans (11th), paper (13th), food service organics (16th), and per capita classic (20th).
- The Water Wise campaign sought to increase awareness of Stanford's Drought Response Plan through a series of events and digital and media campaigns, with an end goal of students and staff taking some conservation action. Over 650 faculty, staff, and students pledged to conserve water, and 350 shower timers were given away in eight weeks. Student leadership group Green Living Council supported a companion campaign, Energy and Water Wars. From February 15 to March 7, 2014, over 700 residents in Florence Moore, Wilbur, and Stern Halls competed to reduce Stanford's collective water and energy footprint as part of Campus Conservation Nationals. The competitions were facilitated by online dashboards providing real-time energy and water use monitoring. In just three weeks, participating dorms reduced electricity consumption by over 4,500 kilowatt-hours and water consumption by nearly 12,000 gallons.
- Residential & Dining Enterprises (R&DE) supported the Give & Go Move-Out program, which seeks to divert students' unwanted reusable items from landfill by making it convenient for them to donate those items to those in need in the local community. The campaign was a partnership between R&DE and Goodwill of Silicon Valley. Some 400 students pledged online to participate, and the outreach efforts resulted in diversion of 115,110 pounds of materials, including clothing, food, appliances, furniture, and books.

As the Cardinal Green campaign series continues to evolve, OOS will incorporate findings from the latest research and best practices in promoting behavior change, drawing on current academic, operational, and student work across campus.

Training and Education

Creating a culture of sustainability on campus requires equipping the community with the tools and information necessary to empower individual change. OOS interacts with faculty, staff, and students to design and implement training and engagement opportunities so that hands-on experience in sustainability is integrated into not only the students' overall learning experience at Stanford, but also professional opportunities for campus staff. The following are the key elements of the sustainability training and education programs portfolio.

Student Training and Education

Student Green Fund: Having completed its sixth year, the Student Green Fund continues to foster student engagement by encouraging leadership in sustainable improvement projects on campus. The 2013-14 fund awarded $30,000 in grants for projects that studied energy waste in the dorms, installed a water bottle filling station in Old Union, piloted a residential restroom composting program, converted a residential garden irrigation system to use collected rainwater, and built awareness around climate change at the Graduate School of Business. Highlights from this year's projects are detailed in the Student Leadership and Activities article in this report and online in the 2013-14 Green Fund report. Past projects also continue to benefit campus sustainability.

Student internships: Each year, OOS has worked with sustainability partners across campus to provide internship opportunities for students. In 2013-14, the office and its partners formalized and launched the cross-departmental Sustainable Stanford Internship Program. Nearly 25 Sustainable Stanford interns worked on projects on various campus sustainability topics (waste, water, housing, food) under the supervision and direction of campus sustainability staff. Internship position descriptions and final presentations are available on the program's website.

Staff Training and Education

Sustainable Stanford training series: Delivering formal training to the Stanford community was one of the key actions identified through the Sustainability 3.0 strategic planning process in 2011. Focused on sustainable behavior and choices, the Sustainable Stanford training series provides a portfolio of training opportunities each year. In 2013-14, OOS partnered with Stanford's BeWell program to increase training incentives and reach a broader audience base.

- *Sustainable Office Spaces* (SST 1000) was offered in October 2013 and reviewed the BLSP and other actions that support the Cardinal Green Buildings campaign. Attendees were trained in using energy auditing tools and gained experience quantifying office energy use and identifying areas for conservation.
- *Waste Management Reduction* (SST 2000) was the second installment of the new training series. Launched in winter 2014, this course provided a hands-on exploration of waste reduction and management processes and measures at Stanford.

Communications and Events

A campus culture of sustainability cannot be created without widespread awareness of Stanford's sustainability plans, programs, and achievements. OOS works to promote existing sustainability programs and to publicize campus-wide sustainability actions through a variety of communication and publication channels. The following are the key elements of the outreach programs portfolio.

Publications

- **Sustainability at Stanford Annual Report:** Since 2008, OOS has published this annual document highlighting sustainability achievements from the past year. A campus-wide effort incorporating sustainability milestones and achievements from operational, academic, and student partners, the report continues to be the office's flagship publication and an invaluable resource to the sustainability community at Stanford.

- **Sustainable Stanford website and new portal:** The Sustainable Stanford website provides a single source of information on sustainability work across campus. The website includes extensive information on campus metrics, trends, and initiatives, as well as details on how individuals can get involved. A new portal with the content from the current website plus a new engagement platform for the campaigns is expected to launch during Reunion Homecoming in October. OOS finalized the plans, selected the vendor, and completed design and discovery for the portal in 2013-14.
- **Cardinal Green Newsletter:** As part of its new outreach efforts, OOS maintains an electronic newsletter. Now sent as an HTML email on a monthly basis, the Cardinal Green eNewsletter aims to make broadly available a digestible, current update on all things sustainability.
- Campus Events
- **Celebrating Sustainability annual event:** On Earth Day, OOS hosted Celebrating Sustainability, jointly sponsored by academic and operational entities. This year's event was an interactive festival designed to educate the campus community about Stanford's sustainability achievements through fun, engaging activities and displays. More than 35 campus departments, groups, and entities, over 60 presenters, and more than 20 volunteers hosted 1,200+ attendees at the Science and Engineering Quad.
- **Keys to Sustainability student reception:** This annual reception served as an opportunity to educate students about the variety of sustainability offerings in research, academics, and extracurricular activities, and to inspire them to explore environmental sustainability issues. Hundreds of students attended.

OOS also regularly engages in on- and off-campus community outreach programs and events. Staff participate in approximately 50 outreach opportunities every year, including conferences, presentations, tours, tabling, and other activities. All campus communications and publications on sustainability are heavily influenced by and consciously integrated with those of OOS's academic partners in the School of Earth Sciences, the Stanford Woods Institute for the Environment, the Precourt Institute for Energy, the Haas Center for Public Service, and their affiliates.

Infrastructural Planning Support

As the programmatic arm of operational sustainability efforts at Stanford, OOS works with SEM and various other units across campus operations and academic groups to help develop long-term plans to improve campus operations and infrastructure. The following are the key elements of these activities and their results in 2013-14.

Greenhouse gas (GHG) emissions inventory: Completing an emissions inventory is the first step in developing an effective energy and climate plan. Stanford GHG emissions totaled approximately 181,700 metric tons of CO_2 in 2013. Stanford has prepared and filed independently verified emissions inventories for its Scope I and II emissions since 2006. Emissions have remained relatively flat for a number of years but will significantly decrease in coming years as a result of the Stanford Energy System Innovations (SESI) program.

SESI outreach support: In 2013-14 OOS provided consistent support for departmental outreach and presentations on the SESI program across campus. The program is now in full implementation mode, and the office is working alongside SEM and the Department of Project

Management to keep the campus and surrounding community informed. In 2013-14, the office authored, updated, and maintained informational materials and the SESI website and provided tours of and information and a live-feed webcam on the Central Energy Facility construction site.

Collaborative Governance

In 2011-12, a group of faculty, staff, and student leaders initiated Sustainability 3.0. This process sought to map out a shared and actionable vision for sustainability at Stanford over the next five to 10 years, a strategic blueprint building on the Initiative on the Environment and Sustainability (2003-11) and the formalization of Sustainable Stanford (2007-present). Major goals stemming from this effort include leading sustainability by example through on- and off-campus actions and maintaining a global influence through sustainability in research, education, and operations. With these goals in mind, the following three components of collaborative governance actively support the continuation and refinement of sustainability programs. OOS staffs their coordination activity and content creation, and is a steady leader and partner to the groups, whose guidance in turn benefits OOS programs.

Provost's Committee on Sustainability (Since 2012)

The Provost's Committee on Sustainability continues to implement Sustainability 3.0. This committee was launched in spring 2012 with the intention of bringing key leaders on campus together to focus on sustainability as a core value at Stanford. It meets four times a year, and its functions include the following:

- Overcoming institutional barriers: Cross-functional projects may encounter barriers in the form of processes, people, and resource constraints. The committee participates in addressing these barriers to support the goal of sustainability.
- Giving advice: The committee provides guidance to the Sustainability Working Group (SWG) and other action groups on how to proceed on strategic programs.
- Enabling action: The committee discusses and in some cases volunteers follow-up actions, and is responsible for reporting progress to the campus administration.
- Balancing leadership: The committee brings academic and operations leadership together on sustainability in classrooms, elsewhere on campus, and off campus (at home and in the community), and encourages and promotes collaborations among sustainability programs across schools, institutes, OOS, and students.

The committee's 2013-14 highlights include the following:

- **Outline of a sustainability curriculum:** After consulting with faculty, staff, students, and leaders of corporate and nongovernmental organizations, the committee developed an outline of a sustainability curriculum that could be helpful at the undergraduate, coterm master's, joint and stand-alone master's, and executive education levels. It will prototype the curriculum in the coming year.
- **The Celebrating Sustainability festival** was held on April 22, with 45 departments coming together to showcase their sustainability services and engagement opportunities. The committee guided the theme, and the event attracted 1,200 staff, student and faculty participants across campus.

- **Sustainability portal:** The committee reviewed and approved a new sustainability engagement portal—a hybrid of informational website (Sustainable Stanford) and sign-on-based activity platform (Cardinal Green). Produced by OOS, the portal is expected to go live in Fall 2014.
- **Annual sustainability assessment:** The committee reviewed the 2014 sustainability assessment submitted to AASHE in July. Stanford received a Gold rating, scoring 6 percentage points higher than it did on its last submission, despite a more rigorous scoring system.
- **Green Events (pilot) program:** The committee discussed and explored the need for a campus sustainable events program. OOS developed a webpage that contains the Green Event Guide from 2010 as well as easy-to-use green event planning checklists. In 2014-15, the committee will solicit volunteers among the schools for a pilot, starting with some events during Reunion Homecoming.
- **Additional rollout of deskside recycling and composting:** The committee reviewed and supported the rollout of deskside recycling for every campus office and classroom. The program encourages occupants to minimize the number of items they put in the trash and to maximize the number they recycle. The committee also reviewed and supported expansion of the currently voluntary composting program to all break rooms on campus.
- **Annual Academic Council address:** Members of the committee participated in a panel discussion and presentation at President Hennessy's annual Academic Council address.

Sustainability Working Group (Since 2006)

The SWG prepares policy and program recommendations to advance and implement sustainability practices on campus. It works to implement programs identified by the Provost's Committee on Sustainability. Chaired by the director of OOS and comprising representatives from all parts of the university, including faculty, staff, and students, the SWG meets monthly. Its mission is to:

- Continuously improve Stanford's leadership in demonstrating environmental sustainability in campus operations;
- Incorporate faculty, staff, and student expertise in the evolving field of sustainability to enhance program development; and
- Advance opportunities for hands-on sustainability-related learning and service in the campus community.

In 2013-14, the SWG met eight times in a workshop format, showcasing problems the university is trying to solve in specific program areas and actively listening for solutions and feedback. The workshops addressed the following topics:

- October 2013: Climate change adaptation—an early scoping study for Stanford
- November 2013: Stanford's new sustainability building rating system and plug load inventory
- December 2013: Design finalization of the Cardinal Green program
- January 2014: Sustainable Stanford portal design and discovery
- February 2014: Water conservation at Stanford/Water Wise conservation campaign design
- March 2014: Sustainable Stanford Internship Program, Celebrating Sustainability, greening events at Stanford

- May 2014: Road to 75% waste diversion/recycling rate
- June 2014: R&DE food and living programs

All agenda topics are available online.

Sustainability Working Teams (Since 2008)

The Sustainability Working Teams assembled in 2008 to develop program recommendations, assess progress, and help implement policy recommendations in major operational areas related to sustainability. Each team activates when a specific initiative is under way and may be dormant once a project is being or has been implemented. In 2013-14, working teams were active in water, food and dining, zero-waste, and building programs.

Looking Ahead

OOS has evolved significantly since it was founded in 2008. Moving forward, the office will continue its current programs and support new and additional programs. In the coming academic year, OOS will analyze the data collected during the campus-wide Plug Load Equipment Inventory to draw conclusions regarding potential conservation efforts. The results will not only lead to immediate action to reduce plug loads, but also aid in long-term energy planning.

In fall 2014, the office expects to launch the new sustainability portal. Envisioned as a hub of engagement in sustainability initiatives at Stanford, the portal will incorporate various tools and resources to provide an engaging and inspiring platform for sustainability action on campus.

Building on the successful pilot rating of campus office/classroom buildings in 2012-13, OOS will work to further refine the internal building rating system, tailor the balanced scorecard for all building types, and roll out the system through additional pilots. OOS will then proactively deliver schools and departments an internal writing on a wide variety of sustainability topics, from energy use to behavior-based program participation. Grades can be improved not just through participation in efficiency programs, but also through better occupant engagement and conservation. The first version of the report card is expected to go live in 2015.

Working together with academic entities, the office looks forward to providing additional opportunities for practical training and education to the Stanford community. Plans for 2014-15 include expanding Sustainable Stanford training modules for staff and providing a second year of actionable, results-driven internship opportunities for students through the Sustainable Stanford Internship Program.

Recognition and Awards, 2013-14

Stanford's achievements in sustainability-focused operations and academic research have been recognized by regional, national, and international organizations. The wide spectrum of Stanford's awards and commendations highlights the multifaceted nature of sustainability. Presented below is a selection of the most significant formal recognitions of campus sustainability initiatives in 2013-14.

Third-Party Evaluations of Sustainable Stanford

2015 Green Honor Roll, Princeton Review. Stanford was named as one of the most environmentally friendly schools in the nation for the second consecutive year, earning 99 points (the maximum possible) in the survey of 861 schools.

Top 10 ranking, "Cool Schools," ***Sierra*** magazine, for the fifth consecutive year

Gold rating, Association for the Advancement of Sustainability in Higher Education (AASHE). Stanford earned a Gold rating under AASHE's latest version (2.0) of its Sustainability Tracking, Assessment & Rating System (STARS). Stanford's score of 74.6% became the highest earned by any institution within the new framework, as of the date of its submission. A total of 314 colleges and universities report into various versions of STARS.

Operations

Silver Award of Distinction, Annual Reports (Educational Institutions), 20th Annual Communicator Awards, for the collaborative annual sustainability report, *Sustainability at Stanford: A Year in Review*.

Gold Award, Best Workplaces for Commuters, for Transportation Demand Management program. Stanford was one of 23 employers and 12 universities nationwide recognized in the Best Workplaces Race to Excellence.

Platinum-Level Bicycle-Friendly University, League of American Bicyclists. This is the organization's highest designation.

LEED for Existing Buildings: Operations & Maintenance Platinum certification, for Jerry Yang and Akiko Yamazaki Environment and Energy Building (Y2E2). The first large-scale high-performance building at Stanford, Y2E2 received the highest rating awarded by the U.S. Green Building Council.

Effective and Innovative Practices Award, APPA, for the Stanford Energy System Innovations (SESI) program. APPA, the largest international association of educational institutions and their facilities and physical plant departments, recognized SESI for the innovative design of the new heat recovery system and Central Energy Facility.

Finalist, Green Enterprise IT Awards, Uptime Institute, for a case study of server consolidation at Clark Center, one of the top five energy-consuming buildings on campus. The Clark Center IT group relocated servers from Clark, where research space is at a premium, to a new centralized data center, where servers can operate at much higher efficiencies.

Top 20 rating, RecycleMania, in six of the eight categories: Gorilla (6th), corrugated cardboard (9th), bottles and cans (11th), paper (13th), food service organics (16th), and per capita classic (20th).

Research & Academic

"Leading Global Thinkers of 2013," *Foreign Policy*, David Lobell, for his breakthrough work in the emerging field of crop informatics to help farmers increase crop production, while mitigating long-term environmental damage

"Leading Global Thinkers of 2013," *Foreign Policy*, Xiaolin Zheng, for an innovative and groundbreaking engineering feat: development of the "solar sticker," a small photovoltaic cell that could transform the global commercial landscape of solar technology. This flexible, decal-like solar panel can stick to any surface and be peeled off like a Band-Aid.

2014 Emerging Explorers, *National Geographic*, Xiaolin Zheng, for leading the research team that created the "solar sticker"

2013 MacArthur Fellowship, David Lobell, for his research on the impact of climate change on crop production and food security, with emphasis on adaptation to climate change

2014 Frontiers of Knowledge Award, climate change category, Banco Bilbao Vizcava Argentaria (BBVA) Foundation, Chris Field, for his "visionary research on the global carbon cycle" and his role in "discovering the importance of ecosystems and their effective management in the battle against climate change"

2013 Atmospheric Sciences Ascent Award, American Geophysical Union, Mark Jacobson, for his "dominating role in the development of models to identify the role of black carbon in climate change"

Cox Medal, Stanford University, Stacey Bent, for her record of excellence directing undergraduate research over a number of years and providing mentorship that exemplifies the ideals of undergraduate research. Stacey directs the TomKat Center for Sustainable Energy.

2014 Readers' Choice Award and Lectureship, Energy & Environmental Science, Thomas F. Jaramillo, for his article "New insights into the electrochemical reduction of carbon dioxide on metallic copper surfaces"

2014 Resonate Award, Thomas F. Jaramillo, for his breakthrough achievements in energy science and sustainability. His work led to the discovery of stable earth-abundant catalysts that drive chemical reactions for renewable hydrogen production from water and sustainable conversion of carbon dioxide into fuels and chemicals.

Fellowship of the Royal Society, Steven Chu

2014 Lifetime Achievement Award, American Association for Public Opinion Research, Jon Krosnick, in recognition of his outstanding contributions to public opinion research, which have produced "essential insights into questionnaire design and survey research methods". Jon studies Americans' perceptions of climate change

Professor of the Year award, Stanford Society of Women Engineers, Margot Gerritsen, in recognition of teaching excellence in computational and mathematical engineering and excellence in mentoring young women engineers

Presidential Early Career Award for Scientists and Engineers, Jennifer A. Dionne, for her pioneering contributions to the control of light-matter interactions on deeply sub-wavelength scales; innovative work on nanoscale physical, chemical, and biological phenomena; and exemplary leadership and service

Membership, **National Academy of Engineering**, Stephen P. Boyd, for his contributions in applying the methodology of convex optimization to machine learning, signal processing, circuit design, and other energy applications

2014 Joseph A. Burton Forum Award, American Physical Society, Michael May, for his significant and sustained contributions on technical and policy issues pertaining to nuclear weapons, nuclear terrorism, and energy and environmental impact, and for mentoring generations of students, colleagues, and the public on these issues

2014 Bayer Distinguished Lectureship, University of Pittsburgh, Jens Nørskov, for his influential work in molecular modeling of catalysis, leading to the design of new catalytic materials for energy conversion and storage

Fellowship, American Association for the Advancement of Science (AAAS), Kenneth Goodson, for his distinguished contributions in the thermal sciences, particularly the advancement of heat transfer research in electronic nanostructures and packaging

2014 Heat Transfer Memorial Award in Science, American Society of Mechanical Engineers, Kenneth Goodson, for his pioneering work in phonon free path measurements using silicon nanolayers and his highly cited papers on diamond, carbon nanotubes, phase change memory, and two-phase microfluidics

2014 Frontiers of Knowledge Award, ecology and conservation biology category, BBVA Foundation, Paul Ehrlich, for his contributions to "key conceptual advances in the science of ecology and conservation biology" and his "long-standing influence in other academic disciplines"

2013 Policy Design Award, Global Green USA, Mark Jacobson, for his work on envisioning a future powered by renewable energy

2013 Max Planck Research Prize, Chris Field, named co-recipient of the prestigious German award to finance research and fund cooperation with other scientists

Fifth place, Solar Decathlon, Department of Energy. Stanford's first-ever entry finished first among California-based competitors and among the top five in six of the 10 judging categories.

Fourth place, Bridgestone World Solar Challenge. Stanford was the first American team to the finish line and notched its best result in decades.

2013 MacArthur Fellowship, Kevin Boyce, for establishing links between ancient plant remains and present-day ecosystems through a pioneering and integrative approach to evolutionary plant biology

Fellowship, American Geophysical Union, Page Chamberlain, for his research and teaching in climate change

Selection as What We Know Campaign Co-Creator, AAAS, Noah Diffenbaugh. The AAAS convened 13 leading climate scientists to create a campaign aimed at communicating the three Rs of climate change—reality, risk, and response—to the public.

Reappointment as chair, U.S. Nuclear Waste Technical Review Board, Rod Ewing, who recently led a delegation of the board to China's proposed nuclear waste site

2013 Soil Science Research Award, Soil Science Society of America, Scott Fendorf, for outstanding contributions to soil science through education, national and international service, and research

Roger Revell Medal for 2014, American Geophysical Union, Chris Field, for outstanding contributions to physiological ecology, ecosystem ecology, biogeochemistry, and climate science

Recognition as Thomson Reuters Highly Cited Researchers, Chris Field, Rob Jackson, Eric Lambin, and David Lobell, who were among the top 1% of scientists whose publications were cited in the past year

Board membership, U.S. Department of Agriculture's Foundation for Food and Agriculture Research, Pam Matson. The foundation will work to increase the scientific and technological research, innovation, and partnerships critical to boosting America's agricultural economy.

Honorary degree, Arizona State University, Pam Matson, for her pioneering work in sustainable agriculture

Appointment as Undersecretary for Science, U.S. Department of Energy, Lynn Orr. Orr will be responsible for overseeing all of the energy and science research programs of the Department of Energy, including the majority of the national laboratories.

2013 Nicholas P. Fofonoff Award, American Meteorological Society, Leif Thomas, for groundbreaking work on the impact of strongly stratified oceanfronts on near-surface "mixing" forced by air-sea buoyancy and momentum exchange

2013 Louis Neel Medal, European Geosciences Union, Mark Zoback, for his outstanding and seminal contributions to rock physics and geomechanics, in particular for applying geomechanics to solve a wide range of problems of scientific, engineering, and economic importance

Best Proposal Award, Department of Energy's 2014 Better Buildings Case Competition, Stanford's Team Millennial Makers, for their work in the Welcome Home to Savings: Distributed Generation in Multifamily Housing case study

Appendix F

Stanford Alternative Means Programs

2001-2014

Appendix F
Stanford Alternative Means Programs

F.1 Annual Reporting of Select LEED Credits

SSc4.1-4, Alternative Transportation

Reference annual GUP reporting on net trips during peak commuting hours

Stanford's annual reporting on "no net new commute trips" is provided in Appendix B (Condition G.4) and in Appendix D.

Submit an updated Transportation Demand Management Program document or similar narrative that describes alternative transportation services

Stanford's annual reporting on the TDM Program is provided in Appendix B (Condition G.2).

WEc1, Water Efficient Landscaping

Report the annual percentage of surface water (non-potable) vs. groundwater (potable) water in the lakewater irrigation system

The average groundwater percentage in the lakewater system remained under 50 percent.

Lakewater Irrigation System Supply Sources					
	Surface Water		Groundwater		Total
Year	Quantity (acre-feet)	Percentage	Quantity (acre-feet)	Percentage	Quantity (acre-feet)
2010	809	70%	342	30%	1,151
2011	1,019	85%	182	15%	1,201
2012	1,032	82%	238	18%	1,270
2013	1,056	77%	311	23%	1,367
2014	72	6%	1,142	94%	1,214

The shift in 2014 towards a higher percentage of groundwater in the lakewater irrigation system is due to the drought. However, the average groundwater percentage of the total lakewater irrigation system is 36% over the last 5 years, and 33% over the last 14 years (since 2001). "Abnormal" years were considered in the calculations for the Alternative Means approach, and Stanford demonstrated that with or without abnormal years, Stanford met the credit requirements for WEc1. Other "abnormal years" included 2006, when Felt Lake was drained, and 2007, when sediment removal at Felt Lake, and groundwater pumping was higher than normal. 2014 is another example of an "abnormal year" with the drought.

EAp3, Fundamental Refrigerant Management

Report when phase-out of CFC refrigerants in the central plant is complete.

The scheduled phase-out described in EAp3 has not changed. The central energy plant will be free of prohibited CFC refrigerant by 2015.

This will also indicate when EAc4, Enhanced Refrigerant Management, may be submitted for campus-wide pre-approval.

The Central Energy Plant refrigeration calculation described in EAp4 has not changed. Each building will continue to fill out the template to show full compliance with this credit.

MRp1, Storage & Collection of Recyclables; MRc2.1-2.2, Construction Waste Management

Confirm that PSSI is still Stanford University's waste contractor, and that PSSI's waste diversion programs are ongoing.

PSSI is Stanford University's waste contractor for all construction projects on campus, and their waste diversion programs are ongoing. Stanford's current construction and demolition waste diversion rate is 89.36%, meeting both the minimum 50% diversion rate and the 75% diversion rate to maintain two credits under MRc2 for the campus as a whole.

Reference reporting already sent to the County under the Solid Waste Management Act of CA (AB 939).

Stanford submitted the County of Santa Clara Countywide AB 939 Quarterly Summary to the Santa Clara County Integrated Waste Management Program on or before March 2, May 30, August 30, and November 30, 2014.

IDc1.3, Green Housekeeping

Confirm that Unicco is Stanford University's cleaning service provider.

Unicco is Stanford University's cleaning service provider.

IDc1.4, Green Campus Operations Education

Provide update on any new green campus operations, education campaigns, newsletters, or other forms of green campus operations education

The description of green campus operations provided in the Green Building Ordinance materials did not change during this year.

ISc1.6, Green Dining

Provide an update on any green dining initiatives or education

The description of green dining initiatives and education provided in the Green Building Ordinance materials did not change during this year.

Appendix F
Stanford Alternative Means Programs

Water Reduction Credits

Report on 'water bank' balance using water calculation template.

The reporting period for this credit is July 1 to June 30, to coincide with Stanford's annual GUP water consumption reporting period for SFPUC purchases and water conservation projects. There were no building projects that affected the water bank balance during this period.

Water Bank Balance			
Year	Projects	Change (mgd)	Cumulative Balance (mgd)
2010	Previous Projects under GUP	0.683880	0.683880
2011	Water conservation projects	0.012446	0.696326
2012	Water conservation projects	0.009141	0.705467
2013	Water conservation projects	0.017884	0.723351
2014	Water conservation projects	0.018824	0.742175

F.2 Annual Reporting of Plug-In Electric Vehicle Charging Systems

The parking baseline is the total number of parking spaces recorded within the site boundary, in Annual Report 13 (18,270 spaces), plus all projects approved from September 1, 2013 to February 14, 2014 (Acorn parking lot, 12 net new spaces; Searsville parking lot, 592 spaces), or a total of **18,874 spaces**. As of February 14, 2014, there were six parking spaces that had access to EV charging on-campus that counted towards meeting the Ordinance (see Figure F-1).

As of August 31, 2014, the total number of parking spaces on campus is **18,796**, which is below the baseline number of spaces. Therefore, Stanford is in compliance with the County of Santa Clara's Ordinance for plug-in electric vehicle charging systems.

Date	Parking spaces tally	No. of spaces above baseline	No. of EV charging spaces required by PEV Ordinance	No. of EV charging spaces on campus	In compliance with PEV Ordinance
End of FY 13 (August 31, 2013)	18,270	N/A	N/A	N/A	N/A
Baseline as of February 14, 2014	18,874	0	0	6	Yes
End of FY 14 (August 31, 2014)	18,796	(78)	0	6	Yes

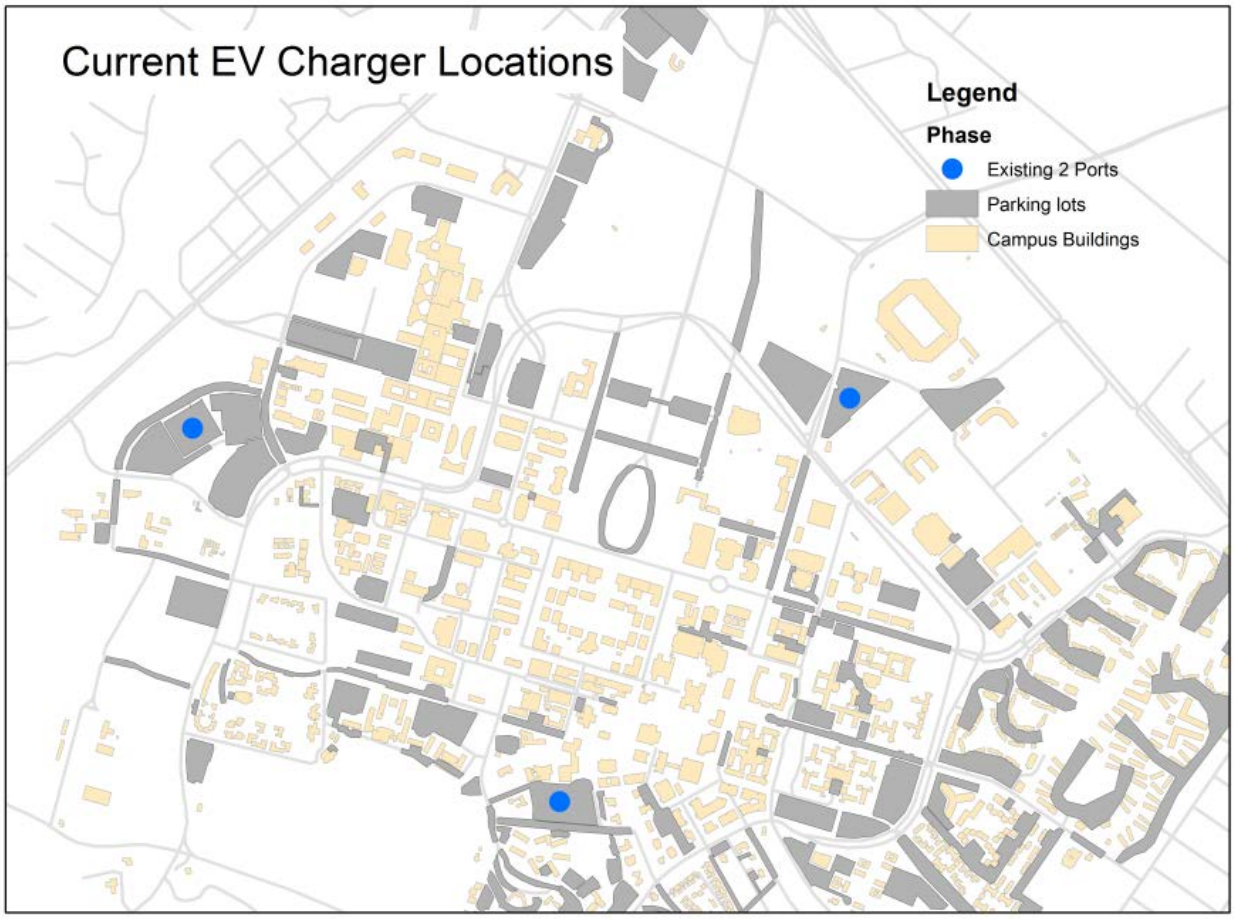


FIGURE F-1: CURRENT EV CHARGER LOCATIONS AS OF AUGUST 31, 2014