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{ a healing garden  
for the  
uc davis student health & wellness center }

# the power of the landscape



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# The Power of the Landscape: A Healing Garden for the UC Davis Student Health and Wellness Center

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Cover Picture: UC Davis Arboretum

# abstract

In this rapidly growing world, newer and faster technologies are making life both easier and more stressful. However, as new developments occur, older methods, no matter how effective, tend to get left behind and forgotten. As medicine, its technologies and procedures became more advanced, the facilities that housed them changed to accommodate them as opposed to accommodating the patients that they cared for. Holistic approaches were abandoned for the sake of progress, leaving the sick behind in a cold, sterile, inhospitable environment. College student health centers were also subject to these changes. Student populations exploded, leaving little room in existing facilities for all the services needed so budgets and cuts were made where they were thought most appropriate, and often left a dull, unattractive building.

However, as studies were made, researchers revealed the disadvantages of sterile hospital environments and the advantages to the natural environment. Patients responded the best to natural environments such as trees or plants, and even recovered from surgery faster than patients that were not exposed to those environments. (Ulrich, 1984) Although the implementation of these results has been slow to take place, more health officials are beginning to understand the need for these natural environments in their facilities. In a stressful environment such as a college or university, such as UC Davis, students would likely benefit from the positive health and psychological effects of natural environments. The landscape around the UC Davis campus is thought to be very open and green, but also very boring and simple.



## abstract, cont.

To help create a more healthy environment and to help educate people about the positive effects of the natural environment on the person, this project focuses on developing a master plan for a healing garden for the new UC Davis Student Health and Wellness Center. To best understand the principles and design for healing gardens and college landscapes and health centers, literature research as well as site analysis of both were conducted. Surveys of users and potential users were also conducted to understand their needs and desires. After research was made, a landscape master plan was made for the back of the new UC Davis Student Health and Wellness Center.

A planting plan and section-elevations were also designed to help interpret the feel of the garden. After the completion of this project, the design will be turned over to the UC Davis Architects and Engineers for possible further implementation and installation of the design.





# biographical sketch

When I was earning my first degree in school, I wanted to go to medical school because I wanted to help people heal. After graduating, my life took an unexpected turn. Finding job in the medical field was tough, but working in my parents' garden helped me tremendously. It here where I truly felt the healing power of the landscape. Working in the garden gave me a sense of control, peace, and wonder. As I watched my efforts turn into to a lush and colorful garden, my spirits picked up and my confidence grew. While out in the "real world" I began to see some of the neglect and, sometimes, abuse that some areas of my hometown had suffered as the city had grown. I began to realize that I had the power to change these landscapes, and that designing landscapes as a landscape architect was what I needed to do in my life. Choosing a topic for my senior project was difficult, but it's befitting that I end my educational career in the way that it started: a healing garden.

# dedication

Thank you to all of my, family, friends, teachers, coworkers, and all who have helped support me along this difficult journey. I'm not sure if I would have made it this far without your care, patience, and understanding.

And also a huge thanks to my parents. If you never let me play in your garden, I never would have realized how much I love designing landscapes.

# acknowledgements

Thank you to Mark Francis, Skip Mezger, and Jill Tomczyk for being a part of my advisory committee. The help and advice you provided me was invaluable.

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# table of contents

I. Introduction .....	1-5
1. Introduction .....	2
2. Methodology .....	3-5
II. Research .....	6-46
1. Healing Gardens .....	7-12
2. Healing Garden Case Studies .....	13-25
3. College Landscapes .....	26-30
4. Student Health Center Case Studies .....	31-46
III. Design .....	47-72
1. Background .....	49
2. Opportunities and Constraints .....	50-53
3. Student and Staff Survey Summary .....	54-56
4. Design Characteristic Review .....	57-59
5. The Original Landscape Plans .....	60-61
6. Other User Needs .....	62-63
7. Preliminary Designs .....	64-71
8. Final Design .....	72
IV. Conclusion .....	73
V. References .....	74-77
VI. Appendix .....	78-105
1. Preliminary Design 1 .....	79
2. Preliminary Design 2 .....	80
3. Preliminary Design 3 .....	81
4. Landscape Master Plan Notes .....	82
5. Planting Schedules .....	83-85
6. Raised Vegetable Planter Detail .....	86
7. Curved Bench Seating Area Detail .....	87
8. Ceramic Water Fountain .....	88
9. Curved Bench Options .....	89
10. Swale/ Dry Creek Bed .....	90
11. UC Davis Student Survey .....	91
12. CSUS Student Survey .....	92
13. UC Davis Student Health Center Staff Survey .....	93
14. Urban Wildlife Preserve Mapping .....	94-96
15. Cowell Student Health Center Mapping .....	97-101
16. CSUS Student Health Center Mapping .....	102-105
A. Landscape Master Plan	
B. Planting Plan	
C. Section-Elevation Plan	
D. Section Elevations	

# list of illustrations

- Cover page and Title Page—English Lavender at the UC Davis Arboretum’s Ruth Storer Garden
- Figure 1.1—Comfort Garden, San Francisco General Hospital pg. 7
- Figure 1.2—Wildflowers, Urban Wildlife Preserve, UC Davis Medical Center, Sacramento, CA pg. 7
- Figure 1.3—Healing Garden at Kimball Medical Institute pg. 8
- Figure 1.4—Water Feature at Massachusetts General Rooftop Garden pg. 8
- Figure 1.5—Healing Garden at John McDonald Hospital pg. 9
- Figure 1.6—Healing Garden at Legacy Hospital pg. 10
- Figure 1.7—Patient and visitor waling in healing garden pg. 11
- Figure 1.8—Hospital employees napping in garden pg. 11
- Figure 1.9—DG path in Ruth Storer Garden at UC Davis Arboretum pg. 11
- Figure 1.10—UCSF Hospital Healing Garden pg. 12
- Figure 1.11—Ducks at UC Davis Arboretum pg. 12
- Figure 1.12—Front view of UC Davis Medical Center Urban Wildlife Preserve, Sacramento, CA pg. 13
- Figure 1.13—Bench at San Francisco General Hospital Comfort Garden pg. 13
- Figure 1.14—Boulders and native grass at Urban Wildlife Preserve pg. 14
- Figure 1.15—Northwest entry into Urban Wildlife Preserve pg. 14
- Figure 1.16—Aerial view of Urban Wildlife Preserve (Google Earth) pg. 15
- Figure 1.17—View of formal entry into Urban Wildlife Preserve pg. 15
- Figure 1.18—Main path traveling through the Preserve pg. 16
- Figure 1.19—Pruned Butterfly Bush along DG path pg. 16
- Figure 1.20—Weedy DG path traveling along the side of the Preserve pg. 16
- Figure 1.21—Walkway into formal entry of Preserve pg. 17
- Figure 1.22—View from outside group seating area pg. 17
- Figure 1.23—View from walkway of group seating area pg. 17
- Figure 1.24—Car tire treads in soil next to group seating area pg. 17
- Figure 1.25—Trash from group seating area pg. 18
- Figure 1.26—Rock on picnic table on first day of behavior mapping pg. 18
- Figure 1.27—Rock removed from picnic table on second day of behavior mapping pg. 18
- Figure 1.28—Worn path in planter’s bark mulch leading to parking lot pg. 18
- Figure 1.29—Granite piece in front of rose planter at Comfort Garden pg. 20
- Figure 1.30—Sculpture at Comfort Garden pg. 20
- Figure 1.31—Building 80 at San Francisco General Hospital pg. 21
- Figure 1.32—Aerial view of Comfort Garden pg. 21
- Figure 1.33—Jo-Anmarie Ricasata sitting on granite piece in Comfort Garden pg. 22
- Figure 1.34—Sculpture in Comfort Garden pg. 22
- Figure 1.35—View of Comfort Garden towards Potrero Avenue pg. 23
- Figure 1.36—Stairs and ADA ramp at southwest corner pg. 23
- Figure 1.37—Granite piece doubles as seat pg. 24
- Figure 1.38—Butterfly bench pg. 24
- Figure 1.39—Traditional wooden bench pg. 24
- Figure 1.40—Southern side of CSUS Student Health and Wellness Center pg. 26
- Figure 1.41—UC Davis Cowell Student Health Center, view of North Lobby pg. 26
- Figure 1.42—Cowell Student Health Center between North Lobby and Annex pg. 27
- Figure 1.43—UC Davis Memorial Union and Freeborn Hall pg. 28
- Figure 1.44—Cowell Student Health Center and Parking lot pg. 28
- Figure 1.45—Shady courtyard between Administration Wing and Women’s Health Wing at Cowell pg. 29
- Figure 1.46—Raised concrete planter in front of Cowell Student Health Center pg. 29
- Figure 1.47—Sign at CSUS Student Health and Wellness Center pg. 31
- Figure 1.48—Sign at Cowell Student Health Center pg. 31
- Figure 1.49—Entrance to Cowell Student Health Center pg. 32
- Figure 1.50—Sign for Cowell student Health Center pg. 32
- Figure 1.51—Entrance to Cowell Student Health Center pg. 33
- Figure 1.52—Aerial view of Cowell Student Health Center (Google Earth) pg. 33
- Figure 1.53—North side of Cowell pg. 34
- Figure 1.54—Back/west side of Cowell pg. 34
- Figure 1.55—South side of Cowell pg. 34

# list of illustrations, cont.

- Figure 1.56—Main entrance to Cowell pg. 35  
Figure 1.57—Staff courtyard outside of Women’s Health Clinic pg. 35  
Figure 1.58—Shady courtyard outside of Administration wing and Women’s Health Clinic pg. 35  
Figure 1.59—Graph: Do you hang out at your student health center? pg. 36  
Figure 1.60—Graph: Reasons for not hanging out at student health center pg. 36  
Figure 1.61—Graph: Cowell Staff that Use the Landscape around Cowell pg. 37  
Figure 1.62—Graph: Reasons Cowell Staff Did Not Use the Landscape pg. 37  
Figure 1.63—Graph: Popular Areas that Cowell Staff Did Use pg. 37  
Figure 1.64—Graph: Positive Attributes of Cowell pg. 38  
Figure 1.65—Graph: Negative Attributes of Cowell pg. 39  
Figure 1.66—Entrance to CSUS Student Health Center pg. 40  
Figure 1.67—Sign to CSUS Student Health Center pg. 40  
Figure 1.68—Sign to CSUS Student Health Center pg. 41  
Figure 1.69—Aerial view of CSUS Student Health Center (Google Earth) pg. 41  
Figure 1.70—Southern Side of building pg. 42  
Figure 1.71—Northern Side of building pg. 42  
Figure 1.72—Western Side of building pg. 42  
Figure 1.73—Large worn path through grass from parking lot pg. 43  
Figure 1.74—Smaller worn path through grass from parking lot pg. 43  
Figure 1.75—Seating area at entrance to CSUS Student Health Center pg. 43  
Figure 1.76—Western side of building pg. 44  
Figure 1.77—Parking lot behind building pg. 45  
Figure 2.1—Northern perspective of new UCD Student Health and Wellness Center pg. 48  
Figure 2.2—Southern perspective of new UCD Student Health and Wellness Center pg. 48  
Figure 2.3—Northern perspective of new UCD Student Health and Wellness Center pg. 49  
Figure 2.4—Opportunities and Constraints Map on aerial view of site (Google Earth) pg. 51  
Figure 2.5—Southern perspective of new UCD Student Health and Wellness Center pg. 52  
Figure 2.6—Graph: Popular Activities to Relax pg. 54  
Figure 2.7—Graph: Popular Features in Relaxing Environments pg. 55  
Figure 2.8—Graph: Characteristics of a Healing Garden pg. 56  
Figure 2.9—Colorful, dense plantings at UCDMC Urban Wildlife Preserve pg. 57  
Figure 2.10—Handrails available for patients having trouble walking pg. 57  
Figure 2.11—Effective use of textures at UCDMC Wildlife Preserve pg. 57  
Figure 2.12—Stairs and ADA ramp at Comfort Garden pg. 57  
Figure 2.13—Single straight bench at UC Davis Arboretum pg. 58  
Figure 2.14—Group of straight benches at UC Davis Arboretum’s Carolee Shields White Garden pg. 58  
Figure 2.15—Group seating area at UC Davis Arboretum’s Ruth Storer Garden pg. 58  
Figure 2.16—Curved bench at UC Davis Arboretum’s Ruth Storer Garden pg. 58  
Figure 2.17—Students relaxing on West Quad at UC Davis pg. 59  
Figure 2.18—Squirrel pg. 59  
Figure 2.19—Colorful, dense plantings at UC Davis Arboretum’s Ruth Storer Garden pg. 59  
Figure 2.20—Interactive educational sign at UC Davis Arboretum pg. 59  
Figure 2.21—Original Landscape Planting Plan (Quadriga) pg. 60  
Figure 2.22—Preliminary Design 1 (see Appendix 1 for enlargement) pg. 61  
Figure 2.23—Preliminary Design 2 (see Appendix 2 for enlargement) pg. 69  
Figure 2.24—Preliminary Design 3 (see Appendix 3 for enlargement) pg. 71

# definitions

To Heal—to shorten the amount of time a person is ill or sick; to shorten the amount of time a person spends in the hospital; to decrease the amount of drugs or pain killers administered to a patient; to decrease the amount that a patient complains to nurses, doctors, etc.

Healing Garden—a purposefully designed garden or landscape that is meant to heal patients; also known as a wellness garden.

Patient (long-term, bed-ridden, short-term)—a person receiving medical treatment/care

Staff/employee/worker/caretaker (doctor, nurse, medical assistant)—those persons working at the hospital or health center having one-on-one time taking care of patients

Visitor—those persons not visiting the hospital for medical reasons

Healing Garden Design Guidelines—the factors, items, elements, etc. that specifically make a garden a Healing Garden



## definitions, cont.

Hospital Landscape—a purposefully designed garden or landscape that surrounds a hospital building

Wellness—the feeling of comfort, relaxation, etc. to gain a sense of overall well-being

Campus/college/university landscape—the open space surrounding the buildings on a college or university

Campus/university planning and design guidelines—the factors, items, elements, etc. that helps a college or university run smoothly, and allows students, staff and visitors move through and stay within the site comfortably and easily

Student health center—the medical building and associated entities (including medical professions and services as a collective whole) that provide medical services to the students on a college or university

Student health center landscape—the open space outside of the student health center building



# introduction



# healing | education | design

This project aims to define those qualities that specifically make up a successful healing garden and campus landscape by researching past studies, including those used to help for design guidelines, and also evaluating existing healing gardens and campus landscapes, including an analysis of existing case studies that have been performed on these types of landscapes, particularly student health centers. These elements will then be applied to the new UC Davis Student Health and Wellness Center (currently under construction) whose existing landscape plan lacks those specific elements that make it a successful healing garden in the campus landscape. Even as early as the Middle Ages, it has been understood that landscapes can aid in the health and well being of people (Cooper Marcus and Barnes, 1999), whether it is physically, mentally, or even socially. In the monasteries in which the sick were kept, it was noticed by the caretakers how patients responded well to the open courtyards. Even in current times often use landscapes to sit and relax in, take a midday stroll or even a morning jog, or have social gatherings and parties. However, landscapes do more for us than just providing a place of leisure and activity. The healing power of the landscape has been well documented. Robert Ulrich's studies were among the most well-documented, scientific studies showing how landscapes affect patients in hospitals. When hospital patients are allowed to view vegetation from their hospital rooms, their healing time is shortened, the amount of drugs and pain killers given to them is lessened, and the amount of complaints that they make to their caretakers is fewer when compared to their counterparts that only had a view of a brick wall. (Ulrich, 1984) There is no doubt that landscapes have a healing power in our lives, and today there are some gardens that have become specifically designed for this purpose. They have been dubbed "Healing Gardens". These gardens can be found in many places, hospitals, children's wards, burn centers, homeless shelters, senior centers, but all designed with one purpose in mind: health and wellness.



# methodology

The project for the new UC Davis Student Health and Wellness Center was broken down into two phases. The first phase of the project focused on researching healing gardens and college campus landscapes. The UC Davis Student Health and Wellness Center is a combination of a medical facility as well as a college facility. Unlike the typical healing gardens, which are located in medical facilities that typically serve long-term care patients and inpatient care facility, the Student Health and Wellness Center is only an outpatient care facility so the time that the users spend at the site is limited. Also because the facility services a particular group of persons (college students) that have a specific need and goal, the need for the garden serves a slightly different purpose than a normal healing garden.

The research on healing gardens and college campuses involved researching existing documents including those that performed scientific studies showing their effects, design guidelines suggesting how to design those sites, and other research studies analyzing those types of sites. The literature research was performed to gain a broad understanding of the background, research, and design guidelines that already existed for those environments.

In addition to researching literature on healing gardens and college campus landscapes, existing hospital healing gardens and existing student health care centers were also studied to have a better feel, layout and understanding of those facilities. For each type of facility, two local sites were visited and analyzed using the Post-Occupancy Evaluation Method.

In the case of the college student health care facilities, the students and other users of the facilities were also given a short written survey to better understand their thoughts and feelings about the facility and how they used it. After collecting the data, the information was analyzed to understand the aspects and features of the different facilities, and also to understand the behaviors and values of the users.

The second phase of the project focused on the design of the UC Davis Student Health and Wellness Center. A program was designed for the site using the information and data gathered during the first phase of the project. At the beginning of the project, the site already had a landscape plan designed by, Quadriga, a consultant of the site's architect.

The layout of the site was used from the existing landscape plans to create three (3) preliminary designs for the new garden. One (1) of the designs used the basic hardscape layout from the original landscape plan, but new features and changes were made to make the site so that it fit within the healing garden and college campus design guidelines and site program. Two (2) of the designs used the layout of the site given by the original landscape plan but did not use the basic hardscape layout.

After the preliminary designs were created, stakeholders and project committee members came to critique the different designs. The best preliminary design was chosen from the critique sessions based on the attendees' comments, and the design was changed to best suit their wants and to fit the guidelines for healing gardens and college campus landscapes.



# research

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Top: Figure 1.1—Comfort Garden, San Francisco General Hospital  
Right: Figure 1.2—Wildflowers, Urban Wildlife Preserve, UC Davis Medical Center, Sacramento, CA

# healing gardens





# healing gardens

## what makes a healing garden?

The landscape's effects on patients have been well documented in many scientific studies. The most well-known research case performed by Roger Ulrich compared patients after gall bladder surgery when they had a view of either a brick wall or a natural setting from their hospital room. Patients with the view of the natural setting from their hospital room showed much lower stress levels, received fewer negative evaluative comments from nurses and took fewer painkillers than those patients that had a view of a brick wall.

Top Left: Figure 1.3—  
Healing Garden at Kimball  
Medical Institute  
Top: Figure 1.4—Water  
Feature at Massachusetts  
General Rooftop Garden

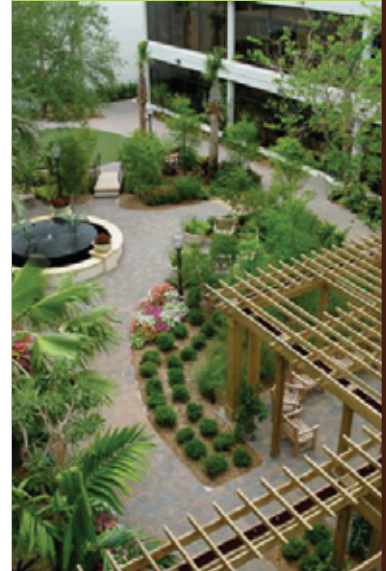


The views of natural settings, especially vegetation and water, are significantly effective in sustaining a person's interest and attention. This effect aids in blocking and reducing stressful thoughts that may cause stress and anxiety in patients. However, if any natural setting aids in the recovery of patients, what differentiates a regular landscape from one that is a healing garden?

To answer this question, the terms, "healing" and "garden" must be explained. The term "to heal" is commonly thought of as to rid of disease or illness, and often a person is thought to be healthy if there is an absence of disease or illness, however, this is a common misconception.

"Healing" has a much broader meaning of "a beneficial process that promotes over-all well-being" (Barnes, Marcus Cooper). In this sense, "health" can almost be equated to the term "wellness" which is the active process of change and growth towards a healthy and fulfilling life.

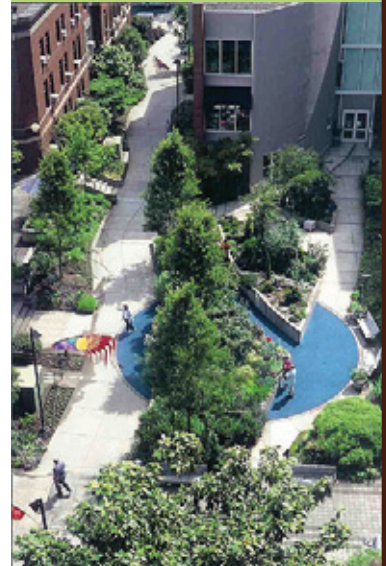
With the modernization of medical care in many western countries, the hospital layouts have changed to shift the focus of patient care onto saving steps for the caretakers instead of on the patient's experience in the hospital environment (Cooper-Marcus and Barnes, 1999). Also, due to the high costs of health care, insurance companies have encouraged shorter hospital stays for patients. These actions have led to the de-emphasis of hospital gardens, which patients were formerly allowed to view, roam around in, and enjoy. Because of the scientific findings of the effects of the landscape on patients' recovery, the designs of hospitals are slowly shifting back to allow patients exposure to environments other than the sterility of their hospital rooms. By getting out into the garden, patients have access to more exercise and if offered can get exercise through therapeutic gardening. Because exercise is helpful in reducing stress and depression, its use in patient recovery is also very beneficial.



Top: Figure 1.5—Healing Garden at John McDonald Hospital

The capabilities of patients can vary widely; they can be in a wheelchair, on crutches, or even in a gurney. Because access to the garden is an issue, it is best to make the entrances to the garden as effortless and easily accessed by patients, which includes keeping the entrances as flat as possible with minimal slopes and even surfaces. Stairs and ramps should be avoided when possible. Main pathways should also have even, flat surfaces so that they are easily traversed by patients. However, in cases where steeper slopes cannot be avoided, hand rails should be provided. Walking capacities are not the only disability that patients might have. A decrease in all of the senses is possible if the patient is stricken with an ailment or disease, or is recovering from surgery. Vision may be impaired making it difficult to distinguish the edge of the pavement or even making it difficult to distinguish certain colors. Smell and sound may also be compromised or even enhanced in patients making certain flower smells indistinguishable or making some noises intolerable. Patients can also have a heightened sensitivity to the elements such as sun, heat or cold so ways to minimize extreme weather conditions should also be used in the garden when possible.

Patients are not the only users of healing gardens. Many times these gardens are used by visitors to get away from the hospital environment while visiting their loved one, or patients and visitors may spend their time in the garden because it is a more pleasant atmosphere than the hospital room. If designed well, healing gardens can be a great promoter of socialization with family and friends. This socializing is very beneficial to the recovery of patients because the patients will often experience the feeling of support while spending time with family and friends. Seating areas accommodating groups as well as solitary seating should be provided for these occasions. Dining areas are also popular areas for visitors to go with patients during their time together at the hospital garden so these spaces should be provided as well.



Top: Figure 1.6—Healing Garden at Legacy Hospital

In getting out to the healing garden and out of the hospital room, patients feel a sense of privacy and control. If possible, patients can be allowed to go out on their own, walk through different areas of the garden on their own, and makes choices throughout the garden instead of being confined to their hospital room or bed. To provide the patient with the best opportunities for control, different choices should be offered in the garden. The different choices can be in the form of different walking paths, different seating areas, different views, or even different spaces within the garden. However, the different options in the garden must be well balanced so that users can easily navigate their way through the garden. The garden or spaces within the garden should have a feeling of enclosure to give users a sense of privacy. If possible, plants and vegetation should be used to create a visual barrier, and some areas should allow users to look out into the garden without feeling like they are being watched (the “fishbowl” effect) or that others can see them.

Staff and hospital employees are the biggest users of the healing garden facilities. With the stress and grief that comes with medical care, many staff members often need an escape from the indoor environment that they work in.

Staff should be given an area that they can temporarily claim as their own so that they can feel like they can escape from patients, visitors and their work. The gardens and the natural environment often provide not just staff, but all users, with distractions that temporarily take their mind off of stressful things in their life. When in some sort of natural environment, the space provides users with several experiences. Because the natural environment is so different from the built environments that we are used to, it give a sense that we are in a place that is different from what is typical in our daily routines. Even by being in a garden near the workplace, if views of the working staff members or the office are blocked, a temporary sense of being away from work is given to the user. By being in this atmosphere, users are also reminded of the world outside of their cubicle.

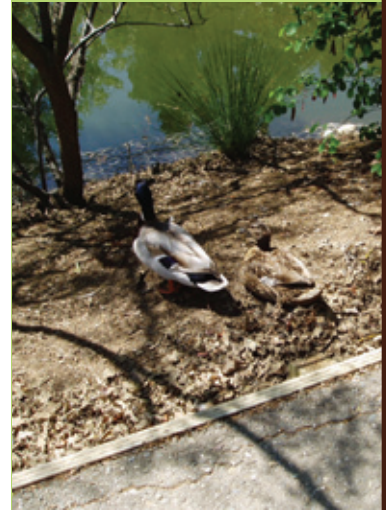
In busy, stressful times, people often get so focused that they forget that beyond the walls and computer, there lies a much larger picture that exists.



Top: Figure 1.7—Patient and visitor waling in healing garden; Middle: Figure 1.8—Hospital employees napping in garden; Bottom: Figure 1.9—DG path in Ruth Storer Garden at UC Davis Arboretum



Within the natural setting are many objects that seem to fascinate the visitor. These objects are often plants and water, and it could either be the sight of the object, the sound, the feeling or even the smell. Wildlife, specifically non-threatening wildlife such as birds, some insects, and squirrels, are especially good at capturing our interest. Seeing plant foliage blowing through the breeze, the sight and sound of running water, and colorful displays of flowers are also good sources of distraction and fascination.



Left: Figure 1.10—UCSF Hospital Healing Garden  
Top: Figure 1.11—Ducks at UC Davis Arboretum



Top: Figure 1.12—Front view of UC Davis Medical Center Urban Wildlife Preserve, Sacramento, CA  
Right: Figure 1.13—Bench at San Francisco General Hospital Comfort Garden

# healing garden case studies







uc davis medical  
center  
urban wildlife  
preserve

Top Left: Figure 1.14—  
Boulders and native grass at  
Urban Wildlife Preserve  
Top: Figure 1.15—North-  
west entry into Urban Wild-  
life Preserve

## UC Davis Medical Center, Sacramento Urban Wildlife Preserve

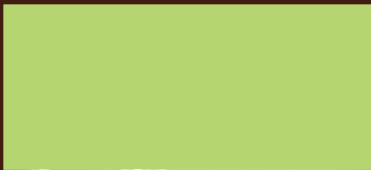
### History of the Facility

The 4 acre Urban Wildlife Preserve at the UC Davis Medical Center in Sacramento started in 1996 as a mitigation project due to the expansion of the UC Davis Medical School Campus. The award-winning design was designed by Mark Francis and the Center for Design Research to serve the staff, patients, students, and visitors of the hospital facilities as a healing garden, natural habitat and outdoor classroom.



Top: Figure 1.16—Aerial view of Urban Wildlife Preserve (Google Earth)

Top Left: Figure 1.17—View of formal entry into Urban Wildlife Preserve



Top: Figure 1.18—Main path traveling through the Preserve

Middle: Figure 1.19—Pruned Butterfly Bush along DG path

Bottom: Figure 1.20—Weedy DG path traveling along the side of the Preserve

### Description of the Site

Originally the Urban Wildlife Preserve was designed to have four distinct areas: a formal entry garden at the front, a walk that passes through a nature area, a sheltered seating area that works as a meditative garden, and an outdoor classroom located behind the Marian Anderson School. However, over time the outdoor classroom area at the school has reverted back to a typical turf area often seen on school sites, so now the Urban Wildlife Preserve consists mainly of the three areas north of the school grounds. Because the Preserve was constructed over a decade ago, it was expected that much of the site would be worn out, overgrown, and poorly maintained, but upon arrival the garden looked very fresh and new. The grounds looked very well maintained with some recently planted oak trees and pruned butterfly bushes. Plants along the nature walk looked healthy and vigorous with only a few small shrubs that needed replacing. Due to the high winds that were occurring on the day of the first site visit, there was litter that was scattered and found stuck in the grasses and shrubs, but the main asphalt pathway had no cracks or potholes and was very easily traversed. The decomposed granite trail was less maintained, possibly due to the lack of use of the path. Although the DG path running along side the main asphalt path was not worn down, many weeds were growing in the middle of the path. The section of the DG path that provided a connection between the adjacent building and the site was worn down more, but it looked to be well maintained because the edges were clean and free from weeds.





Top to bottom:

Figure 1.21—Walkway into formal entry of Preserve

Figure 1.22—View from outside group seating area

Figure 1.23—View from walkway of group seating area

Figure 1.24—Car tire treads in soil next to group seating area

The formal entry was a very open and clean circular plaza with colorful wildflowers welcoming any onlookers and butterflies that happened upon the area. The plant selection and boulders in this area provided a great deal of visual appeal because of all of the colors and textures. However, like the rest of the site, there were few sitting options available for people. Only three benches that were very exposed to the sun and other elements were located in this area, and the boulders provided an uncomfortable and awkward seat for users. For the convenience of users, there was a bike rack, trash cans and a drinking fountain, however, much like the benches, these site furnishings showed little to no wear and tear possibly due to lack of use. The drinking fountain also did not work when attempts were made to drink from it.

The meditative garden in the back seating area reflected similar elements to the front entry as it, too, was arranged around a main circular area with a water fountain at the center (however, this was not running at the time), however, it was in a setting that was much more intimate and sheltered. This back seating area was screened by many plants, including a grove of almond trees and a very large deodor cedar. Here there were four picnic tables and 2 walls high that were seat-height that were screened off from prying eyes and bathed in a filtered light. This seating area also looked out on a bed of river cobbles that seemed to mimic a dry stream bed, which was also added to the area's appeal. This back area also had trash cans that were half full (it should be noted that the trash cans at the front entry had almost no trash in them), a drinking fountain that, although was leaking, did not work, and an ash tray that was void of sand or cigarette butts, however, the ground in front of the southern seat wall was littered with cigarette butts. This back area showed more signs of use than both the front entry and the nature walk. More physical evidence in the form of trash and litter was seen in the back, along with signs of vandalism (writing on the table), and tire tracks from both a car and bikes.



Top to bottom:  
Figure 1.25—Trash from group seating area; Figure 1.26—Rock on picnic table on first day of behavior mapping; Figure 1.27—Rock removed from picnic table on second day of behavior mapping; Figure 1.28—Worn path in planter’s bark mulch leading to parking lot

### Use of the Site

On the first day of observation of the site, user turnout was extremely low with only two people entering the site. Due to the extreme wind that occurred on that day, the site was revisited two days later when the weather was calmer. Although user turnout was still rather low with most people seen at the perimeter of the site, evidence of user activity was seen due to changes in the seating area, particularly the back seating area. Little change was seen at the front entry and the nature walk with the exception of seeing a worn path in the planting area’s mulch that lead from the adjacent building to the neighboring parking lot. The back seating area, however, showed much more evidence of use. The trash cans, which were not emptied from the previous days, had more trash in them. Much of the trash that was found in the trash can looked to be from eating (napkins, empty drink containers, food wrappers, etc.), which may mean that most users of this area for eating lunch or for break time. Litter on the floor (cigarette butts and bottle caps) also looked to be moved from the previous visit, and a large stone that was on one of the tables had vanished.

In observing the users of the site and around the site, there seemed to be three types of users: those users that worked in adjacent buildings that stayed at the perimeter of the site and never entered the site; those users that were just walking through the site; and those users that came from the adjacent buildings to use the site as a short cut. Although there was evidence that users spent an extended amount of time in the back area, none were observed using those areas during the time of the site visit. Users were seen walking through the site’s planter beds to create a shortcut to the neighboring parking lot, which explains the worn paths that were seen in the planter bed’s mulch.

## UCDMC Urban Wildlife Preserve Site Summary

### Advantages:

- Variety of plant materials provides lots of color and interest
- Plant material attracts wildlife
- Two pathways allows users different options
- Back seating area is very shady and sheltered; makes users feel safe
- Variety of materials (boulders, cobbles, logs) creates interest; boulders double as seating
- Main path is easy to navigate
- Wall in back seating area doubles as seating
- Mounding of planter areas creates sense of enclosure and helps to hide the adjacent building and parking lot

### Disadvantages:

- Entrance to garden is too open and exposed; too much sun; trees haven't filled in yet
- Seating is only available at entrance and at back of garden
- Back seating area and secondary DG path are poorly maintained (weeds and litter)
- Very little shade is available at the site
- Some of plant maintenance is poor; some dead shrubs in garden; pruning of buddlejas is extreme
- Two large adjacent parking lots creates noise pollution
- Parking lot to the west is very visible from the site



# san francisco general hospital comfort garden

Top Left: Figure 1.29—  
Granite piece in front of rose  
planter at Comfort Garden  
Top: Figure 1.30—Sculpture  
at Comfort Garden



## San Francisco General Hospital Comfort Garden

### History of the Facility

The first buildings of San Francisco General Hospital were constructed in 1872. However, many of the buildings were built in 1915-1920 to accommodate for a growing population base affected by the diseases and natural disasters of the day. Much of the hospital grounds has an abundance of green lawn areas and colorful planter areas to accent the buildings designed by Newton Tharp in an Italianate style. (Cooper-Marcus and Barnes, 1999) The Comfort Garden of the San Francisco General Hospital (SFGH) was created in June 1990 as a living memorial to SFGH employees who have died, and uses the plants and nature within the garden to “bring you comfort”. Many of the plants growing in the garden were donated by individuals and departments from SFGH and UCSF.



Top: Figure 1.31—Building 80 at San Francisco General Hospital

Right: Figure 1.32—Aerial view of Comfort Garden





Top to bottom: Figure 1.33—Jo-Anmarie Ricasata sitting on granite piece in Comfort Garden  
Figure 1.34—Sculpture in Comfort Garden

### Description of the Site

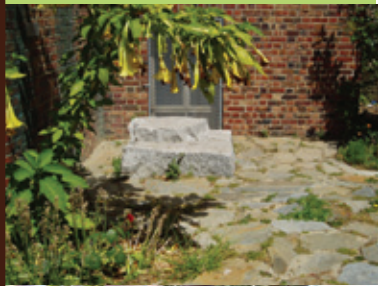
The Comfort Garden is a fairly small garden that is slightly raised from the street level. The garden, although small, works really well in creating a very intimate, human-scale environment. The northern side of the garden is scaled by a very tall six-story building (Building 80 and 90), which feels overwhelming at the eastern end of the garden. A large, obelisk-shaped statue of a cloaked woman helps to distract the eye and bring the towering building down to the pedestrian scale. Towards the center of the garden, the building pulls away to create a more open space that is sunny and inviting to visitors. Although the southern side of the garden faces 22nd Street, which receives a fair amount of traffic, it is separated by a wall and wrought iron fence. In combination with the garden's plants the wall works well in creating a visual barrier, and makes the garden feel isolated from the world around it. The eastern side of the garden also lies along the busy Potrero Avenue. Fortunately, a small gravel parking lot lay between the very noisy street and the peaceful garden.

The garden is full of many mature trees that create shade for the variety of seating areas that are available to users, and a lawn area follows the main path as it leads up to the adjacent building. However, the garden is also full of many flowering shrubs and perennials, similar to an English garden, to help brighten and enliven the garden with color and wildlife. Solitary seating is the most abundant in the garden and is scattered all throughout the garden in the form of benches, logs and boulders. However, because the seating areas are so numerous, they are located very close to one another, which make the solitary seating area feel exposed. Although most of the pathways are made of concrete, pathways meandering through the planting beds to the hidden seating areas are made of loose flagstone pieces, or are just bare dirt sparsely covered with bark mulch. Although very beautiful and complimentary to the planting beds, are untidy and unless well-maintained, can become uneven and unsafe for users that have difficulty walking.



Top to bottom: Figure 1.35—View of Comfort Garden towards Potrero Avenue  
Figure 1.36—Stairs and ADA ramp at southwest corner

The plants on eastern side of the garden looked old and past maturity, and some areas of the planters were getting weedy. However visible signs of updates and maintenance existed showing that the garden was being worked on. The southwestern corner of the garden nearest the stairs and ADA ramp was the most colorful with many drought-tolerant, Mediterranean plants, and looked to be recently installed. Another very colorful area of the garden is the rose bed that lies just a few feet east of the main entry to the building; this area is entitled “Companion Place”, and was designed by Peter Richards in 1994. Five large granite boulders double as sculptures and seating areas, and granite is also used to line the walkways and rose beds. The flagstone pathway around the rose bed, although very firm and sturdy, is uneven and hard to walk on even for non-disabled persons.



Top to bottom: Figure 1.37—Granite piece doubles as seat  
Figure 1.38—Butterfly bench  
Figure 1.39—Traditional wooden bench

### Use of the Site

During the day of the site visit, no users were observed using the garden. However, previous behavior mapping performed on the site by Cooper-Marcus and Barnes showed that the Comfort Garden is “a well-used outdoor space”. (Cooper-Marcus and Barnes, 1999) Due to the recently installed ADA ramps at the southwestern corner of the garden and at the northern end of the garden by the building entrance, visitors of many walking capacities must visit the site frequently. Although none of the adjacent buildings have inpatient care, inpatients are brought into the garden to enjoy the atmosphere. The frequent users of the garden were staff who came during break-time or lunch either alone or in pairs. Visitors and patients also used the garden for brief periods of time to relax. The behavior mapping and interviews performed by Cooper-Marcus and Barnes showed that two-fifths of users often stayed for thirty minutes or more regardless of whether they were staff, a visitor, or a patient. Even more people used the garden as a place to walk through while entering and exiting the adjacent building. Almost half of those using the garden frequently visited the garden, and the most popular activities included eating and drinking, and also walking and talking.

Users of the garden stated that after visiting the garden, they were in a more positive mood than when they arrived. Users also appreciated the social opportunities that the garden provided for patients and support groups.



### SFGH Comfort Garden Site Summary

The SFGH Comfort Garden is a small, very intimate garden that provides users with a comfortable safe feeling. The garden provides many colorful displays of plants as well as a variety of seating areas in which users can relax. Although the Comfort Garden is a popular garden often used by staff, patients, and visitors for breaks, lunch, walks, and socializing, traffic from busy adjacent streets are disruptive. Updates have been installed in the garden along the southwestern portion of the garden, and are currently in process along the eastern side which displays many dead, old and bare plants. However, problems exist with much of the paving that meanders along the planting beds because the materials used create an uneven surface for those walking on it.

#### Advantages:

- Garden is small and gives users an intimate comforting feeling
- Abundance of plants provide many colorful flowers and different textures
- Garden is being updated to help replace old untidy plants
- Many mature trees along south side of garden provide shade to users
- Seating is available in both sunny and shady environments

#### Disadvantages:

- Adjacent streets produce noise and pollution that bother some users
- Seating areas only accommodate solitary seating; no group seating is available
- Seating areas are too close to each other which interrupts the intimate feeling
- Some benches look old and unsteady
- Many pathways in the garden have uneven surfaces that are hard to walk on
- Height of adjacent six-story building can be overwhelming in some areas of the garden



Top: Figure 1.40—Southern side of CSUS Student Health and Wellness Center  
Right: Figure 1.41—UC Davis Cowell Student Health Center, view of North Lobby

# college landscapes







Top Left: Figure 1.42—  
Cowell Student Health Cen-  
ter between North Lobby  
and Annex

# college landscapes

## what makes a college landscape?

In planning and designing a college campus, the fact remains certain that learning is done in places other than in the classroom. The campus plan should be one that maximizes a students learning and interaction with people, objects, places and ideas that provide that opportunity to learn. However, learning and education are not the only activities performed on campus. Many casual interactions, formal activities, and entertainment occur while on campus so college outdoor spaces should also be designed to incorporate proper circulation, relaxation, and aesthetic pleasure.

Although the buildings of a college campus are much larger scale and provide different functions, when designing and planning the open space of a campus, these buildings should be treated as if they were houses with a front yard, a front porch and a backyard. Students and staff often times consider certain buildings and spaces as their “home base” where they can socialize, study, meet and eat. However, students are often confronted with the lack of places to study and eat comfortably, and spaces to meet faculty and other students casually outside of class also tend to be minimal. The front entryway and entrance of the building can be seen as the “front porch” of the building that provides the transition from the public and the private life, and the main entries of buildings tend to be the most frequently used outdoor spaces on campus. The backs of buildings are often seen more as the “backyard” that serves more of a private/semiprivate purpose for its users. When in the backyard, users seek both comfort such as warm spots and shade, and also function such as seating, studying, and conversation. Because of the privacy that is sought when using the backyard, the space should be kept away from major pedestrian flows, but its presence should still be obvious and easily accessed by its users.



Top to bottom: Figure 1.43—UC Davis Memorial Union and Freeborn Hall  
Figure 1.44—Cowell Student Health Center and Parking lot

To make the backyard setting most comfortable to its users, the materials used in there should be warm and inviting. Plantings should be well-groomed and create a natural boundary without creating total visual isolation so that users feel they have some privacy yet feel safe. Often when a user chooses a seat, they feel most comfortable with their back facing a wall or planting.

However, a variety of seating types, both formal and informal, should be available to accommodate those choosing solitary seating or group seating arrangements, and also the possibility of holding larger gatherings should also be possible. And to make outdoor spaces easily recognizable and identified, nameable spaces should be created as much as possible.



Top to bottom: Figure 1.45—Shady courtyard between Administration Wing and Women’s Health Wing at Cowell  
Figure 1.46—Raised concrete planter in front of Cowell Student Health Center

In more recent years, there seems to be a trend focusing on the need for better student health facilities. In the early twentieth century, student health centers were first built as a response to the infectious diseases that were spreading throughout populations and the student body. These student health centers were designed to replicate the hospitals and infirmaries of the day, which often focused on custodial and nursing care. The student health centers were a place for students to rest, and they were isolated from the rest of the general student population, and often times the centers were pushed to the edges of the student campus. However, the perception of the campus student health center has changed dramatically in recent years. Many colleges are recognizing that the student health center facilities helps in attracting new college recruits as well as reinforcing the campus values about student health. The thought is that better student health care facilities mean better service for patients and healthier students. Due to an ever increasing student populations as well as an increasing amount of services provided by student health centers, including research and resource opportunities as well as teaching students, many college campuses are updating outdated or building newer student health center facilities so that they are more welcoming, inviting, and functional. In designing the facilities of these newer student health centers, the buildings tend to have larger floor-plates to accommodate more students and more programs, higher visibility on campus so that the services and programs are more visible to current and potential student body, a welcoming environment often with public spaces for students to gather and mingle, room for education to help students become more aware of their health and well-being, and confidential space to allow for other programs and services provided by the center including counseling and psychological services. (McDaniel, 2006).



Top: Figure 1.47—Sign at CSUS Student Health and Wellness Center  
Right: Figure 1.48—Sign at Cowell Student Health Center

# student health center case studies







# uc davis cowell student health center

Top Left: Figure 1.49—  
Entrance to Cowell Student  
Health Center  
Top: Figure 1.50—Sign  
for Cowell student Health  
Center



## UC Davis Cowell Student Health Center

### History of the Facility

In 1909 shortly after the opening of the UC Davis campus, the Student Health Services was established to provide students with minor health care and to assist them with their health problems, and has been serving the students for the past 100 years. The department first occupied a small wing of East Hall, which is the current site of Dutton Hall. Due to funds from the S.H. Cowell Foundation, the school was able to build the Cowell Hospital & Student Health Center in 1967 to serve as a facility with inpatient and outpatient service as well as an emergency clinic area and pharmacy. The facility was originally designed to serve 12,000 students, but due to growing student populations, which now exceed 30,000, it was changed to only have outpatient care, and was renamed the Cowell Student Health Center. The Cowell Student Health Center is located in the northern portion of the main campus off of Russell Boulevard. The original facility was a single story building, however, due to the growth of the student population and the facility, the Cowell Student Health Center had four additions onto the building, including a second story addition, throughout its existence. Surrounding the grounds of the Cowell Student Health Center are a number of parking lots, including a parking lot for the nearby student housing dormitory, Primero Grove, and the parking lot for the health care facility. A multiuse sports field and another campus building also are within the vicinity of the student health center.



Top: Figure 1.51—Entrance to Cowell Student Health Center

Bottom: Figure 1.52—Aerial view of Cowell Student Health Center





Top to bottom:  
Figure 1.53—North side of  
Cowell  
Figure 1.54—Back/west side  
of Cowell  
Figure 1.55—South side of  
Cowell

### Description of the Site

The Cowell Student Health Center and its landscape are not considered to be eye-catching, and are rather typical to the UC Davis campus. The main portion of the building is made of brick, and the landscape around the Cowell Student Health Center is rather minimal with mostly grass and shade trees and a few shrubs and groundcover around the foundation of the building. Even though the grass and trees are very green and healthy, the remaining plants around Cowell are bare and brown, and look poorly maintained. Seating around the Cowell Student Health Center facility is minimal with only one bench located at the front of the building, two picnic tables in a courtyard between the administrative wing and the wing of the Women's Clinic and hidden from street view by a row of large evergreen shrubs. A pair of metal folding chairs was also seen between the north wing of the main facility and Cowell Annex, and these chairs had changed positions between the two days of behavior mapping.



Top to bottom:  
Figure 1.56—Main entrance to Cowell; Figure 1.57—Staff courtyard outside of Women's Health Clinic; Figure 1.58—Shady courtyard outside of Administration wing and Women's Health Clinic

the power of the landscape

### Use of the Site

When behavior mapping was performed at the Cowell Student Health Center, few people were seen using the landscape around the facility for a prolonged period of time. The majority of people in and around the student health center were about twenty years old with backpacks. These were most likely students. Walking was the most popular activity seen at the site; however, most users (most of them students) only walked through the site because they had either parked in the parking lot north of the facility or were walking from the neighboring dormitories. The highest number of students was seen along the northern side of the building and the front of the building, but only a few students were seen walking through the back portion of the facility. Students that were patients of the facility were also seen very frequently entering and leaving the building, but few of them used the landscape. When first arriving at the site to enter the building, the student did not take any extra time to hang out or relax. The student walked directly into the building's entrance. When leaving, the students did the same thing. They came out of the building, and did not pause or break their gait unless they had to stop to unlock their bike from the bike rack. Although few students that used the site for a prolonged period of time, the area they chose to sit was along the planter beds located at the main entrance. At the raised planter bed located along the wall, students waited for their ride after their appointment, and hung out with friends while waiting for their appointment.

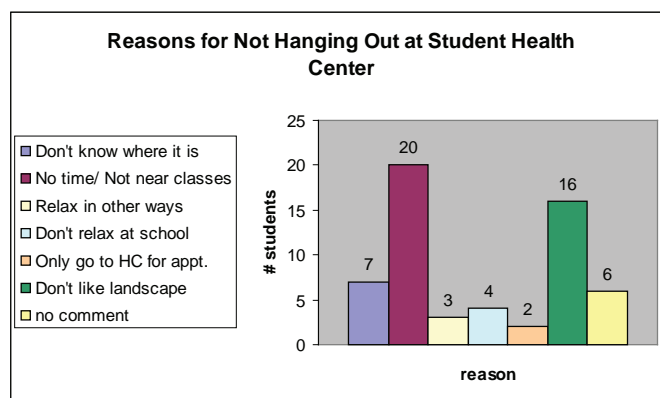
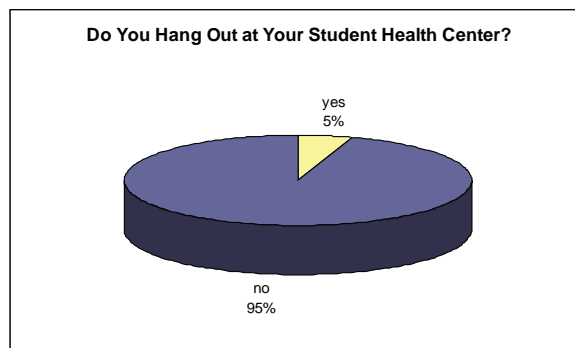
The number of staff seen using the site were few. Although two seating areas were for staff-use (the alcove between the administration wing and the Women's Clinic, and the fenced-in courtyard outside of the Women's Clinic) during the times of the behavior mapping, no staff was seen in these areas. In fact, the staff were in the site very little, but when the staff used the site, they used areas that were in the back of the facility. Staff, like the students, also only used the site only when walking to and from the building.

### Survey of Site Users

Sixty-one UC Davis students were surveyed about the Cowell Student Health Center, and their answers coincided with the behavior seen during behavior mapping. When students were asked if they hung out in the landscape around the Cowell Student Health Center, an astounding 95% said that they do not. The top reason for not using the site is because the students do not have any time between classes or because it is not near their classes. The second highest group of students (28%) said something negative about the facility's landscape. Only 3 students (5%) surveyed said they hung out at the site. One student said he used the site on a regular basis because he lived nearby; two other students said they used it because they just happened to be in the area.

Right: Figure 1.59—Graph: Do you hang out at your student health center?

Bottom Right: Figure 1.60—Graph: Reasons for not hanging out at student health center

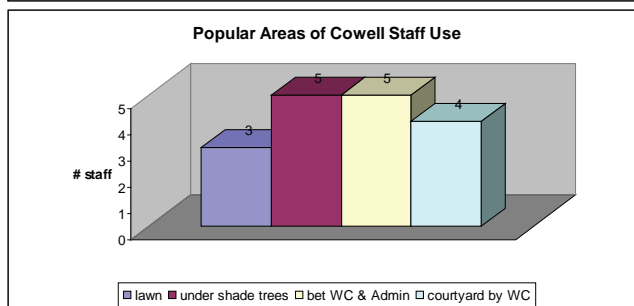
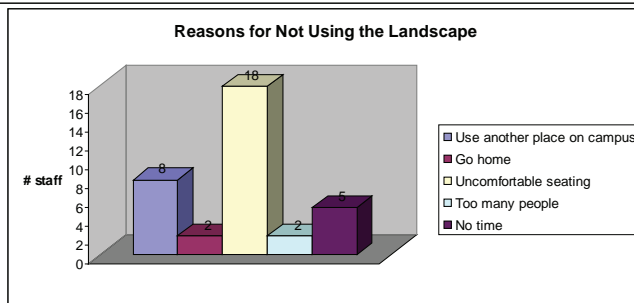
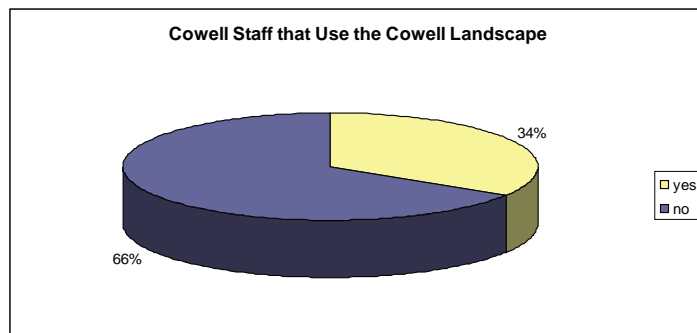


Results of the staff surveys, however, did not coincide with the results seen from behavior mapping. Although no staff were seen using the site for a prolonged period of time to have lunch or take breaks, 18 of the 58 staff members said that they did use the site. Even though the site is readily available to them, like the students surveyed, a large percentage of staff (66%) still did not use the landscape around the facility. Most of the staff noted that the site did not provide enough comfortable seating for them to use; however, others mentioned that they did not have enough time, hung out in other places on campus, or said that the site was too crowded and busy. The areas of Cowell that staff reported spending the most time in were shady areas that also had seating such as between the Administration Wing and the Women’s Clinic.

Top Right: Figure 1.61—  
Graph: Cowell Staff that  
Use the Landscape around  
Cowell

Right: Figure 1.62—Graph:  
Reasons Cowell Staff Did  
Not Use the Landscape

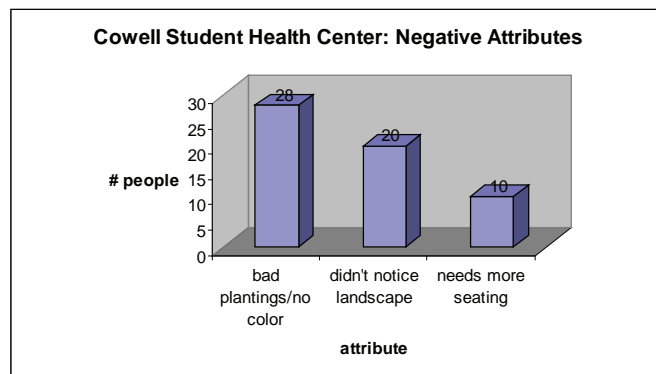
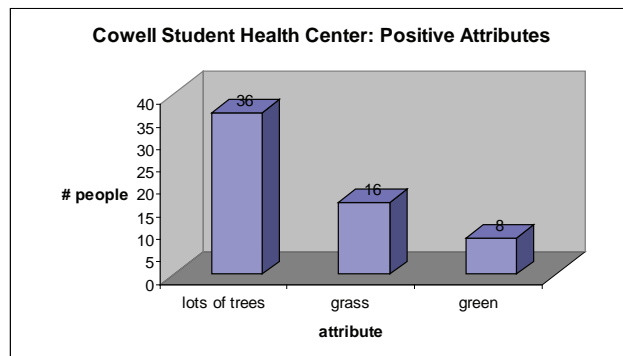
Bottom Right: Figure 1.63—  
Graph: Popular Areas that  
Cowell Staff Did Use





Although both students and staff were not particularly fond of the landscape around the Cowell Student Health Center, it is not completely devoid of positive attributes. Both groups commented positively about the lawn areas and the trees that are abundant in the site. The grass is very green and looks very healthy, which helps to make the site look lush even though the planting around the site is disliked. The abundance of mature trees around the site also helps to make the site more comfortable because they provide shade for the users. Bad planting, which includes dead plants, overgrown plants, and no flowers, was the characteristic that students and staff disliked most about Cowell’s landscape. The student comments on the site were very general, and related mostly to the aesthetics of the site. The staff comments on the site, however, were more detailed and also related to the use of the site and features that are unique to the site.

Right: Figure 1.64—Graph: Positive Attributes of Cowell  
 Bottom Right: Figure 1.65—Graph: Negative Attributes of Cowell



### Cowell Student Health Center Site Summary

The Cowell Student Health Center landscape is very typical of the UC Davis landscape, which consists of many trees and large areas of grass. Although the site is very green and shady because of the grass and trees, the landscape has very few healthy-looking shrubs and perennials that can create more interest. Seating around the facility is also very minimal, and users of the space often use the raised planter wall as a make-shift seat in the front of the building. Very few students use the space to hang out in because it is far away from their other classes and also because they consider it to be an undesirable place to look at. Staff, on the other hand, do use the site for breaks or lunch, and often use the courtyards off of the Women's Clinic and between the Administration Wing and the Women's Clinic. The most popular activity in the site was walking, and much of this traffic was due to students walking by the facility from the adjacent parking lot and dormitories.

#### Advantages:

- Well maintained, green lawn area
- Large trees provide shade around much of the building
- Squirrels between the North Lobby and Cowell Annex are fun to watch
- Raised planter bed at front entrances provides seating option
- Flowering trees along southern side of building provides seasonal interest in the spring
- Nearby employee parking lot provides a sense of escape for those who cannot venture out further into campus or off site

#### Disadvantages:

- Few seating options are available
- Staff courtyard outside of the Women's Clinic is untidy
- Courtyard between Administration wing and Women's Clinic is very exposed to the surrounding offices; feels as if people in the office are staring at you
- Shrub plantings around the facility are minimal and almost non-existent; shrubs that are there look very unhealthy and poorly maintained
- No where for staff to feel like they can "escape"



# sac state student health & wellness center

Top Left: Figure 1.66—  
Entrance to CSUS Student  
Health Center  
Top: Figure 1.67—Sign to  
CSUS Student Health Center

## California State University, Sacramento Student Health and Wellness Center

### History of the Facility

Much like UC Davis, California State University, Sacramento, or CSUS, has a growing population of students that is outgrowing their Student Health and Wellness Center. With a student body of 28,000, CSUS is in the middle of constructing their own new health center within a 150,000 square-foot multi-use facility to replace their old Student Health and Wellness Center.



Top: Figure 1.68—Sign to CSUS Student Health Center  
Right: Figure 1.69—Aerial view of CSUS Student Health Center (Google Earth)





Top to bottom:  
Figure 1.70—Southern Side  
of building  
Figure 1.71—Northern Side  
of building  
Figure 1.72—Western Side  
of building

### Description of the Site

The CSUS Student Health and Wellness Center is located on the north side of campus, just south of the Arboretum. To the west of the facility is the grounds division; to the south is the main part of campus, and further east are the dormitories; however, immediately surrounding the facility is a large parking lot for students, visitors and CSUS employees. The windowless building of the Student Health and Wellness Center is rather cold and harsh as it is made of grey concrete and has many sharp, angular edges and also many cutouts that seemed almost tomb-like, very similar to the Social Sciences building on the UC Davis campus. The style of the building, which carried a cold, empty, unbalanced feeling seems very contradictory to the goal of the services available within the building, which promote health and wellness.

The landscape mimicked the angular lines of the building; however, it softened the building to create a peaceful atmosphere. Besides the large, mature trees creating shade for the building were strips of lawn and hedges of evergreen shrubs. The landscape was very small and extended out only twenty to thirty feet away from the base of the building. The main entrance to the facility is located along the eastern side of the building where a small group seating area and bike rack are also located. Along the northern side of the building was another small group seating area where some cigarette butts were also left on the ground. The very sunny western side of the building was the back entrance to the building, which was only accessible to employees. The back of the building where the loading dock, dumpsters and bike lockers are located seemed untidy due to the leaf and plant litter than was collected under the trees and between the bike lockers that looked unused. The southern side of the building was also very sunny and was the location of a very large green patch of grass. Due to the high amount of traffic coming from both cars in the parking lot and people walking to and from the parking lot, it made the site feel like a very active place. However, the activity around the site in combination with the peaceful landscape and death-like structure of the building made the site feel very uncomfortable and disorienting.





Top to bottom:

Figure 1.73—Large worn path through grass from parking lot

Figure 1.74—Smaller worn path through grass from parking lot

Figure 1.75—Seating area at entrance to CSUS Student Health Center

### Use of the Site

Due to the closeness of the facility to the parking lot, much of the traffic that enters the site is from students walking from the parking lot to the main part of campus. North of the building, a worn path through the grass could be seen as a shortcut to get from the parking lot to the sidewalk of the facility. The majority of traffic went passed the front of the facility; many people of varying ages were usually seen walking and carrying backpacks. Users of the site were usually alone, small groups, no larger than two (2) people were sometimes seen in the site. These people were often engaged in a casual conversation. When people came through the site, they did not interact with the site or anything in the site. Sometimes people entering the site were already engaged in some other activity like drinking coffee, eating, or listening to music. The most common activity people were already engaged in was talking on their cell phones.

The few people that did interact with the site seemed to be people that either entered or exited the building. The people interacted with the site passively, and sat in the group seating area at the front of the building. However, they never seemed to stay any longer than a few minutes. Patients of the student health center seemed to have only one goal when at the site: either to enter the site immediately or exit it immediately. However, no objects or signs existed on the site to actually engage the users either. Besides a sign outside of the entrance and the name of the building above the entrance doors, no indication existed showing that this was a health facility or that it promoted health or wellness. Unlike other buildings on campus which celebrated the departments within by having exhibits on the outside of the building (such as murals surrounding the art building), the CSUS Student Health and Wellness building was completely bare. There wasn't even any litter around the building.

Another area of the site that received a fair amount of traffic was the back of the building. People passing through the back of the site were often students that had either parked closer to the back of the building who did not want to walk around to the front of the building, or were students using the multi-use sports field or gym that was to the south and southwest of the facility. Along with carrying backpacks, these users, who tended to be younger students (around 20 years old) often wore athletic clothing or carried a duffel bag.

During observation very few staff and health center employees were seen using the space or even entering/exiting the building. Most of the staff seen entering and exiting the building used the front entrance even though three other back entrances existed strictly for employee use. Only one employee was seen using the back entrance by the loading dock.



Figure 1.76—Western side of building

### Survey of Site Users

One class of twenty-one (21) students from CSUS was given a survey to understand how they perceive their student health and wellness center. Of those 21 students, only eight (8) had even been to the student health and wellness center for medical services. Students surveyed that had not been to the facility either did not know where the facility was located or did not spend extra time outside of class to hang out on the campus. The majority of students that had been to the facility often stated that the site was “dull and boring” or did not consider the environment around the building to actually be a “landscape”. A few students, however, did say a few positive things about the site and noted that it was very green and clean. The parking lot was huge feature near the site that took away from and overwhelmed the site. One student even said that the landscape around the facility was nothing but the parking lot. All but one of the students that had been to the facility had never hung out at the site. Time was the major factor in the students’ decision in that they did not have any time outside of their class to go hang out.



Figure 1.77—Parking lot behind building pg 45

## CSUS Student Health and Wellness Center Site Summary

The landscape around the CSUS Student Health and Wellness Center, even though it is well kept and healthy looking and provides group seating areas for potential users, is still unappealing to and underutilized by students and staff. The major downside to the site is due to the parking lot which surrounds the facility. However, due to students' schedules, few seem open to venture into areas outside of their regular routine, and few spend their free time on campus. Due to the feelings of students to minimize their time on campus, minimizing the landscape around the student health center may be fitting. However, due to the high amount of both vehicular and pedestrian traffic that the front of the building receives from persons passing by, it could possibly be an area to better advertise student health and wellness.

### Advantages:

- Shady seating areas
- Green healthy plants provide cover and soften the building
- Front of building is clean and well maintained
- Large open front entryway provides enough space for the large amount of foot traffic that the area receives

### Disadvantages:

- Receives heavy traffic from adjacent parking lot
- Receives high amounts of noise and pollution from adjacent parking lot
- Back of building is untidy and seems neglected (possible safety concern)
- Building has a uninviting appearance
- Landscape around building is minimal and often unnoticed
- Only group seating is available; no other types of seating is available to users



# design

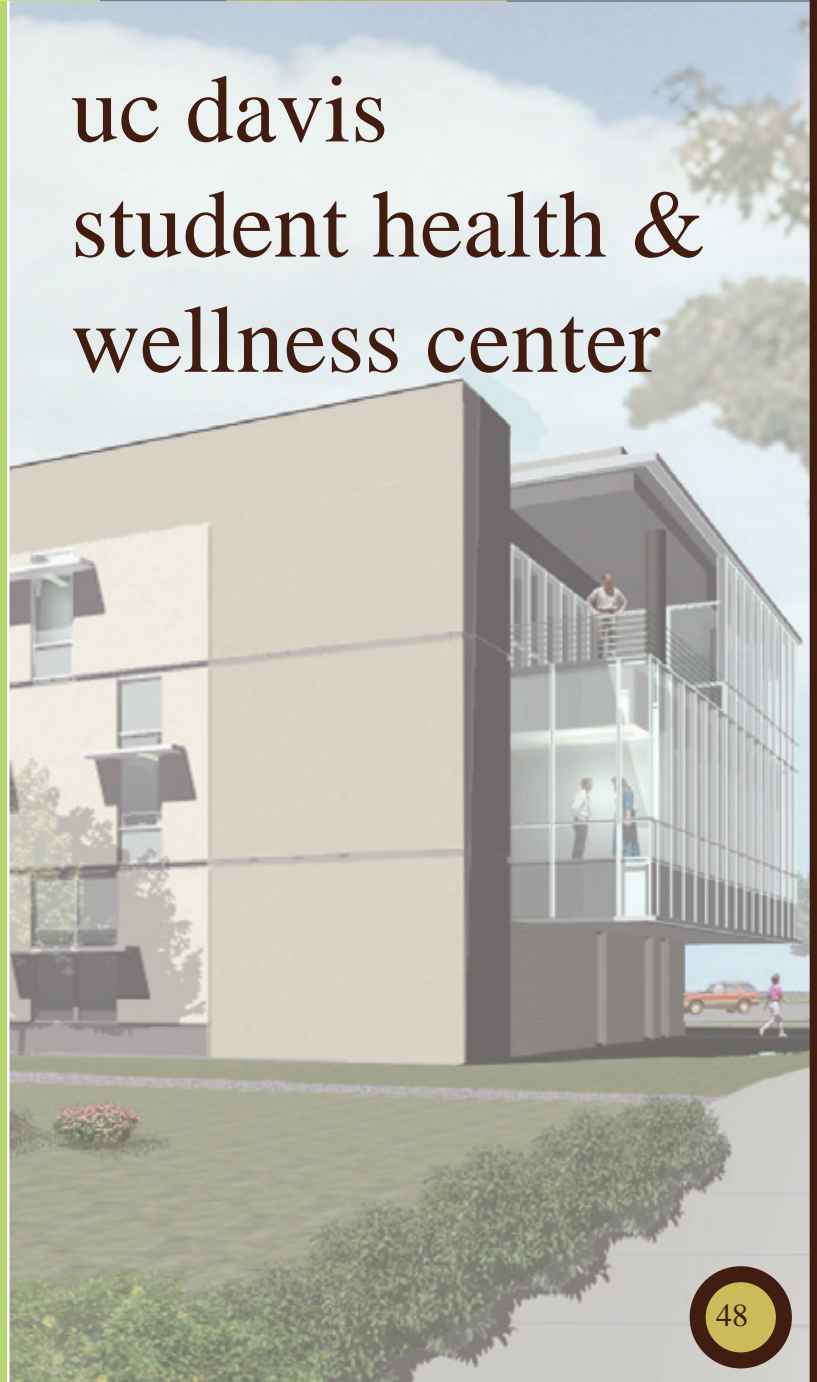
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Top Right: Figure 2.1—  
Northern perspective of new  
UCD Student Health and  
Wellness Center  
Bottom Right: Figure 2.2—  
Southern perspective of new  
UCD Student Health and  
Wellness Center

# uc davis student health & wellness center



## UC Davis Student Health & Wellness Center Background

In the case of the new UC Davis Student Health and Wellness Center, the front yard of the building and the front porch have been predetermined, and are located on the north side of the building. The backyard is left at the south side of the building and lies between the student health care facility and a student housing complex called, “The Colleges”. In the case of the new health center, the building is much larger and takes up three stories as opposed to the original building which is mostly a single story. This larger building contains much more space to accommodate its growing student population, including spaces for CAPS and the Wellness Group which aims to teach students to be educated and aware of their life choices.

The new facility totals 75,000 gross square feet with 43,000 assignable square feet to replace the Cowell Student Health Center. The building will incorporate sustainable design elements in the areas of water and energy efficiency, materials usage, and environmental quality to exceed the UC Regent’s Policy for Green Building Design, and qualify for LEED Silver Rating. The building is to be completed in 2010, and is being constructed on the former location of outdoor basketball courts off of the main campus and across La Rue Road from the ARC. Adjacent to the new facility are a student housing facility known as “The Colleges”, the UC Davis Human Resources Department, and greenhouses used for UC Davis research.

Figure 2.3—Northern perspective of new UCD Student Health and Wellness Center pg. 49

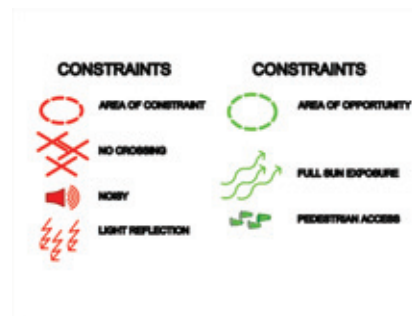


## UC Davis Student Health & Wellness Center Opportunities and Constraints

The new location of the facility provides many opportunities and constraints that affect the site and how users interact with the site. Due to the facility's location off and across the street from the main portion of campus, the street separating the facility from campus poses a constraint to people wanting easy, close access to the facility, its services and the grounds. La Rue Road is the street separating the facility from the main portion of campus, and is a 4-lane, 2-way street with a planting median. The street is rather daunting to cross because of its width and since remains busy throughout the day since it receives a large amount of traffic coming to and from campus. The cross walks along the street are inconvenient to pedestrians and bicyclists since the closest crosswalk is at the very northeastern end of the large parking lot, which connects to the northwestern corner of the ARC. Because of the new location of the facility and because of its large parking lot, it seems to favor vehicular traffic over pedestrian and bicycle traffic. However, due to the position of the building in relation to the street, it allows much more public access to the backyard of the building where the healing garden will be located. The front of the building faces the secondary street, as opposed to facing the main street. Because the side of the building now faces the street, a side of the backyard of connected to the main road, and it allows pedestrians easy access to the garden. The closeness of the street to the garden also poses a constraint in that the amount of traffic makes a large amount of noise for the users. For those seeking solace and seclusion in the garden, the noise of the traffic may be too distracting from the sense of calm and serenity that they seek, possibly provoking them to seek other areas for relief.

The accessibility of the garden and the facility remains unknown at this point since it is not in use yet. Although the facility is off of the main portion of campus, it is at the end of campus that is frequented by students seeking other extracurricular activities. Both the ARC and the recreation pool are a few steps away from the Health and Wellness Facility, so students could possibly visit the garden while in this vicinity. However, because it is not along the main route of most students, it may not be an area that students go out of their way to visit and spend time in.

Figure 2.4—Opportunities and Constraints Map on aerial view of site (Google Earth)



The healing garden for the new Student Health and Wellness Center is situated in the southern, back portion of the building. This exposure can be both an opportunity and a constraint. The southern exposure allows a large amount of light to penetrate into the building to reduce the amount of energy needed to light the facility; however, this sun also heats up the building and can bounce off the windows to possibly create a glare to the users of the garden space. South of the building and the garden are storage units for The Colleges and the parking lot for the complex. This back portion of the building faced with mostly staff offices looking out onto the garden space. This view not only gives the residents of those offices a good view of the garden space, but also exposes the biggest users of the garden to that space. However, because of the layout of the areas of the facility, it makes it more difficult for other potential users of the garden (such as students and visitors) to access the garden from within the building. Due to this constraint, access must be maximized around other entrances of the garden so as not to exclude possible users to the space. Although some staff have expressed concern over having access from the street-side of the garden, to fully exclude other users, such as the students, and to create a completely solitary garden would be hazardous to safety, and would also be contradictory to the mission of the Student Health Services: to provide campus health and wellness resources that enable students to successfully achieve their academic goals and promote lifelong wellness. The problem of safety also arises because the layout of the facility with the storage units and the greenhouses provides access points that may make it easy for dangerous persons to hide, enter, and escape with little to no detection.

Figure 2.5—Southern perspective of new UCD Student Health and Wellness Center





Other forms of pollution also encroach onto the garden space due to the vicinity of the street, housing complex's parking lot and greenhouses. Besides noise from the street, vehicular noise could also come from cars coming into and out of the parking lot. Another potential source of noise that does not yet exist is the location of the loading dock which lies on the western side of the garden. It is this area where the building's backup generator and dumpsters also lie. Now although the backup generator for the building will only run when power goes out, the dumpsters may be emptied frequently as once a day, and deliveries are made daily. The noise and beeping from the trucks, although temporary, would be very loud and disruptive to users of the garden. Fumes from these vehicles would also penetrate the space to make it less appealing to the garden users.

Many mature and maturing trees that already exist in the garden are an asset to the garden. They cast a large amount of shade in an otherwise exposed location, and create the opportunity for a more comfortable environment. Other than the large shade trees that exist in the garden space, almost no other objects exist in the flat terrain, which leaves the opportunity open to design the garden in any way possible to best suit any guidelines to make it a healing garden and to best suit its users.

## UC Davis Student Health & Wellness Center Student/ Staff Survey Summary

To best address the needs and desires for users of the new Student Health and Wellness Center’s healing garden, current and potential users (staff and students) answered survey questions used to help shape and design the garden. Because the UC Davis Student Health and Wellness Center will not have inpatient care or service other serious medical conditions that are typical of the typical hospital facility, the patients’ needs and reasons for a healing garden are slightly different than a patient that might be recovering from surgery. Along with providing medical services such as general care, vision, women’s health, physical therapy, psychological services, and urgent care, the UC Davis Student Health Services also provides a program teaching wellness to students so that they may learn to make conscious choices to keep themselves healthy and well throughout their lives.

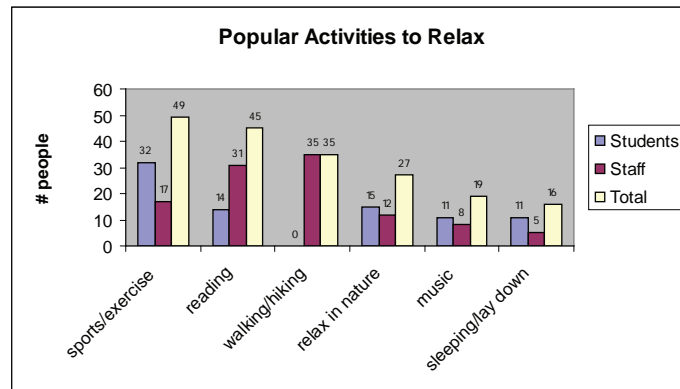


Figure 2.6—Graph: Popular Activities to Relax

People often think of diet and exercise when they think of being healthy; however, health and wellness involve more than just those two dimensions. Although students may exercise and eat a balanced diet, one ailment that students frequently complain about but never seek medical advice for is stress. When both students and staff were asked what they do to help reduce stress, answers were common activities that people can do on their own without consulting a doctor. Activities such as sports and exercise, reading, and relaxing in nature were among the most popular activities to reduce stress. Although including all stress-reducing activities in the garden would be ideal, the presence of all the activities would not be feasible. Limited space and user conflict are of concern when deciding what activities to program into the garden and which to leave out. Due to the limited amount of space and closeness of the ARC, sports, exercise, and other vigorous activities were not included in the garden, and more passive, non-intrusive activities were favored for the garden.

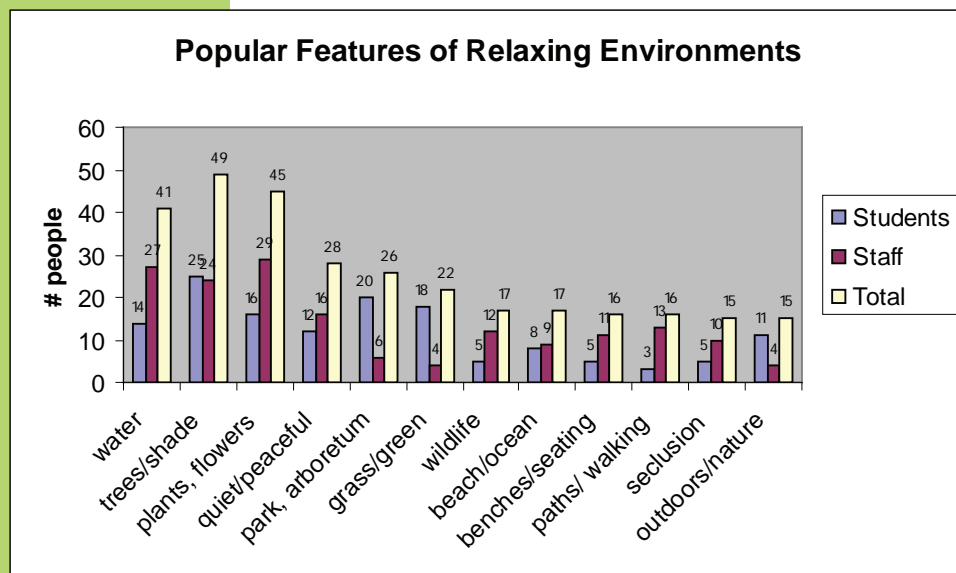


Figure 2.7—Graph: Popular Features in Relaxing Environments

In the surveys, students and staff identified characteristics of their stress-reducing environments. The top ten answers included natural features and natural environments. Trees and shade was the feature that was most commonly associated with a stress-reducing environment. A variety of plants and flowers and some sort of water feature, particularly running water from a waterfall, water fountain, or stream, were also commonly thought to be found in a stress-reducing environment. The most common place on the UC Davis campus that was mentioned to reduce stress was the Arboretum, which contains an abundance of all three features. Similarly, when asked what features users thought would be found in a healing garden, answers included many natural features. Dense plantings and colorful flowers were the top two features thought to be in a healing garden, and like existing landscapes that people already use to relax, trees, water and shade were important characteristics. However, other important characteristics included places to sit and a quiet atmosphere. Other characteristics less frequently answered but unique to healing gardens were places to rest and relax, feeling of seclusion, safety, sunlight (without being overwhelming), openness and air, and an overall positive feeling when in the environment.

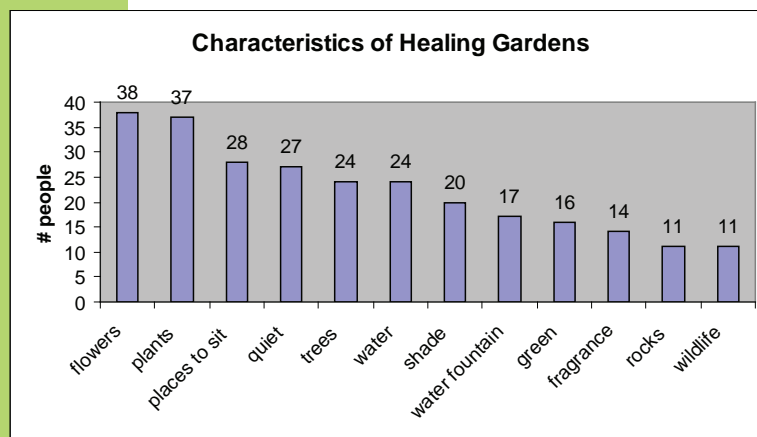


Figure 2.8—Graph: Characteristics of a Healing Garden  
pg. 56



Top to bottom:  
Figure 2.9—Colorful, dense plantings at UCDMC Urban Wildlife Preserve; Figure 2.10—Handrails available for patients having trouble walking; Figure 2.11—Effective use of textures at UCDMC Wildlife Preserve; Figure 2.12—Stairs and ADA ramp at Comfort Garden

the power of the landscape

## Design Characteristic Overview

### Healing Garden

- Main pathways accessible to users (including ADA access)
- Surface of pathways are smooth enough to accommodate movement of people with different capacities
- Provide handrails where slopes are steep or where walking may be difficult
- Variety of seating options (group/solitary, sun/shade, moveable/stationary, etc)
- Various spaces and subspaces
- Allows users to control their environment and what they do in it; give users options
- Outdoor dining area
- At least one area to “get away”
- Keep intrusive noises to a minimum
- Provide users areas that allow them to see out, but minimize potential for others to see in
- Avoid the “fishbowl” effect; allow enough space away from windows and doors
- Make space usable year-round if possible
- Make the space nurturing, calming, familiar, safe
- Layout the garden and pathways so users can navigate through it easily
- Provide a gathering space
- At the entry point, provide a “threshold” or marker to indicate entry into the garden
- Create a sense of enclosure
- Use a variety of plants to create texture, contrast, color, and year-round interest
- Use any existing mature trees
- If possible, use some plants whose foliage moves easily in the breeze
- If possible, install lawn area





Top to bottom:  
Figure 2.13—Single straight bench at UC Davis Arboretum; Figure 2.14—Group of straight benches at UC Davis Arboretum’s Carolee Shields White Garden; Figure 2.15—Group seating area at UC Davis Arboretum’s Ruth Storer Garden; Figure 2.16—Curved bench at UC Davis Arboretum’s Ruth Storer Garden

### College Campus “Backyard”

- Seating along the edges or with backs to plantings or wall
- Variety of seating options (group/solitary, sun/shade, etc.)
- Learning opportunities outside of classroom
- Opportunities to socialize with other students and faculty outside of classroom
- Space to accomplish “backyard” activities (eating, studying, socializing, resting, etc)
- Private areas away from major pedestrian pathways
- Avoid using cheap material
- Create nameable places where possible
- If possible, use space to promote the school and its goals



#### Student/Staff Needs

- Shade trees
- Dense plantings
- Colorful flowers and seasonal interest
- An abundant and variety of seating (group/solitary, sun/shade, tables/benches, open/secluded)
- Water element, especially the sound of running water
- Non-threatening wildlife (birds, butterflies, squirrels)
- Grass (students like to lay on)
- Pathways for walking
- Quiet, peaceful atmosphere
- Signage similar to those in arboretum to teach

Top to bottom:  
Figure 2.17—Students relaxing on West Quad at UC Davis  
Figure 2.18—Squirrel  
Figure 2.19—Colorful, dense plantings at UC Davis Arboretum's Ruth Storer Garden  
Figure 2.20—Interactive educational sign at UC Davis Arboretum

## The Original Landscape Plans

Because the building for the new UC Davis Student Health and Wellness Center will be qualified to be rated LEED Silver, some sustainable practices used in the original landscape plan should be replicated in the new design for the healing garden as well. In the original plan, rainwater from the building's roof is to be diverted into a detention basin in the middle of the site. Instead of being hauled off site and disposed of, the dirt excavated to make this detention basin was to be kept in site in the form of a mound. The dirt mound was then going to be planted with grass, and stairs were going to travel up and back down the hill to promote activity and exercise. Exercise stations were also going to be placed around the site along a pathway that looped around the site to promote active living. However, due to budget constraints, the exercise stations were abandoned, but the detention basin and hill stayed. Changes to the plan were made in effort to give the garden a greater "wellness" theme so alternates were made to include fruit trees, raised garden beds, more seating areas, and wildlife, but instead of integrating aspects of all features, alternates seemed to play on a single feature that staff felt overwhelmed the site.

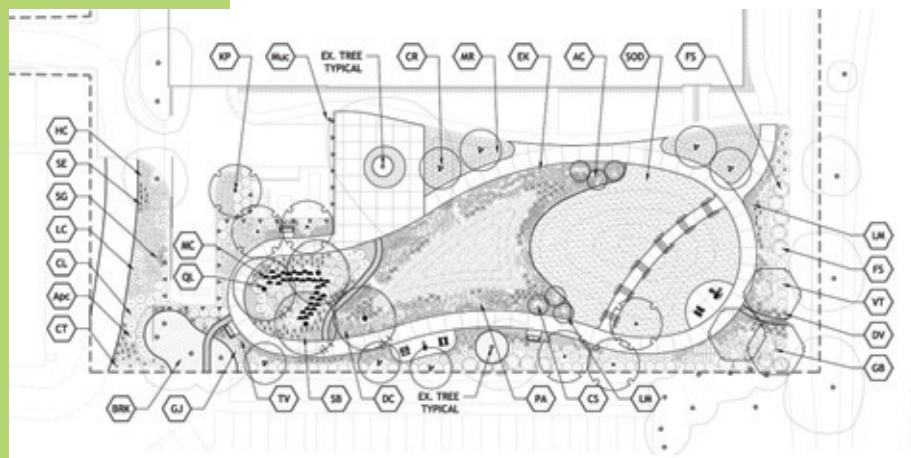


Figure 2.21—Original Landscape Planting Plan (Quadrigr)

The new design of the garden for the Student Health and Wellness Center will aim to integrate the different aspects promoting wellness to different degrees throughout the garden to help educate users and also create a healing and wellness garden. However, some ideas and features in the original plan must be abandoned and reworked so that other programming elements can fit comfortably in the site. The detention basin and its corresponding mound is one feature. The presence of the basin and mound are overwhelming in the site and all other features must conform to it. The need for a stormwater management program is needed in the garden to accommodate for the rainwater that runs off the building. The grassy area on the mound must also be reconsidered. Although the large green mound is an eye-catching feature, flat grassy areas tend to be more user-friendly and versatile than mounds.

#### Summary of Ideas from Original Plans

- Raised vegetable garden for staff to maintain
- Water-filling stations (like those used at UC Berkeley)
- Variety of fruit trees
- Variety of seating areas (group, solitary, benches, tables, moveable)
- Attract wildlife
- Multiple pathways
- Visual and noise barrier toward eastern end (near street)
- Incorporation of herbs, edible plants, and medicinal plants in planting beds
- Link garden to Health Center programs (Health Promotion)
- Stormwater management
- Shortcut between the garden and housing complex, The Colleges
- Staff lunch area

## Other User Needs

The health promotion group is one department of the student health center that plans on using the garden on a regular basis to teach students about health and wellness. One such way the HP group plans on using the new facility and garden is by having cooking classes which also uses the fruits, vegetables, and herbs found in the garden. Unfortunately, the HP group and the kitchen are located on the third floor of the building and must travel downstairs to gain access to the garden. Because class is meant to hold a maximum of 20 students, bringing all of those students down from the third story of the building may cause disruption and disorder between the students. The need for the students to gather and regroup outside of the stairwell is necessary for the instructor to help the students regain focus and carry out their plans.

Locating the raised garden bed in the garden is a difficult issue. One train of thought is to locate the garden close to the building so that if the bed gets untidy or unkempt, staff members feel compelled to maintain it because it is close by and always in view. However, some problems lie in this train of thought because although vegetable gardens can be very well maintained, they can still look messy. The original location of the raised bed is directly across from staff offices, and a view of an untidy bed may not be appealing to all staff. Also vegetables and fruit within the bed may attract pests that may be unsightly if the bed is close to the building. Finally, the original location of the raised bed was placed as close to the loading dock area as possible to allow staff easy access when they need to carry items to and from the garden. Placing the bed close to the loading dock, however, placed the bed under the shade of a very large, existing oak tree. Because vegetable plants tend to need full sun (6-8 hours per day) to be healthy producing plants, the shady location would not be the optimum choice to place the bed.



One item that was left out of the original plan in an effort to create a barrier to the busy La Rue Road was pedestrian access from the sidewalk to the garden. Although a few staff had expressed wanting seclusion from the public and students while in the garden, this way of thinking is harmful to the gardens goals, which include invoking positive feelings. Because the new Student Health and Wellness Center is part of a public campus, excluding the public and students would portray an unwelcoming, negative image of the school to onlookers. Also bringing a very dense barrier or even a wall to the street-side of the garden may pose a safety issue because although access to the garden may be difficult, it would be difficult for street onlookers to witness any crime that may happen inside the garden. Providing a few entry points into the garden besides at the northwestern corner may also detour potential users from trampling young plants and trees that were meant to block their access. Allowing the public and students access to the garden would also leave them open to discovering the healing aspects and the educational aspects of wellness that the garden is meant to house, including the vegetable garden, and may expose them to the programs and opportunities that the Health and Wellness Center offers.

## Preliminary Design Strategies

For the preliminary design phase of the project, two brand new preliminary landscape plans were made for the site as well as a preliminary plan using the basic hardscape layout of the original landscape plan. In planning out the preliminary designs for the healing garden, objects needed to be placed in the general vicinity within the garden. Due to the existing mature oak tree near the loading dock, a seating/gathering area in the form of a dining area was placed under the tree to make use of the great amount of shade that it already casts.

Another seating/gathering area was placed outside of the stairwell towards the northeast corner of the garden to allow classes coming down from the third-floor kitchen to mingle and regroup before exploring in the garden. Because the stairwell also leads to the staff breakroom, this was also used as a dining area in one of the designs so staff did not have to walk far to eat their lunch.

Because the doorway near the stairwell, which leads into the pharmacy, is accessible only to a few of the staff, traffic coming into and out of that door is expected to be minimal. Unfortunately, the door closest to the west, as well as many of the doors leading from the building to the garden, is mostly accessible to the staff only. Only one door (the middle door) allows students to access the garden from inside of the building; however this route is very circuitous and travels through departments of the health center, which some students may be uncomfortable walking through. Because student's access to the door seems confusing, it is expected that students will not use this door very frequently but would use the street entrance to the garden more.

The southwestern corner of the site was also a place of interest. Because of its seclusion and distance away from the street, this area was thought to be the best place for meditation or solitary seating. However, the close proximity to the loading dock and the dumpsters could possibly disrupt the peace and calm in the area. Fortunately loading and dumping would only be done sporadically throughout the day or week, and in opposition to the constant noise coming from the street, this area was preferred over an area closer to the street.

The noise coming from the street proved to be a problem since it would be hard to block off all noise completely while still keeping that the garden visually accessible. Locating meditative seating areas near the street end of the site would not be feasible; however, move active programming items in this area would be reasonable. The raised garden bed was chosen to be placed at the location closet to the street because the noise from the street was thought to disrupt gardening the least. Having the raised vegetable beds close to the sidewalk would also allow passers-by an opportunity to pick a snack from the garden much like the Plant Sciences Building on campus allows students to pick food while occupying the space. This location was also close to the stairwell and the seating/gathering space off of the stairwell so classes would not have to travel far when using the beds for education. This spot would also receive full sun and be far enough away from office windows not to be a distraction if the garden were a mess, but close enough to the building where it was still accessible to maintain. Access when loading or unloading garden supplies did pose a problem though since this location was farthest away from the loading dock. A fairly direct path of travel is, however, available from the loading dock, and staff could possibly gain temporary access from the street or from the neighboring student housing facility.

## Preliminary Design 1

In trying to keep installation costs down, the design of Preliminary Design 1 was kept simple by using mostly straight lines with a few curves. The basic layout of the main garden features (seating/gathering areas, meditation area, raised vegetable garden) were kept in the locations as stated previously. The sizes of the raised vegetable beds are larger than are typically seen (usually four feet wide for easy reach) so that perennial herbs and medicinal plants can be planted towards the center to provide more greenery in the bed while the garden lay between planting seasons. The rectangular shaped of the raised beds gave the garden a more formal look so to contrast that look, a small meandering nature walk was placed opposite the beds. To create a visual barrier to the meditative area and to give it a “found” feeling, shade trees and dense plantings were placed around the area and the meditative area was placed within the plantings. The detention pond, which will mimic a dry pond and whose boarder will be heavily planted with colorful, interesting plants was placed adjacent to the lunch/dining area so that users of the area would have a nice focal point to look at as well as having a buffer to the lawn area. The lawn area was kept flat for students who would prefer to lie out in a sunny area, and also so the area could be converted to a gathering area for special occasions. To create a feeling of escape and to also bring the tall building back down to human scale, a row of trees is planted along the south side of the building. Not only will the shade trees be used to cool the building, but also partially screen the garden users from seeing staff members working in their offices.

## Design 1 Program Elements

- Arc-tangent lines for pathway
- Small seating/gathering area outside stairwell for classes
- Lunch/dining area under existing tree for shade
- “Found” meditation area
- Raised planter beds for vegetables
- Dwarf fruit trees near raised beds
- Small nature walk
- Detention basin for stormwater management
- Flat lawn area
- Variety of seating areas scattered throughout site
- Seating areas have themes to engage user with the site or teach about wellness
- Signage throughout site to teach about wellness or about the garden
- Street access into site
- Walking path around site for exercise
- Shade trees
- Variety of plantings for color, texture, and year-round interest
- Drought-tolerant, native, medicinal, and edible plantings
- Planters with mounds to create privacy



Figure 2.22—Preliminary Design 1 (see Appendix 1 for enlargement)



## Preliminary Design 2

Instead of creating contrast between two elements within the garden like Preliminary Design 1, Preliminary Design 2 divided the garden into two juxtaposing parts; one with a formal feeling and one with a natural feeling. Within the formal section of the garden is a large lunch/dining area outside of the stairwell, raised garden beds colorful trees and shrubs, and a vegetable garden in the form of a knot garden. The lunch/dining area is surrounded by shade trees to make the area comfortable. However, since this area will be used most during the lunch hour when the sun is right overhead, a built shade structure will be used to screen out the sun and create more shade. Just south of the lunch area is a dual-raised planter bed for flowering trees and shrubs. The walls of the raised bed will also be used to create a seat wall, which look onto a focal point of an art piece or water fountain. In the backs of the raised beds are group seating areas for people who want to sit together in an enclosed, private area. On the opposite side of the garden is the informal, natural section which houses a small meditation area, circular meditation walk, and detention basin. Like the meditation area in Preliminary Design 1, it possesses a “found” feeling because it is nestled among densely planted trees and shrubs. A small seating area is placed under the large existing oak tree for those seeking immediate relief from the sun, and benches are placed so that they overlook the detention basin that will mimic an empty pond surrounded by many colorful plantings. Beyond the basin and plantings is a flat lawn area to continue the sense of lushness in the garden. Shade trees are also used along the south side of the building to help cool the building and screen the garden users from staff working in their offices.

## Design 2 Program Elements

- Separate formal and informal areas
- Formal area-linear pathways; informal area-curving pathway
- Lunch/dining area outside of stairwell; possibly with built shade structure
- Raised planter beds for formal flower garden
- Vegetable garden resembling knot-garden layout
- Dwarf fruit trees
- Walls of raised planter bed double as seating wall
- Small group seating areas behind raised planter beds for privacy
- Seating area under existing tree for shade
- Seating areas have themes to engage user with the site or teach about wellness
- Signage throughout site to teach about wellness or about the garden
- Circular pathway in meditation area
- Detention basin for stormwater management
- Flat lawn area
- Variety of seating areas scattered throughout site
- Street access to site
- Walking path around site for exercise
- Shade trees
- Variety of plants for color, texture, and year-round interest
- Drought-tolerant, native, medicinal, and edible plantings
- Planters with mounds to create privacy



Figure 2.23—Preliminary Design 2 (see Appendix 2 for enlargement)

### Preliminary Design 3

Unlike Preliminary Designs 1 and 2, Preliminary Design 3 uses the original design for the main pathway and incorporates the programming elements around it. The programming elements in this design are in circular shapes to compliment the curves in the main pathway. Outside of the main stair well is a large seating/gathering area for classes to use that is nearly surrounded by shade trees. Just a few steps away from the gathering area is the vegetable bed which is separated into 7 planters to represent the seven dimensions of wellness. The vegetable planters are separated by a walkway and can either be kept at surface level or can be turned into a raised bed if funds are sufficient. Fruit trees are located close to the vegetable beds for ease of maintenance; however, dwarf varieties will be used so that they will not block too much sun from getting the vegetable beds. The main lunch/dining area is located under the large existing tree to make use of the shade that is already available, and this area overlooks a lush green lawn. The lawn will either be a regular sod lawn for utility and user purposes or, to keep water usage and maintenance low, a lawn of drought-tolerant, native grasses. Instead of a single detention basin for stormwater management, vegetative swales/bioswales are scattered throughout the planter beds to disperse storm water back into the ground. A small meditative area is located among the plantings in the western end of the garden, and a larger gathering area with a water feature is located adjacent to the area for special occasions. Access to the garden is kept at the northeastern corner of the garden to give the garden a more secluded feel; however, more entrances can be included along the sidewalk to public entry into the garden.

### Design 3 Program Elements

- Use original landscape plan's layout for main pathway
- Meandering pathways
- Large seating/gathering area outside stairwell for classes
- Raised planter bed for vegetable garden; 7 planters to represent 7 areas of wellness
- Dwarf fruit trees
- Meditation area with water feature
- Flat lawn area
- Vegetative swales/bioswales incorporated in planters for stormwater management
- Lunch/dining area under existing tree for shade
- Variety of seating areas scattered throughout site
- Seating areas have themes to engage user with the site or teach about wellness
- Signage throughout site to teach about wellness or about the garden
- Walking path around site for exercise
- Shade trees
- Variety of plants for color, texture, and year-round interest
- Drought-tolerant, native, medicinal, and edible plantings
- Planters with mounds to create privacy



Figure 2.24—Preliminary Design 3 (see Appendix 3 for enlargement)

## UC Davis Student Health & Wellness Center Final Design

After a critique of the preliminary designs, changes were made and a final landscape master plan was created for the healing garden. Although changes were made and several concepts from a few of the designs were compiled into one, the basic layout of the healing garden remained the same. Under the existing tree is the lunch area with movable tables and seats. Adjacent to that seating area is a detention basin and plantings to create an aesthetically pleasing view as staff or visitors eat. Towards the most western side of the garden is a quieter area where a vegetated swale or dry creek bed and a few meditation/seating areas are available, and also a small group study area containing picnic tables. Towards the middle of the garden is a flat lawn area for those users who prefer to lie out on the grass. Closest to the street is a gathering/seating area for educational classes to use, and also seven raised vegetable planters (to represent the seven dimensions of wellness) with nearby fruit trees and perennial herb planters. South of the vegetable planters is a more natural area with a DG path. The lines of the final design are kept more curving and free-flowing to keep a more natural, rhythmic feeling. To create a more enclosed feeling, backfill from the detention basin will be used to create planting mounds, especially along La Rue Avenue. A large number of seating areas are offered to users who choose to sit either alone or with someone. To engage people in the site and to help distract them from any stressful thoughts, several items exist in the garden. Plantings are kept colorful and dense as well as having textural interest. A walking path exists around the garden for those seeking a little exercise while on a break. In the seating areas where curved benches are located, various focal points are at the centers for users to look at or even play with. Signs similar to those in the arboretum are also located around the garden to help educate users either about the garden itself or about health and wellness.



(see Appendix A for enlarged version)





## conclusion

Although a beautiful and useful healing garden may be available for students and staff to use at the new UC Davis Student Health and Wellness Center, its success is not guaranteed. One major factor working against the site is its remote location off of the main portion of campus. One of the biggest reasons for students not using a location is its distance away from their normal routine. Although the healing garden has been designed to best suit the ideals of its potential users, if access to the site or even knowledge of the site is minimal, it is possible that the garden will be neglected and fall into a state of disrepair. Unlike the much loved UC Davis Arboretum, the Student Health and Wellness Healing Garden does not yet have the man-power or volunteer base to keep it neat and trimmed. It must be realized that the condition of the landscape surrounding a medical facility can have a profound effect on the way patients view the care of the facility itself (McDaniel, Wieland, 2006). If the landscape around the facility is colorful and pristine, the services within the facility are believed to be higher quality than a facility whose landscape has become overgrown and weedy. Public awareness of the Student Health Center Healing Garden would not only benefit the students by giving them a healing environment, but would in turn place value on the garden and keep it beautiful, as well as helping to promote the UC Davis Student Health Services.



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# appendix







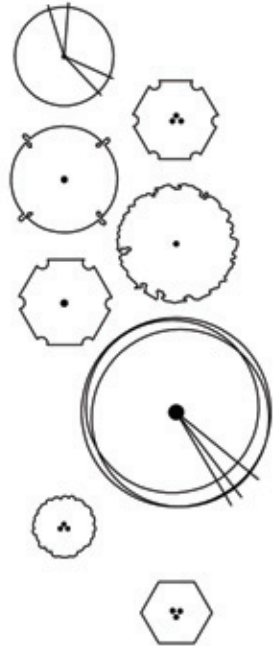


## UC Davis Student Health & Wellness Center Landscape Master Plan Notes

1. 6' Green Screen welded wire trellising system
2. Drinking fountain/ water filling station, typ. of 5
3. Bark mulch under existing trees
4. Movable tables and seats in lunch area
5. Straight bench, typ. of 16
6. Planting mound (use backfill from detention basin), various heights (1-4' ht.)
7. Trash and recycle receptacles, typ. of 8
8. Gathering/ seating area
9. Sign/lecturn, typ. of 5
- 9a. Way-finding sign or art to mark entrance/threshold
10. Pedestrian entry from La Rue
11. Perennial herb bed, typ. of 4
12. Raised wooden planter, 12" ht., typ. of 7, surrounded by DG path (to represent 7 dimensions of wellness)- see appendix 6
13. Water feature-see appendix 8
14. Fruit tree planter bed; dwarf fruit trees
15. Lawn/sod-dwarf fescue mix
16. Curved bench seating area with focal point-see appendicies 7 and 9
17. Detention basin with cobble mix, depth of basin to hold stormwater from roof
18. large group seating area/ study area
- 18a. water feature or art piece-see appendix 8
19. Dry creek bed/ vegetated swale with accent boulders-see appendix 10
20. DG short cut from The Colleges
21. Group of existing trees
22. Bark mulch under existing trees
23. Integral colored concrete, Davis Color San Diego Buff, 8" bands along edge, medium broom finish with heavy broom finish for banding.































## PLANTING SCHEDULE - TREES



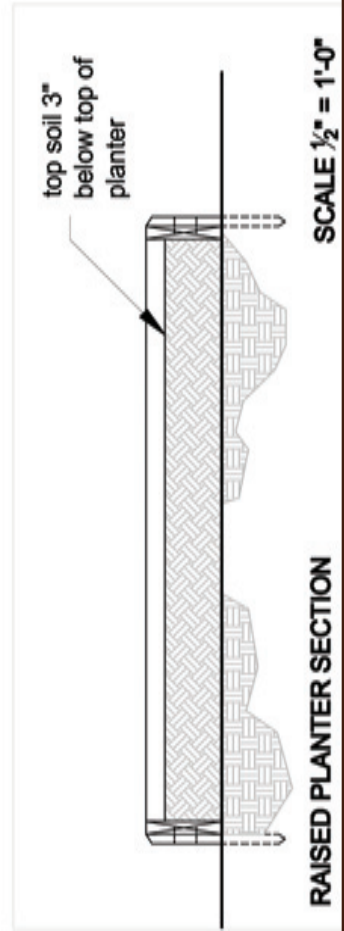
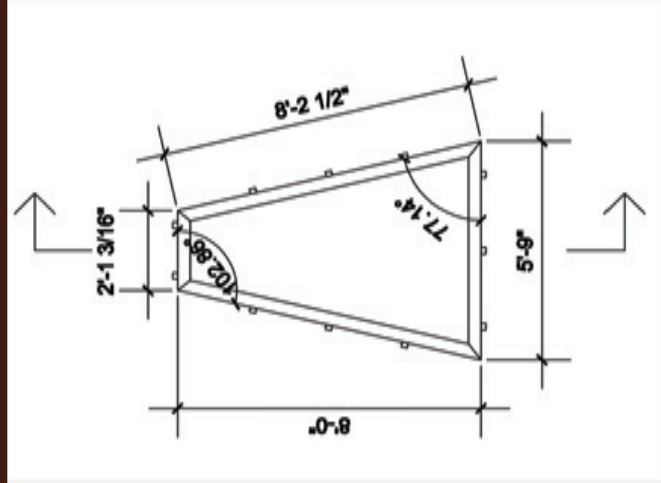
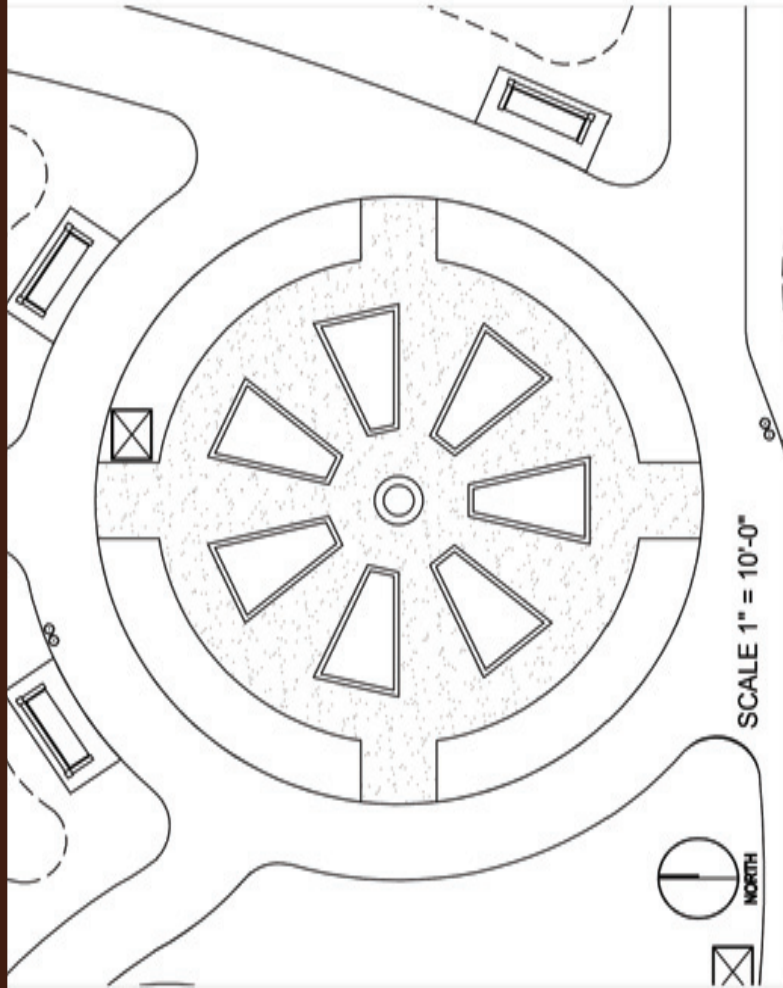
<u>TREES-BOTANICAL NAME</u>	<u>TREES-COMMON NAME</u>	<u>KEY</u>	<u>SIZE</u>
<i>Cercis canadensis</i>	Eastern Redbud	CRC	15G
<i>Cercis occidentalis</i>	Western Redbud	CRO	15G
<i>Chionanthus retusus</i>	Chinese Fringe Tree	CHR	15G
<i>Ginkgo biloba</i> 'Saratoga'	Saratoga Ginkgo	GIN	24"
<i>Lagerstroemia hybrids</i>	Crape Myrtle	LAG	24"
<i>Quercus lobata</i>	Valley Oak	QUE	24"
Dwarf Citrus Tree	Pink Mandarin and Nagami Kumquat		24"
Dwarf Fruit Tree	Santa Rosa Plum and Blenheim Apricot		7G

## PLANTING SCHEDULE - SHRUBS

	<u>SHRUBS-BOTANICAL NAME</u>	<u>SHRUBS-COMMON NAME</u>	<u>KEY</u>	<u>SIZE</u>
	<i>Abelia x grandiflora</i> 'Edward Goucher'	Pink Abelia	ABE	5G
	<i>Arctostaphylos</i> 'Emerald Carpet'	Emerald Carpet Manzanita	ARC	5G
	<i>Artemesia</i> 'Powis Castle'	Powis Castle Artemesia	ART	1G
	<i>Buddleja davidii</i> cvs.	Butterfly Bush	BUD	5G
	<i>Carpenteria californica</i>	Bush Anemone	CAC	5G
	<i>Ceanothus</i> 'Concha'	Concha California Lilac	CCO	5G
	<i>Ceanothus</i> 'Dark Star'	Dark Star California Lilac	CDS	5G
	<i>Ceanothus griseus horizontalis</i> 'Yankee Point'	Yankee Point California Lilac	CGH	5G
	<i>Cistus x purpurea</i>	Orchid Rockrose	CIS	5G
	<i>Coleonema pulchrum</i> 'Sunset Gold'	Sunset Gold Breath of Heaven	COL	5G
	<i>Cotinus coggygria</i> 'Royal Purple'	Royal Purple Smoke Bush	COT	15G
	<i>Feijoa sellowiana</i>	Pineapple Guava	FEI	5G
	<i>Lavandula angustifolia</i> 'Hidcote'/'Munstead'	English Lavender	LAN	1G
	<i>Lavandula x ginginali</i> 'Goodwin Creek Grey'	Goodwin Creek Lavender	LGC	1G
	<i>Lavandula stoechas</i> 'Otto Quast'	Otto Quast Spanish Lavender	LOQ	1G
	<i>Leucophyllum frutescens</i> 'Green Cloud'	Green Cloud Texas Ranger	LEU	1G
	<i>Myrtus communis</i> 'Compacta'	Dwarf Myrtle	MCC	5G
	<i>Myrtus communis</i> 'Variegata'	Variegated Myrtle	MVA	5G
	<i>Olea europea</i> 'Little Olive'	Little Olive Olive	OLL	5G
	<i>Perovskia atriplicifolia</i> 'Blue Spire'	Blue Spire Russian Sage	PRA	1G
	<i>Rosa</i> 'Flower Carpet'-Pink or Red	Flowering Carpet Rose	ROS	3G
	<i>Rosmarinus officinalis</i> 'Huntington Carpet'	Huntington Carpet Rosemary	RHC	5G
	<i>Rosmarinus officinalis</i> 'Tuscan Blue'	Tuscan Blue Rosemary	RTB	5G
	<i>Salvia greggii</i>	Autumn Sage	SGR	1G
	<i>Salvia microphylla</i>	Autumn Sage	SMC	1G
	<i>Sollya heterophylla</i>	Australian Bluebells	SOL	5G
	<i>Teucrium fruticans</i> 'Azureum'	Bush Germander	TFA	5G
	<i>Viburnum tinus</i> 'Spring Bouquet'	Spring Bouquet Viburnum	VIB	5G

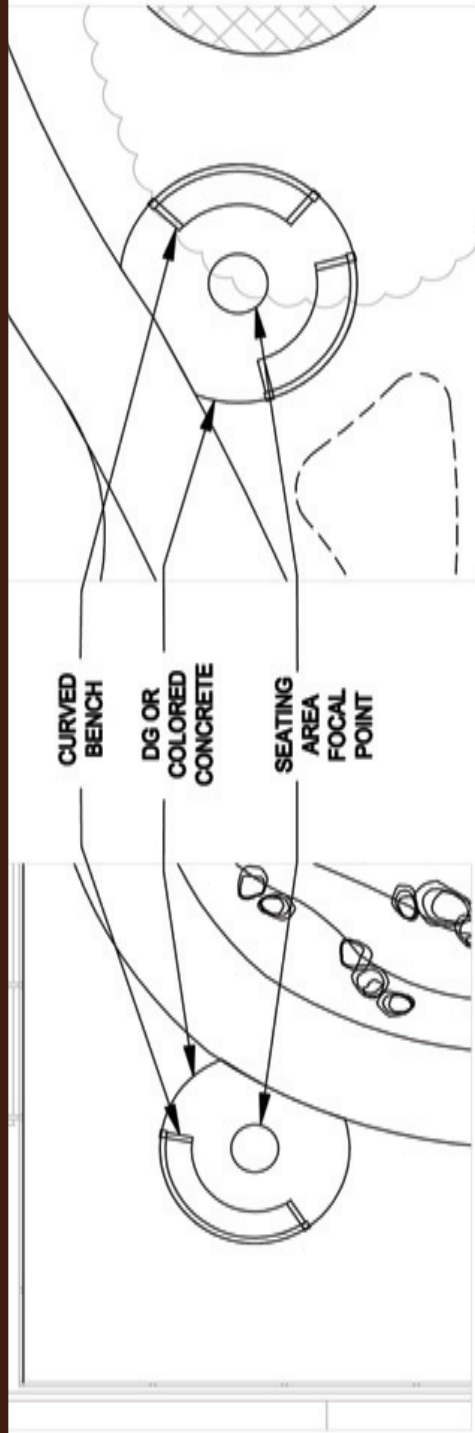
## PLANTING SCHEDULE - PERENNIALS

	<u>PERENNIALS-BOTANICAL NAME</u>	<u>PERENNIALS-BOTANICAL NAME</u>	<u>KEY</u>	<u>SIZE</u>
○	<i>Carex buchananii</i>	Leather Leaf Sedge	CXB	1G
✿	<i>Carex comans</i> 'Frosty Curis'	Frosty Curis Sedge	CFC	1G
✿	<i>Cerastium tomentosum</i>	Snow-in-Summer	CET	1G
⊗	<i>Cerastostigma plumbaginoides</i>	Leadwort	CRP	1G
⊕	<i>Coreopels grandiflora</i> 'Early Sunrise'	Early Sunrise Coreopels	CGE	1G
⊕	<i>Echinacea purpurea</i>	Purple Cone Flower	ECH	1G
⊙	<i>Erigeron karvinskianus</i>	Santa Barbara Daisy	ERG	1G
⊙	<i>Festuca glauca</i>	Blue Fescue	FSG	1G
⊕	<i>Gaura lindheimeri</i> 'Siskiyou Pink'	Siskiyou Pink Gaura	GAU	1G
⊕	<i>Hemerocallis hybrids</i>	Daylily	HEM	1G
⊙	<i>Heuchera</i> cvs.	Coral Bells	HEU	1G
✿	<i>Liriope muscari</i> 'Silvery Sunproof'	Silvery Sunproof Lilyturf	LIR	1G
⊗	<i>Muhlenbergia rigens</i>	Deer Grass	MUH	1G
⊙	<i>Nepeta x faassenii</i>	Catmint	NEP	1G
○	<i>Origanum vulgare</i>	Oregano	ORI	1G
⊙	<i>Osteospermum fruticosum</i> cvs.	African Daisy	OST	1G
○	<i>Penstemon heterophyllus</i>	Penstemon	PHT	1G
⊗	<i>Penstemon hybrids</i>	Garden Penstemon	PEN	1G
☀	<i>Phormium</i> 'Maori Maiden'	Maori Maiden New Zealand Flax	PHO	5G
⊙	<i>Phormium tenax</i> 'Jack Spratt'	Jack Spratt Flax	PJS	1G
⊕	<i>Salvia officinalis</i> 'Purpurascens'	Purple Culinary Sage	SOF	1G
⊕	<i>Santolina pinnata</i>	Green Lavender Cotton	SAN	1G
✿	<i>Stachys byzantina</i> 'Helen von Stein'	Helen von Stein Lamb's Ear	STA	1G
⊙	<i>Teucrium cossonii majoricum</i>	Germander	TCM	1G
⊙	<i>Teucrium x lucidrys</i> ( <i>T. chamaedrys</i> )	Germander	TLU	1G
⊙	<i>Thymus x citriodorus</i>	Lime Thyme	TCI	1G
⊙	<i>Tulbaghia violacea</i>	Society Garlic	TUL	1G
♣	<i>Trachelospermum jasminoides</i> (staked)	Star Jasmine (staked)	TRA	5G
⊕	<i>Zauschneria californica</i>	California Fuchsia	ZAU	1G



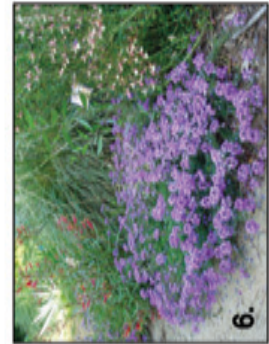
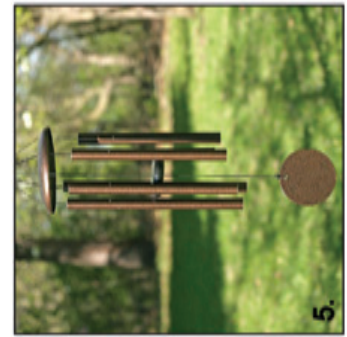
## RAISED VEGETABLE PLANTER DETAIL



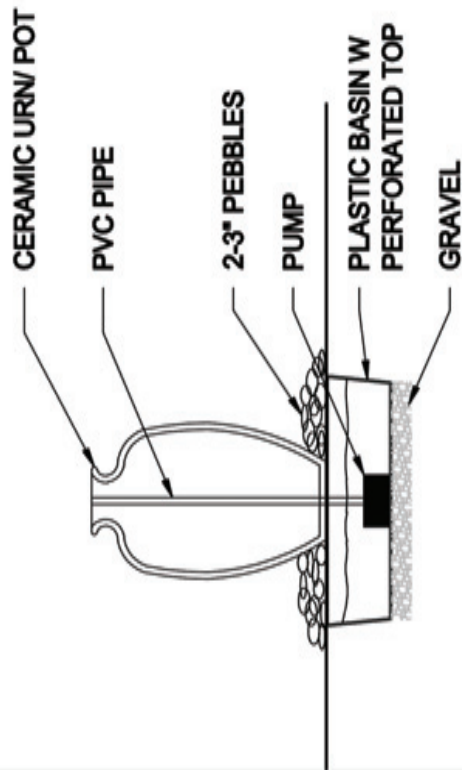


**SEATING AREA FOCAL POINTS:**

- 1. GAZING GLOBE
- 2. POTTERY FOUNTAIN
- 3. TABLE
- 4. MINI ZEN GARDEN
- 5. WIND CHIMES
- 6. PLANTINGS

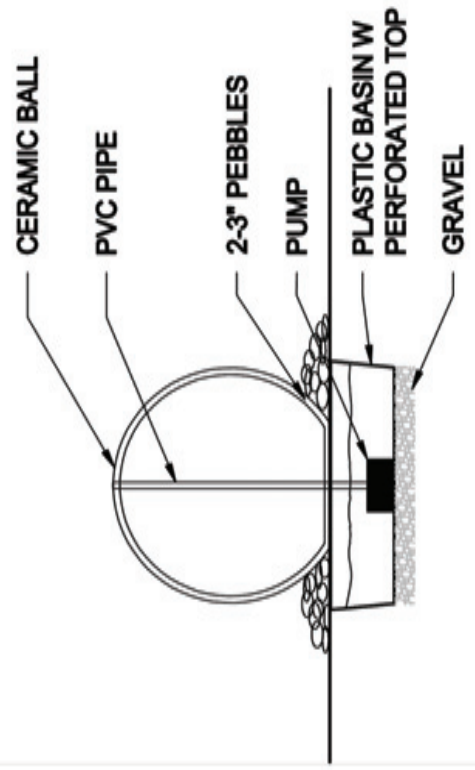


**CURVED BENCH SEATING AREA DETAILS**

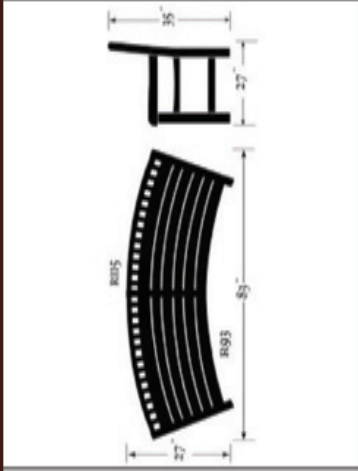


# CERAMIC WATER FOUNTAIN

SCALE 1/2" = 1'-0"







ESSEX 83 INCH CURVED BENCH AND DETAIL



WOODEN BENCH



METAL BENCH



CONCRETE SEAT

CURVED BENCH OPTIONS



PLANTINGS

2-3" SALT AND PEPPER PEBBLES

12-24" BOULDERS



## SWALE OR DRY CREEK BED

## UC Davis Student Survey

What is your class-standing?

Freshman      Sophomore      Junior      Senior      Graduate

Other \_\_\_\_\_

What is your major? \_\_\_\_\_

What spaces, landscapes, environments, etc. do you go to relax and relieve stress?  
Be as specific as possible. Describe the characteristics about the place that helps you to relax.

What activities (passive or active) do you find to be relaxing and/or stress-relieving?

Did you know that studies have shown that scenes of landscapes help patients with recovery and can also reduce stress?    Yes    No

What qualities, characteristics, and/or objects do you expect to find when you hear the term “Healing Garden” or “Wellness Garden”?

Have you ever been to the Cowell Student Health Center?      Yes    No

If yes, approximately how many times?

0-2 times

3-5 times

6+ times

If you have been to, seen, or passed by the Cowell Student Health Center:

What features (if any) did you like about the landscape around the building?

What could be improved about the landscape around the building?

Do you ever hang out or relax in the landscape around the Cowell Student Health Center? Please explain why or why not.

Yes:

No:

## CSUS Student Survey

What is your class-standing?

Freshman      Sophomore      Junior      Senior      Graduate

Other \_\_\_\_\_

What is your major? \_\_\_\_\_

What spaces, landscapes, environments, etc. do you go to relax and relieve stress?  
Be as specific as possible. Describe the characteristics about the place that helps you to relax.

What activities (passive or active) do you find to be relaxing and/or stress-relieving?

Did you know that studies have shown that scenes of landscapes help patients with recovery and can also reduce stress?    Yes    No

What qualities, characteristics, and/or objects do you expect to find when you hear the term “Healing Garden” or “Wellness Garden”?

Have you ever been to the CSUS Student Health and Wellness Center?    Yes    No

If yes, approximately how many times?

0-2 times

3-5 times

6+ times

If you have been to, seen, or passed by the CSUS Student Health and Wellness Center:

What features (if any) did you like about the landscape around the building?

What could be improved about the landscape around the building?

Do you ever hang out or relax in the landscape around the CSUS Student Health and Wellness Center? Please explain why or why not.

Yes:

No:

## UC Davis Student Health Center Staff Survey

How long have you worked at the Cowell Student Health Center?

0-1 year

2-3 years

4+ years

What spaces, landscapes, environments, etc. do you go to relax and relieve stress?  
Be as specific as possible. Describe the characteristics about the place that helps you to relax.

What activities (passive or active) do you find to be relaxing and/or stress-relieving?

Did you know that studies have shown that scenes of landscapes help patients with recovery and can also reduce stress?    Yes    No

What qualities, characteristics, and/or objects do you expect to find when you hear the term “Healing Garden” or “Wellness Garden”?

When looking at the landscape around the Cowell Student Health Center:

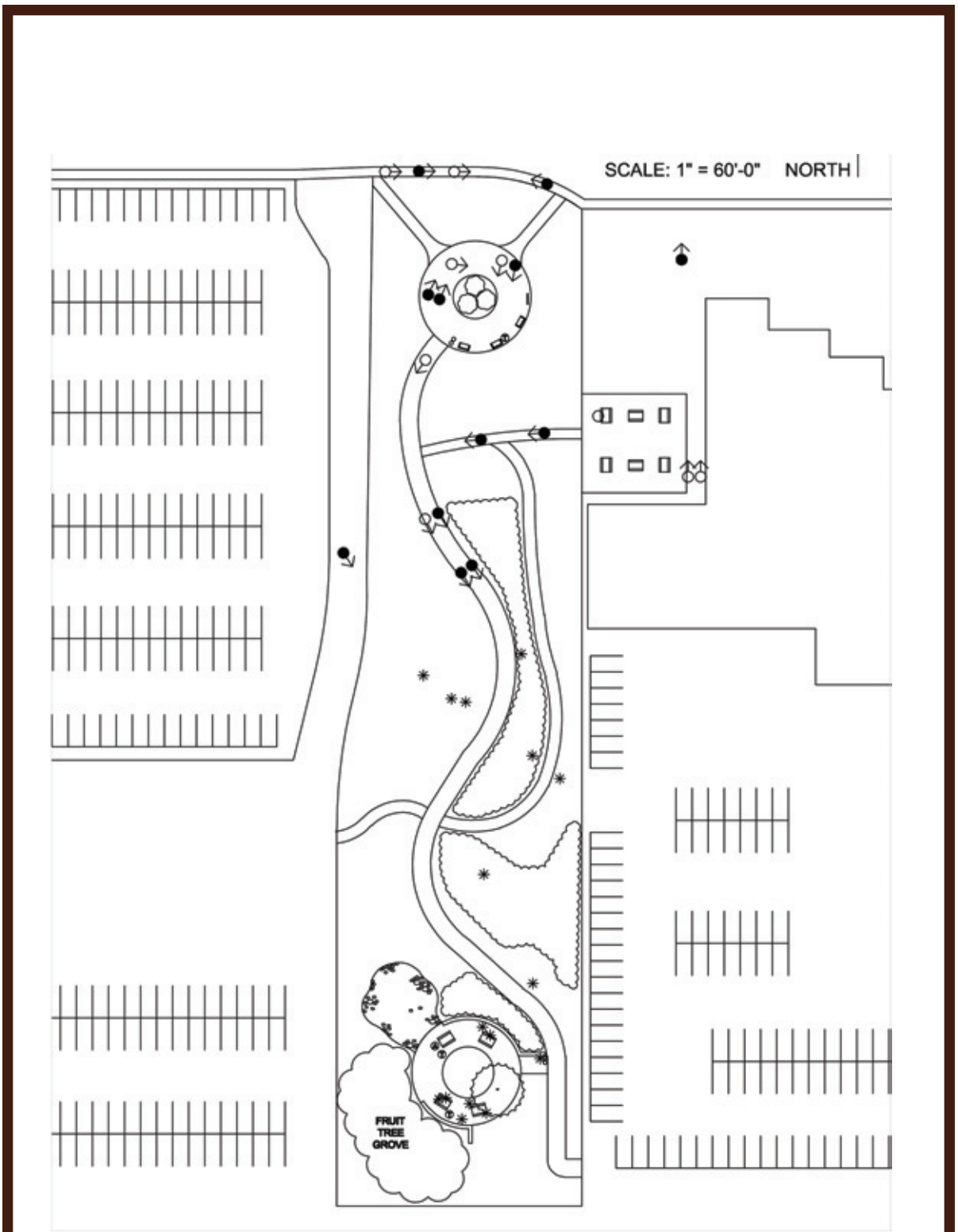
What features (if any) did you like about it?

What could be improved about it?

Do you ever hang out or relax in the landscape around the Cowell Student Health Center? Please explain why or why not. And if no, what places do you take lunch or take your break?

Yes:



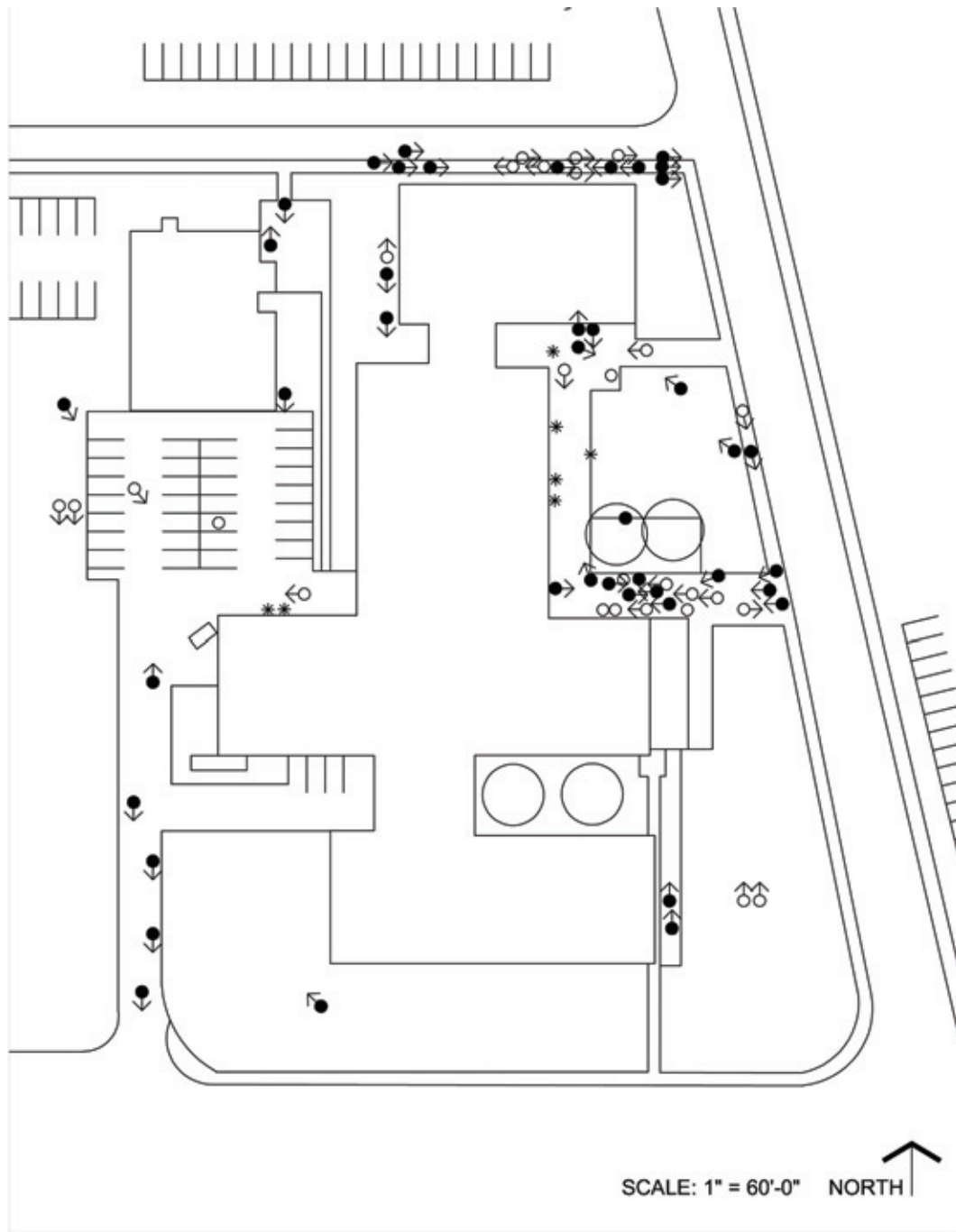


UCDMC Urban Wildlife Preserve Behavior Mapping



SITE NUMBER	UCDMC	SEX	AGE	DATE	START END	WEATHER	WEATHER	ACTIVITY	ITEMS NOTES
1	M	50	X	TUES	4/14/2009	1:30 PM	2:30 PM	PARTLY SUNNY, PARTLY CLOUDY, VERY WINDY	
2	M	40	X			walking			
						walking		worker	

SITE NUMBER	UCDMC	SEX	DATE	START	END	WEATHER	NO. IN GROUP	ACTIVITY	ITEMS	NOTES
1	FF	30	THUR	4/16/2009	1:30 PM	2:30 PM				SUNNY, SLIGHT BREEZE
			AGE	INDIVIDUAL	GROUP					
			X	2	walking, talking					
2	M	60	X		sitting, reading papers					
3	F	20	X		walking, talking on phone			cell phone, purse		adjacent bldg to parking lot
4	F	40	X		walking			from adjacent bldg		
5	M	30	X		bicycling			bike on sidewalk		
6	F	20	X		walkingpurse					
7	FF	20, 40	X	2	walking, talking water, lunch bag					coming back from lunch?
8	MF	40	X	2	walking, talking					
9	F	40	X		walking, talking on phone			purse, envelopes		from adjacent bldg
10	F	30	X		walkingpurse, briefcase			adjacent bldg to parking lot		
11	MM	40	X	2	walking, talking			hardhats, vests		construction workers
12	M	30	X		walkingpapers			worker, to adjacent bldg		
13	MF	30	X	2	walking, talking					



UC Davis Cowell Student Health Center Behavior Mapping

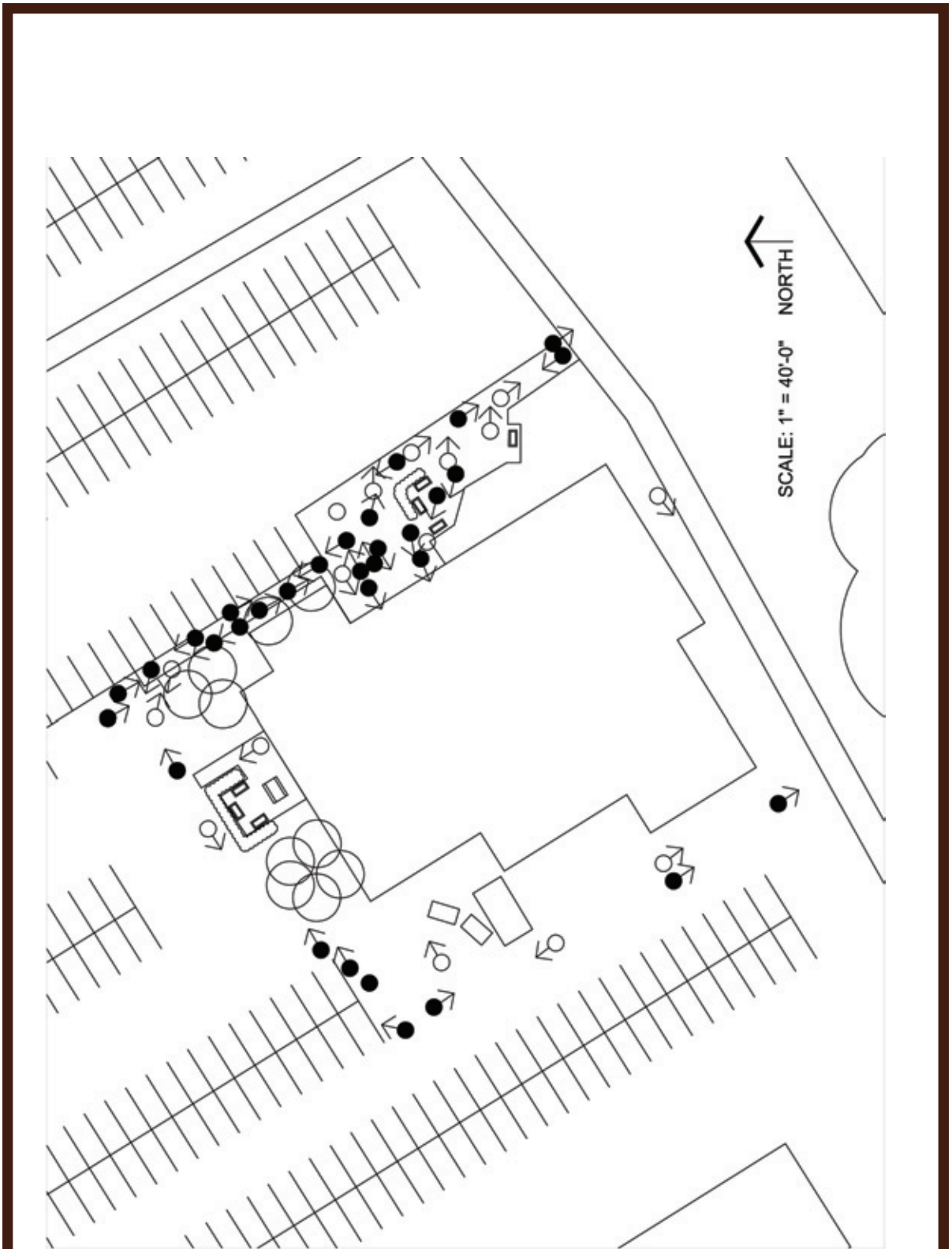
SITE COWELL NUMBER	SEX	AGE	DATE TUES	TIME 4/21/2009	WEATHER		ACTIVITY	ITEMS NOTES	
					INDIVIDUAL	GROUP			
1	F	40	X		walking/running	11:30AM	12:30	SUNNY, WARM	to van on street, side entrance
2	F	20	X		walking				key, badge cut across lawn to parking lot
3	F	20	X		walkingbackpack				
4	F	20	X		walkingpurse				cut across lawn
5	F	20	X		walkingbackpack				cut thru parking lot
6	M	20	X		walkingbackpack				exit bldg
7	F	20	X		bicycling				bag, phone
8	?	?	X		driving				car leaving emp. parking lot
9	M	40	X		bending over				looking for something in car
10	F	30	X		walkinglunch, sunglasses				enter bldg thru back
11	MM	20	X	2	walking, talkingbackpacks				
12	F	20	X		walking				bike, backpack got on bike in parking lot
13	M	30	X		walkingscrubs				enter bldg thru back
14	MM	20	X	2	walking, talkingbackpacks				
15	F	20	X		walkingbackpack				
16	F	20	X		walkingbackpack				
17	F	20	X		walkingpurse				
18	M	20	X		walkingbackpack				
19	F	20	X		walkingkeys, sunglasses				
20	M	20	X		walkingbackpack				

SITE COWELL NUMBER	SEX	DATE TUES	TIME 4/21/2009	INDIVIDUAL AGE	WEATHER 11:30AM	NO. IN GROUP	ACTIVITY	ITEMS NOTES
21	F	X		30	walking	1	exit from back of bldg	
22	M	X		20	sitting	1	backpack, phone	playing with phone
23	F	X		20	bicycling	1	backpack	exit from N. Lobby
24	F	X		30	sitting, talking	1	scrubs, phone	
25	F	X		20	walking	1	backpack	
26	M	X		20	bicycling	1	backpack	
27	F	X		20	walking	1	water, phone	exit from bldg
28	F	X		20	walking	1	park car, kiss & pick up #22	
29	F	X		20	walking	1	sunglasses, water	looked at bikes
30	M	X		20	park bike	1	backpack, bike	
31	M	X		20	park bike	1	backpack, bike	
32	F	X		20	walking	1	backpack	enter bldg
33	M	X		20	walking	1		
34	M	X		20	walking	1	backpack, papers	
35	F	X		20	walking	1	phone	exit from N. Lobby
36	F	X		20	walking	1	backpack, bag	exit bldg
37	F	X		20	walking	1	backpack	
38	F	X		20	bicycling	1	bike, backpack	
39	M	X		20	stationary	1	bike, backpack	unlocking bike

SITE COWELL NUMBER	SEX	DATE THUR	TIME 4/23/2009	WEATHER 10:05AM	OVERCAST/CLOUDY, COOL	WEATHER		ACTIVITY	ITEMS NOTES
						INDIVIDUAL	NO. IN GROUP		
1	M							walkingbackpack	
2	F							walkingbackpack	
3	FFF					X	3	walking, talkingbackpack	cut thru from parking lot
4	F					X		walking	
5	F					X		walkingbackpack, bag	
6	M					X		walkingbackpack, hat	cut thru from parking lot
7	F					X		walkingpurse	cut thru from parking lot
8	F					X		walkingbike	carry bike into annex
9	M					X		walkingbag	shortcut thru back parking lot
10	F					X		walkingbackpack	exit from annex
11	MM					X	2	walking, talkingbackpack	
12	F					X		walkingkeys, badge	exit from side door
13	F					X		stationary bike	getting bike
14	M					X		stationary bike	getting bike
15	F					X		walkingpurse	enter bldg
16	F					X		walking, talkingcell phone	
17	M					X		walkingbackpack	
18	F					X		walkingbackpack, paperexit	from N. Lobby
19	F					X		walkingbag	enter bldg
20	M					X		bicycling	backpack, bike



SITE COWELL NUMBER	SEX	AGE	DATE THUR	TIME 4/23/2009	INDIVIDUAL GROUP	WEATHER		ITEMS	NOTES
						NO. IN GROUP	ACTIVITY		
21	F	30	X		bicycling	10:05AM	10:35		OVERCAST/ CLOUDY, COOL
22	F	20	X		walking				dropped off from car
23	M	20	X		walking			backpack	
24	MM	20		X	2	sitting, talking		backpacks	



CSUS Student Health and Wellness Center Behavior Mapping

SITE CSUS NUMBER	SEX	AGE	DATE	START END	WEATHER	WEATHER	NO. IN GROUP	ACTIVITY	ITEMS NOTES
1	M	40	4/14/2009	3:00 PM	3:30 PM	partly sunny, partly cloudy, very windy		walking, talking cell phone	enter bldg
2	M	30						walking, looking at phone	cell phone
3	F	20						walking/running	backpack
4	M	20						walkingbackpack	
5	MM	20					2	walking, talkingbackpack	enter bldg
6	F	30						walkingpurse	
7	M	40						walkingbackpack	enter bldg
8	F	20						walkingbackpack	
9	M	20						walking	
10	F	20						walking	enter bldg
11	M	30						unlocking bike bag	exit from bldg
12	F	20						walkingpurse, backpack	
13	M	20						walking, talking on phone	bkpack, skatebd
14	M	20						walking, talking on phone	backpack, phone
15	M	20						walkingbackpack	
16	F	30						walkingpurse	
17	F	40						walkingpurse	
18	MF	20					2	walkingcell phone	
19	FF	20					2	walking, talking	
20	F	40						walkingpurse, cane	

SITE CSUS NUMBER	SEX	AGE	DATE 4/14/2009	START INDIVIDUAL	END GROUP	WEATHER 3:30 PM	NO. IN GROUP	ACTIVITY	ITEMS NOTES
21	F	20						walking backpack	
22	M	20						walking backpack	
23	F	20						walking purse	
24	F	30						walking backpack	
25	M	20						walking	
26	F	20						standing	drink, purse drinking coffee
27	M	20						walking backpack	
28	F	40						walking backpack	
29	F	40						walking backpack	
30	M	40						walking backpack	exit from bldg

SITE CSUS NUMBER	SEX	AGE	DATE 4/16/2009	START 3:00 PM	END 3:30 PM	WEATHER	INDIVIDUAL	GROUP	NO. IN GROUP	ACTIVITY	ITEMS	NOTES
1	FF	20	X	2	walking, talking	backpack						
2	F	30	X	walking	backpack							
3	F	30	X	walking, talking	on phone	cell phone						
4	F	20	X	walking	purse							
5	F	30	X	walking	backpack	enter bldg						
6	M	20	X	walking, talking	on phone	cell phone						
7	M	20	X	walking	folder							
8	F	20	X	walking	working out							
9	MF	20	X	2	walking, talking	walking, talking	walking to field					
10	F	50	X	walking	labcoat							
11	M	20	X	walking, eating	chips	backpack, chips						
12	MF	30	X	2	walking, talking							
13	F	20	X	walking								
14	F	30	X	walking	backpack, water							
15	FF	20	X	2	walking, talking	purse						
16	F	20	X	walking	backpack							
17	F	30	X	walking	bkpk, purse, cell							
18	F	20	X	walking	bkpk, headphone							
19	F	20	X	walking, reading	backpack							



# the power of the landscape:

○ { a healing garden for the uc davis  
student health & wellness center }

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spring 2009