

Sustainable food for students
Organic Gardening for Humboldt State University



Dr. Richard Hansis

Humboldt State University

ENVS 410

Project Proposal

Spring 2010

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Table of Contents

Problem Statement.....	2
Problem Background.....	2
Goals and Objectives.....	3
Alternatives.....	3
Implementation strategies.....	4
Monitoring and evaluation.....	5
The Process.....	6
What we learned.....	7
Appendix A – Plant list	8
Appendix B – Veggielution: Growing Organically in San Jose.....	8
Appendix C – Harvard Garden.....	10
Appendix D – San Jose’s Experimental Garden.....	12
Appendix E – Original Project Proposal.....	13
Appendix F – Design Sketches.....	18
Appendix G – Letter from Tall Chief.....	20

Problem Statement

Though HSU claims to be a leader in sustainability education, there is little focus in our institution on food production and its role in our society, and our environment. There is a general lack of awareness of where food comes from. Moreover there is a severe disconnect between food production and consumption on our campus. Lastly there is compost on campus which is underutilized.

Problem Background

To adequately address our problem it was crucial that we discover what had already been done to solve similar problems elsewhere. Because, we are continuing the work of fellow 410 students from last semester, referring to their project was an obvious first choice. There was some very helpful information in this project. The most helpful information was the particular species they chose to include in their garden. (See species list Appendix A) Beyond specific species, we were concerned with the actual implementation of a garden. Furthermore, we were interested in possible future expansions. Beyond what the previous group had already planted, we thought it necessary to explore many other edible gardens to find what could work for us.

What are the barriers at HSU?

Researching this topic proved fruitful. This research was a success, because there were many students, and organizations already breaking ground on these gardens. Locally we were able to visit POTOWOT, which is a local farm that produces Organic produce. Reaching beyond Arcata, and into the Bay Area we discovered Veggielution a community garden in Downtown San Jose. This garden is of particular interest, because it was started at a California State University campus. Furthermore, it was started by a student. (See Appendix B) Meeting with co-founder Amie Frisch we were able to gain some great tips about gardening. Particular plant species were not of particular interest. Information on the process would prove much more helpful than the specific gardening techniques. After reviewing what had been done at Veggielution we saw how a small project can transform into a well established farm.

Although our ultimate goal would be similar to the current state of Veggielution, we too would need to start small. Following this thought we decided to research some smaller more manageable garden plots. Upon examination we found that there were many college campuses working with smaller garden plots. The Harvard food literacy project (See appendix

C) utilizes raised beds as urban gardens, which they use to feed, and educate students and Faculty. Starting this project, "Initial plans were modest, with an eye toward growth." This Harvard project gave us some great ideas for a small start with options for a big future.

~~elaborate~~
Back to the west, we came across another San Jose State garden, which was much more manageable than either of the previously discussed gardens. Like the Harvard project this project utilized raised beds. Unlike Veggielution this particular garden plot was temporary, but involved edible landscaping. This garden could be a viable alternative if the school is concerned with a timeline. Also, to address the issue of continuity, raised beds become more interesting, because they can be replaced fairly timely, and easily.

Looking to what has already been done was useful, because it allowed us to bring together multiple resources. Also, we were able to see what strategies worked, and what strategies would be most beneficial to our eventual success of garden implementation. Furthermore, these resources would help us to refine our goals. Also, we gained a list of viable alternatives to our proposal.

Goals and Objectives

Our goals, in response to the perceived problem, are to

- Establish a system and location to educate students on sustainable garden practices on campus.
- Establish or institutionalize a way to propel the endeavor into the future despite short student residence time at University.

Objectives

- Establish a Club for Gardening through AS by the end of the semester.
- Establish a site on Campus by the end of the semester with Plant Ops.
- Submit a coherent plan to Plant Ops.
- Design a garden site in conjunction with CRP for approvability and to work towards mutual needs.
- Work with Plant Ops in getting approval for the site until approved

Alternatives

In order to make our project the best possible, we found it necessary to consider multiple alternatives to solve our problem. Following the example of San Jose State (See appendix D) we considered having less permanent gardens in **planter boxes**. These gardens would be great for getting student interaction. The planter boxes however would limit what types of plant we could utilize. Furthermore, the ability of these boxes to be reclaimed by plant operations would interfere with our goal of continuity. Overall the planter box idea is not what we want for this campus *unrelated*

Our campus already has a few gardens at the CCAT facility. One optional alternative could be to try and **team up with CCAT**. Although this idea seemed feasible, it went against our goal of educating ~~the~~ more students. CCAT is already established, and we are striving to reach more students. ~~CCAT is doing great things, but as a group we wanted to get a garden on a different campus site.~~ This would help to raise more awareness among students.

Considering an overall lack of local ~~and~~ sustainable food we would have to consider the implementation of a **Large scale Farm**. Referring back to our research, this would similar to Veggielution. Upon examination of this alternative, we found that Humboldt State does have a couple farms it is affiliated with. Due to health regulations however the food cannot be used on campus. Furthermore, the scale of a larger farm is not a practical project for our time frame.

Considering our time frame, and the possibility of not being approved, we have considered the **Guerrilla Gardening** approach. This option would make obtaining approval easy, because we would not need any. This option however would go directly against our goal of continuity, because plant operations would most likely destroy the garden, furthermore, we would lose social capital for future projects.

Implementation strategies

Need to evaluate chosen alternative here

A Humboldt State University program geared toward sustainable gardening on campus. Our Implementation plans builds on the previous 2009 fall semesters garden project plus interests in joining forces with CRP (Compost Recycling Program). Our Group interest will be continuing from semester to semester by future ENVS 410 and CRP students. We want to lay down the format, structure, and secure a garden site for the project.

Last semesters ENVS 410 students secured a nice garden spot on campus. In order to make this plot of land operational, we will have to take measurements, create a proposal for plant ops, and to figure out the appropriate plant species. We have determined to plant perennials due to the amount of sunlight the plants will receive which is about 8-9 hours on a sunny day, along with a limited amount of water makes perennials a feasible option.

In order to ^eEstablish or institutionalize a way to propel the endeavor into the future despite short student residence time at University, ¹We will establish a club dedicated to

maintain and service the garden that will continue our goal of continuity. The club would keep up with new gardening methods and strategies that we could use to enhance the garden. The Club would be responsible for the overall care of the garden. CRP would supply us with land and compost as needed. CRP is having problems with the previous land that was allocated to them buy the school. By joining forces, The Campus Garden project and CRP would be assigned an ideal piece of land.

what kind?

With the help of CRP, we have a site that only needs a couple of days of prep work. After this, we would be able to build the garden with the help of Peter Oakland, leader of the Humboldt Permaculture Guild. We will be building 2 - 12x12 ft wood beds, the wood will be donated to us by the Mill Yard. Potawot community health center has been generous enough to donate seeds and to offer their advice as we need it.

We will continue to Work with Plant Ops in getting approval for the site until approved. We have developed many connections around campus and strongly believe our proposal for land, garden space, and continuity through a club will be approved.

Any negatives?

Need more of a timeline
Who is doing what, when?

Monitoring and evaluation

The objectives of our original project will not be met. The original ~~policy~~ ^{main} proposal's main objectives were to plant an edible garden on campus, implement a club, and overall continuity of the garden. This would be made possible by having an allotted space. Once established and presented by Doug Kokesh, we could then carry out the necessary actions to meet the criteria of the proposal. However, after meeting up with Tall Chief and emailing Doug, the location that was supposed to be allotted was not granted. The reason the site was not granted was due to not having sufficient resources to continue maintenance of the edible garden over the summer.

?

With the lack of resources we had to re-strategize our plan. Our group then met up with CRP (Campus Recycle Program) and teamed up in conjunction to achieve approval for the site that is located behind the softball field. A proposal has been written by CRP and addressed to Tom Moxon for the proposed site. At present, we are still waiting on approval, which has to be granted by Tom Moxon. If approved, this would allow for a future class to work with the Campus Recycle Program. Furthermore, they could go forth with utilizing the site for purposes of composting and gardening.

To facilitate this transition, we have also written a club constitution that can be utilized by a future class. This club would meet help to meet the objective of continuity if a club is enacted in the future. A member from the Compost Recycling Program works for the Lumberjack newspaper and is writing a CRP pamphlet about the project that is currently in

progress. The pamphlet's objective is to raise awareness for the project and hopefully gather volunteers to help with starting the project. Pamphlets are to be distributed by CRP with contact information for the club's email address. If people respond to the pamphlet and contact our group or members of the CRP concerning help, then we will know that the publication has reached the campus audience and the goal of gathering volunteers would be successful.

Success of actual turn out of volunteers can be monitored by a sign in sheet and recording start and finish times of individuals. In the text of our new proposal we will include future suggestions for planting certain types of edible plants. Hopefully future bureaucratic processes will be diminished, if the site is approved for. Evaluating the success of our new proposal will be determined by approval of the site. If approved for the site, then both the Compost Recycling program and a future class can work together and start putting together the projected features of the site.

The Process

This is part of Implementation

Our group decided we were going to continue and elaborate on the fall 2009 semesters' garden proposal. After seeing the last semester's garden we were inspired to create a similar garden but in a highly trafficked area. On February 2nd, we decided to design and build a sustainable garden on campus to educate students and faculty about sustainable gardening.

To learn how to garden, Jesus and Kyle volunteered at Potawot with T and Ed, who manage operations at the Potawot community health garden. Potawot was very happy to answer any questions we had and showed us the proper way to plant, manage, and operate a garden. They were willing to give our group seeds but preferred us to plant perennials instead of annuals since we were on a tight budget. Zach attended the seed exchange and met some important contacts from the Humboldt Permaculture Guild and was able to establish a seed bank for the garden project with the help of all those who donated their seeds to the exchange.

Dr. Hansis told us about the land allocated to our group by the 2009 fall semesters garden project and plant Ops manager Doug Kokesh. After hearing this, we visited the proposed site many times to get a feeling for the land. We wrote a couple of emails to Doug stating that we were going to continue last semester's garden project and wanted his permission to use the land. To our surprise, Doug seemed unaware of the land that we wanted to use and needed specifics about the project before he could approve the garden. Doug was very clear in the email that a "longstanding request for space are denied actually". This was a problem for our group; we truly wanted the garden to be long term which would be part of our goal of continuity.

After the letter from Doug we decided to meet up with Charlene who was part of last semester's garden project. Charlene showed us another site just south of the women's softball field. This small portion of this site is currently used to house rugby equipment and construction debris.

After we found out the site we were expecting to use was not going to be available, ^{we} we then started to look for alternative sites. After several denials from plan operations, we met up with a previous student from the 410 class for about an hour and she directed us to the site that was to be utilized for the garden. The meeting with the student then got us on track and we started contacting different organizations on campus regarding our project and plans. We went to the Yes house and Associated Students office to try and get a letter head for a donation of lumber, but they were unable to help us with getting a letter head. The same day Zach contacted a member from the composting club and was able to confirm that we were able to use compost as our fertilizer for the edible garden. Next week we met up with Tall Chief to verify if the land was in fact allocated for a campus project by students. A proposal was required in order to evaluate if the land can be used for a project, but the email that Tall Chief sent back, read that we were not able to use the site (See Appendix G), because we had no one to maintain it over the summer. When we found out we were denied for the site, we had to start from scratch again, which interfered with meeting our original objectives. We then started to look for alternatives and were encouraged by TC Comet to collaborate with CRP.

Zach contacted Kyle Stammerjohn, coordinator of the Compost Squad at CRP and suggested the collaboration, which was met with enthusiasm. The following week, Kyle Stammerjohn took Zach on a tour of the current CRP compost site, explaining its pros and cons and why they wanted the new site for ground stability, access by truck and passerby, and flat ground. Kyle said that the chances of getting approval for the site by the administration were greatly improved by the aesthetic benefits a well managed garden could provide, along with the educational strength of a system that demonstrated the cycle of creating and utilizing compost. In their conversation, Kyle told Zach that he had a written proposal but was too busy to draw a design, and if we could make one on Google's freeware program Sketch Up, then our chances of approval would be higher. Kyle outlined the requirements that CRP would need for their purposes. The following few weeks, Zach downloaded Google Sketch Up, learned how to use it, and created a model of the site with Kyle's design suggestions in mind. John, Jesus and Zach measured the site to get accurate dimensions into the model, and the sketch was greatly appreciated by Kyle of CRP as an addition to his written proposal.

Through a personal connection (Zach's girlfriend, Carrie Schaden), Peter Oakland, leader of the Humboldt Permaculture Guild was informed about the project and volunteered his gardening expertise to the project. In an hour or so of talking at the site, Peter outlined to Zach and John several specifics about the site, in response to questions we had formulated earlier. This fruitful dialogue yielded the following suggestions:

- That a French drain be installed underneath the flooded area of the site to relieve inundation. There is a drain grate some 20 feet from the site.
- That paths be raised up, gravel used to infill, to stabilize the soil.
- Perennials would allow us to utilize the aesthetic and food supplying benefits of a garden with much less maintenance (as a student garden is likely to be subject to periodic negligence when school is not in session)

What do other schools with gardens do during the summer

Should be included in the alternative

- **Suggested perennials: Herbs, flowers, sage, lavender, local berries.**
- **Areas for annuals, but not necessarily the emphasis of the garden**
- **Permaculture Guild would be glad to provide further consultation, backup service and maintenance.**
- **Limit aggressive colonizing species like calendula or comfrey**
- **Straw bales for mulch and odor control for compost.**
- Turn the dead tree on the plot into habitat for a climbing plant i.e. beans, grapes or locally adapted wiki }
- Mushroom beds could be installed in the shaded area bordering the fence
- Flowers along parking lot edge would provide a natural buffer from car exhaust, and if umbelliferous plants were used, they could attract beneficial insects that would eat pests and provide pollination
- Decide what to plant before dumping gravel to ensure ease of bed construction
- Keep a log binder for club activities to document ideas and history, perhaps in the CCAT bookcase
- Could use a garden bed as a slug control demonstration site, showing different methods
- Hoop house structures could be built around beds as a greenhouse
- Make sure to get a good mix of NPK and correct pH ratio in soil.
- Underneath the beds should be soil as opposed to gravel to allow root penetration, but facilitate a level elevation with the gravel

These suggestions are a valuable resource and we are lucky to have access to such seasoned advice. This list will be presented to CRP in the Club Documents, and also have been forward to Kyle with the **bold ones** emphasized for his meeting with Tim Moxon. These in particular show that we are capable and informed about maintenance, construction, and planning.

What we Learned

In this project, we learned much on the topic of working within an established institution to make progress towards sustainability. Though a group may feel they are doing something which ought to be done, and would like to manifest their vision instantaneously, there are many hurdles to navigate within the system on the way to completion. Each step must be reviewed by a 'lower' level authority before being passed 'up' in the power structure. One of the most important skills learned was that of a comprehensive printed report with color pictures, design sketches, plans, costs, labor, all reported on, presented to the presiding decision maker. This document does the decision maker the sizable favor of doing their homework for them. This allows them to examine a proposal that is already well formed and tangible, giving the project an immediate head start, and a chance of early approval.

In this project, we learned to collaborate with other people, like CRP who^{is} currently attempting a similar project. We learned that combining efforts across similar organizations can

bridge knowledge gaps, enhance efficacy, combine strengths, share resources and provide multiple perspectives. We also learned that getting donations to build things can be the easy part, whereas actually finding an approvable location is the long, complex, drawn out part. We learned that pace is important in a group project, that working every week towards goals makes progress steady and achievable. And most of all we learned how to get things done.

Appendix A Plant list:

- **Blueberry** (Vaccinium corymbosum)
- **California Strawberry** (Fragaria californicus)
- **Native Huckleberries** (Tropaeolum spp)
- **Icelandic Kale**
- **Broccoli**
- **Shallots**
- **Assorted flowers**
- **Rosemary** (Rosmarinus spp)
- **Salmonberry** (Rubus spectabilis)
- **Wild Ginger** (Asarum caudatum)
- **Vetch (cover crop)**

Appendix B Veggielution

Growing locally in San Jose

Posted by [Sunset](#), October 15, 2009 in [Edibles](#), [Events](#), [People](#), [Sustainable gardening](#), [Techniques](#)

By Julie Chai, [Sunset](#) associate garden editor

I love it when people take matters into their own hands. So I was really excited to meet Amie Frisch, project director for [Veggielution](#) community farm, who's intent on evolving the local food movement in the San Jose area.

Amie and cofounder Mark Anthony Medeiros met a couple years ago while they were apartment-dwelling students at [San Jose State University](#). They both wanted space to grow fresh veggies, so Mark posted fliers in a nearby neighborhood asking residents if they'd share some growing ground in exchange for homegrown produce. They got more responses than expected and, along with other student volunteers, they tended several gardens but soon wanted a centralized place where people in the community could get involved. One thing led to another and, last spring, they were offered a quarter acre plot in [Emma Prusch Farm Park](#) in San Jose. And Veggielution was born.

Situated below the intersection of the 101 and 280/680 freeways in the middle of suburban San Jose, it might seem like an unlikely place for a farm. But the land was once a working dairy farm in what was nicknamed "the Valley of Hearts Delight," and Veggielution is thriving there. With guidance from [master gardeners](#) and experts, along with a team of eager volunteers, they're producing bushels of crops—150 pounds of which goes to local food banks every week.

"Once the city saw how we transformed it, they started taking us seriously," Amie says. A few months ago, they were granted use of an additional acre, and a hundred people helped break ground on June 20. Draft horses plowed and dished, and volunteers planted a third of the acre (shown above) that day.

Amie wants Veggielution to be a community resource where people can learn about agriculture and the related issues of health, the environment, and social justice. "Access to healthy food should be a right," she says.

Anyone can take part in the farm's weekly [volunteer days](#), and go to regularly-held classes on a range of topics—this Sunday you can learn about mushroom cultivation. "In cities, you don't see farms," Amie says. "We want to give people that experience and to dig into it."

And if you're free Saturday evening, you can attend the [Bounty of Heart's Delight fundraiser](#) which starts with appetizers at the farm, followed by dinner at [Eulipia](#)—all made with local, sustainably-grown food, of course. The event supports Veggielution's new program for local high schoolers who'll learn not only about farming, but also about leadership, communication, and community issues.

"By making something happen, we're hoping that others see it's possible," Amie says. "We want to be the hub of local food in the South Bay. And we want to grow awesome food."

Appendix C: Harvard garden

Students will oversee University-planned effort to grow food locally

By Crista Martin and Lauren Marshall

Monday, March 22, 2010

Drawing prepared by Ilana Cohen, Erin Kelly, Rebecca Bartlett, Amy Whitesides, Dorothy Tang, Abhishek Sharma, Xue Zhou, and Athens Qin

This drawing highlights where the first of Harvard's raised-bed gardens will be located. The 560-square-foot growing space at 27 Holyoke Place in Cambridge, will provide experiential education in sustainable, urban agriculture and food for students, faculty, and the community.

Harvard University will literally sow new seeds for learning with the launch next month of its first raised-bed garden, located at 27 Holyoke Place in Cambridge.

The 560-square-foot growing space, to be created and maintained by [Harvard College](#) students and other members of the Harvard community, will provide experiential education in sustainable, urban agriculture and food for students, faculty, and the community.

The garden initiative will kick off today (March 22) with a naming contest. Members of the Harvard community and the public are encouraged to submit suggested names for the space by midnight Thursday (March 25). (Visit www.green.harvard.edu for details.) A panel from the garden planning committee will select the winning entry.

The space is designed to be an interdisciplinary educational and social experience.

“Sustainable, edible gardens have become important areas of learning and collaboration at colleges and universities throughout the country,” said [Kathleen Frith](#), assistant director of the [Center for Health and the Global Environment](#) at Harvard Medical School and acting director of this project. “Several members of our community have been advocating for a garden, and I’m thrilled to see it becoming a reality, already bringing together staff, students, and faculty from across the University.”

The garden will be supervised by the Center for Health and the Global Environment, in collaboration with a new student association called the Harvard College Garden Project, along with the [Office for Sustainability](#), the [Food Literacy Project](#) (a division of [Harvard University Hospitality and Dining Services](#)), the [University Planning Office](#), [Landscape Services](#), and the [Faculty of Arts and Sciences](#).

“We are excited to be the first generation of Harvard students to grow food on campus,” said Louisa Denison ’11, one of the student leaders of the Garden Project. “This project will allow us to be a part of a growing sustainable food movement in a tangible and concrete way.”

Programming will begin on April 17, when volunteers will fill in 25 new raised beds. With Harvard undergraduates as primary caretakers, the garden will be sustainably and organically managed, drawing from strategies developed and implemented elsewhere on campus, including using composting rather than conventional fertilizers, crop rotation, and minimal water use.

Food raised from the garden will be featured in dishes during on-site tastings, in demonstrations, on undergraduate dining hall menus, and in campus food venues. Food will also be sold at the Food Literacy Project’s [Farmer’s Market at Harvard](#), and donated to [The Greater Boston Food Bank](#), with which Harvard has a dedicated relationship.

“How we grow our food is critical to our own health, the health of our communities, and the health of the environment,” said [Eric Chivian](#), director of the Center for Health and the Global

Environment and assistant professor of psychiatry at [Harvard Medical School](#), who is also affiliated with [Beth Israel Deaconess Medical Center](#). “The garden provides faculty and students with a hands-on teaching and research opportunity that will help them better understand our dependence on nature.”

Students from the [Harvard Graduate School of Design’s Landscape Architecture](#) and Technology Department developed the garden’s design, working with a planning committee of staff, students, and faculty. Initial plans are modest, with an eye toward growth as the space becomes a more vital part of the Harvard experience. At the outset, the garden will employ two student summer interns to manage daily upkeep and to develop programming, including inviting faculty to use the garden in their coursework, hosting community events, and having regular volunteer days.

“Creating a student community garden seems at first glance to be a simple undertaking,” said [Mike Lichten](#), FAS associate dean for physical resources and planning. “In fact, it is quite complex in an urban university setting, involving a number of people and organizations across the University. It has been exciting and gratifying to see the student, academic, and administrative groups bring their expertise and enthusiasm together to create a garden that will be educational and enjoyable for everyone. I’m pleased that the Faculty of Arts and Sciences can help support the physical creation of this garden, so that our students can benefit.”

“This garden visibly demonstrates Harvard’s commitment to sustainability, and it is a prominent symbol of our campus’ efforts,” said [Heather Henriksen](#), director of the Office for Sustainability. “It also showcases how students working with staff and faculty can come together to create campus learning opportunities that benefit our community and identify larger solutions.”

For more information about the garden, the naming contest, or volunteer opportunities, visit the [Web site](#).

Appendix D San Jose State's experimental garden

[ShareThis](#)

Students walking around outside Clark Hall and the Nutrition and Food Science



building at San Jose State University may have been surprised to see a vegetable garden growing in their midst.

In the spring semester two semicircular areas were planted with artichokes, onions, collard greens, brussel sprouts, tomatoes, radishes, cabbages and beets. A posted sign displays the credo of growth leading to awareness and health leading to sustainability.

On warm days students would seat themselves on the terra cotta edging and either relax or break open a book. When a collard green plant was pointed out to one student, she turned around to look and then joked she was going to pick some for dinner that evening.

Appendix E Original Project Proposal

Project Proposal

Sustainable food for students

Organic Gardening for Humboldt State University



ENVS 410

Garden Restoration

Project Proposal

Spring 2010

Kyle McManus

Jesus Orozco

Jonathan Montoya

Zach Estela

***Problem Statement:**

Our group is looking forward to using the plot of land located behind the Recreation Center on the Humboldt State Campus, which was allocated by Plant Ops to raise awareness among HSU students and campus-goers about sustainable gardening and healthy eating styles.

Introduction:

“Gardening is a matter of your enthusiasm holding up until your back gets used to it.” ~Author Unknown

Gardens have been around for many centuries. They carry a strong value in people’s lives. From the time of the Egyptians to Persian empires and even Babylon’s hanging gardens, people have adored them. Gardens can be seen as educational tools of nature, which are connected to our environment and natural cycles. Recently gardens in schools have become more commonplace. Furthermore, gardening is being incorporated into the learning curriculum to educate kids. Education is not only about plants, nature, and the outdoors, but other subjects as well. Although primarily used for scientific studies gardens can educate children about history, economics, poetry, and math. Modern as well as past were used as decorative adornments. While aesthetics play a huge part in gardening so too does food supply, our connection to what we eat, and medicinal purposes. Edible gardening is what we are focusing on.

Edible gardening can be beneficial to the land and humans in two ways. One is that, the landscape that you garden can look attractive. Second gardens can provide food to eat. If native plants are used for a specific region, it would be economically feasible. Natives require lower maintenance, and less water. Planting and native species will help our plants survive in this climate. For practical and aesthetic purposes edible plants can be planted along with non-native ornamental plants. This can provide an eye-catching garden. Native edible trees can also attract

pollinators and provide enrichment of the soil through debris. In addition, there are many non-invasive cultivars in use that are be edible and also visually spectacular, such as rainbow chard, Icelandic kale, and onions.

Goals and Objectives:

Alternatives:

Many alternatives were considered for this proposal. We considered other places on campus using different techniques and plants species. The site we choose allows us to complete our goals and objectives within the semester, which include providing a space for food, education, and growth in the campus’s status as an environmentally and economically sustainable school.

Preferred site specifics:

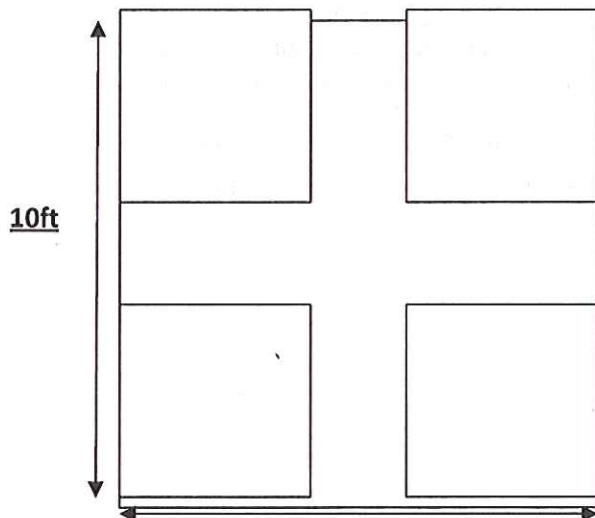
The site we selected is predominantly a grass land that is located close to the Humboldt Redwood State Park with a creek within 50 ft. of our selected area. There are very few invasive plant species which would minimize the amount of work to get the site ready for gardening. The site is located southwest of the woman’s softball field just behind the east gym. The site receives enough sun through spring and summer while minimum fall through winter. We would build 2 10’x10’ beds out of wood. We would line the insides with black plastic and newspaper to prevent weeds from growing in the beds, retain water, keep the wood from rotting, and to keep weeds and bugs out. We would then compost above the newspaper and layer the top with top soil and woodchips.

The sites dimensions are approximately 20’x20’ (400sq ft.) The whole site would be used for gardening and paths for students to walk around the garden. We plan to till the land, create beds, paths, and signs for informing students of the edible plants in the garden. (see plant list)

Figure 1: Example raised bed



Figure 2: Dimensions of proposed bed



- **Blueberry** (*Vaccinium corymbosum*)
- **California Strawberry** (*Fragaria californicus*)
- **Native Huckleberries** (*Tropaeolum* spp)
- **Icelandic Kale**
- **Broccoli**
- **Shallots**
- **Assorted flowers**
- **Rosemary** (*Rosmarinus* spp)
- **Salmonberry** (*Rubus spectabilis*)
- **Wild Ginger** (*Asarum caudatum*)
- **Vetch (cover crop)**

Labor:

The landscaping would take place in April 2010. We currently have four group members committed to creating the garden, as well as a dedicated group of people who are ready to volunteer with the labor portion. The volunteers will have to fill out a work form at plant operations before they will be allowed to help. Maintenance will be ongoing via the establishment of a campus club dedicated to keeping the plot well groomed for visitors, students and learning experiences.

The garden maintenance club will be composed of dedicated volunteers and have its own internal governance in cooperative communication with Plant Ops, the Humboldt Permaculture Guild, CCAT, and various other campus departments, such as Environmental Sciences and Engineering.

Landscaping Materials:

The raised beds will require a small amount of materials to be provided by our group, ranging from lumber to plastic sheeting, compost, and soil.

Conclusion:

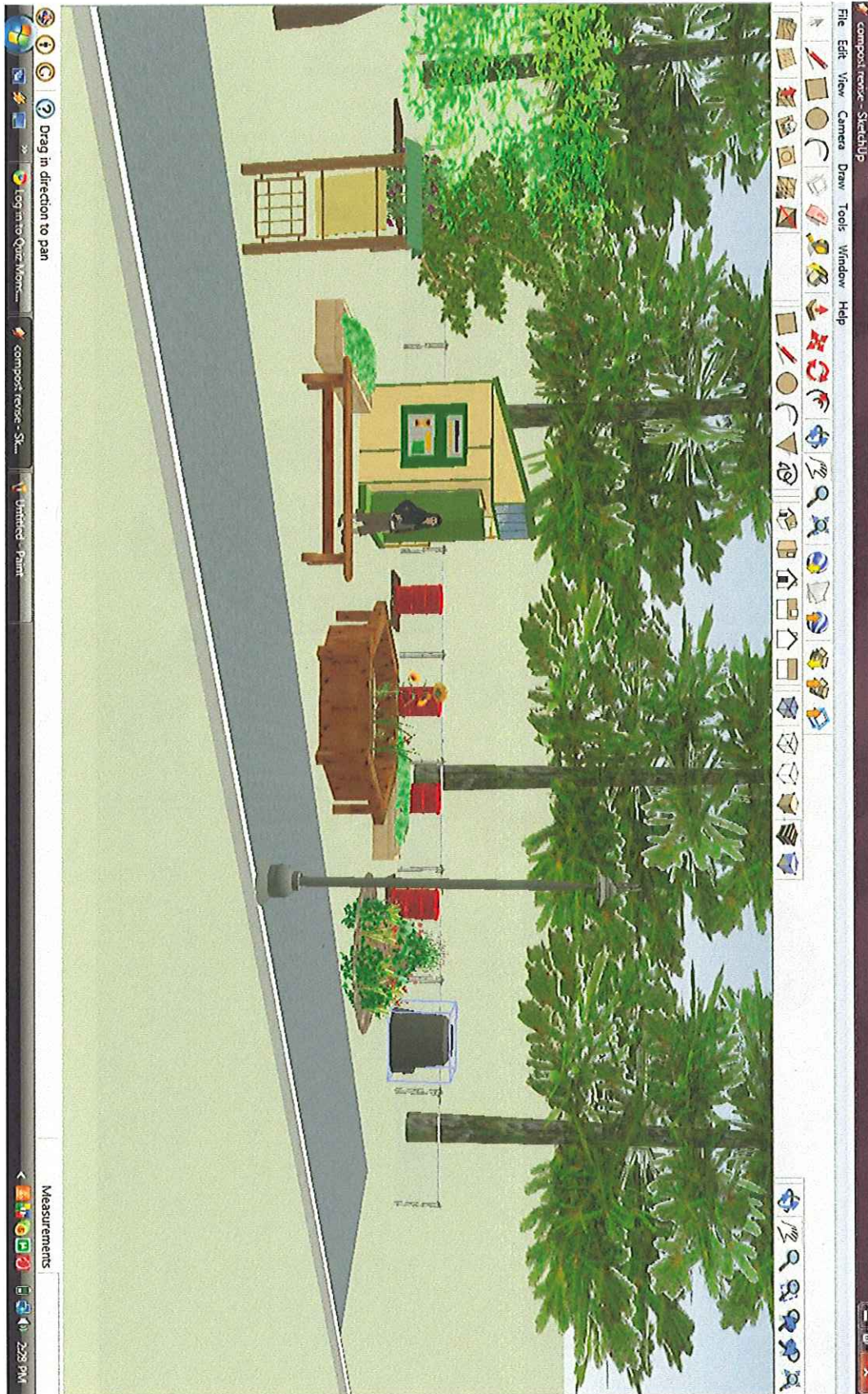
This small garden space presents the opportunity for HSU to become a leader in yet another area of sustainability by advocating for food knowledge, empowering the students and community with the educational experience of hands on sustainable gardening practice, and providing various programs with opportunities for projects, teaching and tours. As with an increasing number of college campuses, people will be attracted to the pragmatism and vision of a university with its own food garden.

We hope to enter into a mutually beneficial experience with Plant Ops as we forge the way towards a more sustainable future. Thus we ask for a 2-3 semester lease on this land for our purposes.

Thank you,

Kyle McManus
Jesus Orozco
Jonathan Montoya
Zach Estela

Appendix F Design Sketches for CRP to Submit to Tim Moxon, Director of Plant Operations





Appendix G Letter from Tall Chief Comet

RESPONSE TO SUSTAINABLE FOOD FOR STUDENTS PROPOSAL, SPRING 2010 ENVS 410

By Kyle McManus, Jesus Orozco, Jonathan Montoya, and Zach Estela

Preferred site specifics: Comment- the location specified is still under discussion for the permanent location for the Campus Recycling Program (CRP) composting operation. That action has been stalled for over two years apparently after Athletics raised a question about compatible use of the area with ongoing sports activities. To my knowledge as the advisor for CRP, there has been no final determination of use for that area and I would find it highly prejudicial for another campus group/entity to be given use of the area without a full airing of CRP's case for using it as proposed in 2007.

Overall comments: In addition to the above comments I have concerns about the ongoing maintenance and upkeep of this project. The proposal contains no specifics or documentation of the briefly described club that will presumably be formed to perform the regular weeding, planting, and general maintenance of the raised beds, regardless of what location may be approved for use. I have been presented with several examples of past experience with student groups by members of Plant Operations (PO) staff that have started out well and with good intentions, but end up being an added burden on PO staff, once the students have lost interest or graduated. Not including greater detail of this important element of continuity leaves too much to chance, in my opinion. The general concept and goal of the project is very good and I think should be considered for the campus, when viewed as a physical demonstration of HSU's desire to educate students in all aspects of sustainability; however, the level of commitment and logistical considerations are not well suited to being completed in the space of one semester, given the time-frame campus administration needs to make a decision of this type. To make this project a success within this semester I would suggest contacting CCAT and seeing if a collaborative project could be feasibly worked out on their grounds whereby the proposing group would supply the materials and labor to establish the raised beds, and then CCAT would be a logical and convenient location for the garden maintenance club to continue the work. Visitors to CCAT would come to one location to see multiple examples of native planting/gardening and how it symbiotically fits into a planned landscape. Additional benefits come from greater exposure to all the visitors that come to CCAT, where as a special trip out of the normal pedestrian areas of campus would be required to view the proposed site. If the proposing group or CCAT is not amenable to having it be at that location, then I would encourage the proposing group to contact CRP to see if they would be interested in co-locating at the area near the softball field. This could also be a synergistic partnership, bringing the added support of the potential gardening club lending another voice to establishing a permanent compost site and the two organizations would then have a logical connection for some of the compost being produced going directly into the gardening activities and the garden showcasing the importance of good composting.

TallChief A. Comet, Sustainability Coordinator

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Project Hours

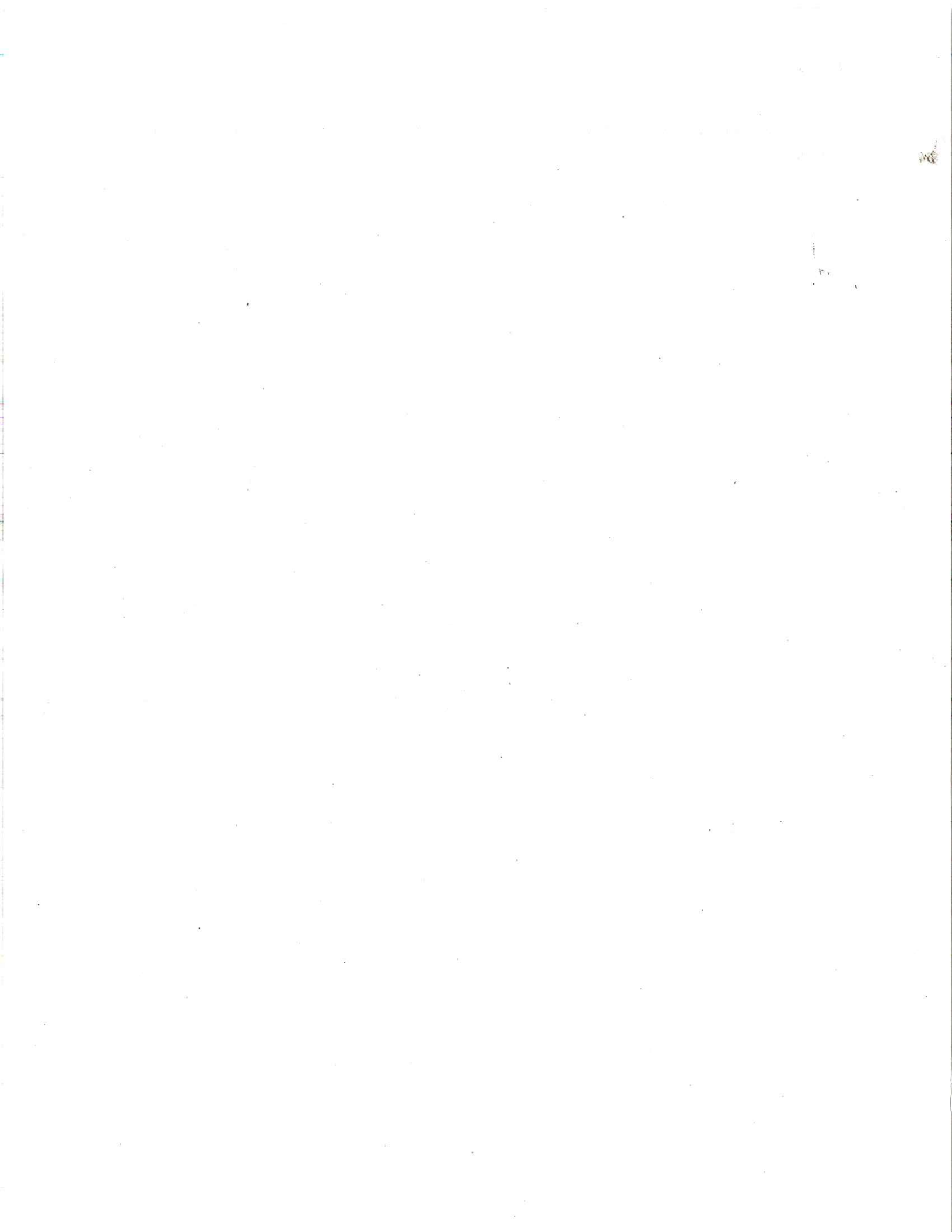
	Hours	
Research for education project www.epa.gov/teachers/		2
Decided on edible garden project, and joined with group.	0.5	
Brainstorming with group at the library	1.5	
Initial edible garden research	2	
meet with group for plant selection	0.5	
went to eureka for edible garden volunteer	3	
Visit to edible garden site from previous group.		1
Visit to potawot (plant strawberries etc..)		3
research water catching methods	1	
research methods for soil remediation	1	
Looking at proposed site with group (Wrong site)		0.5
Visit plant operations, to try and meet Doug.	0.5	
Discussing project with Illiana plant operations employee		1
First e-mail to Doug kokesh		1
work in kneland with raised beds	2	
Eddie tanner presentation CCAT	2	
meeting with Illiana from plant operations	0.5	
Response from Doug (research for allotted spot)		1
Figure out why Doug does not know about our site, also send e-mail to group	1.5	
Research for new proposal, smaller plot San Jose state raised beds etc...		1
Visit to veggielution/ meeting with Amie (volunteer)		4
discuss composting with Ryan owner of good karma restaurant	1	
group meeting to discuss strategy	1	
Writing group work		2
Second e-mail to Doug Kokesh asking for raised beds		1
go to plant ops to try and meet with Doug	0.2	
re-send e-mail to Doug	0.2	
Meeting with previous student/ new project site		1
went to yes house for donation	0.5	
went to associated students for donation	0.5	
talked with CRP about compost	0.5	
visit CRP compost site	0.5	
Worked on new project proposal	2	

Meet with doug kokesh about new proposal	1
Meet with tall chief about proposal	1.5
Proof read/ format project proposal	1
Draw sketch for raised bed	0.5
Get measurements for raised beds	1
redraw raised beds, add dimensions and photo	0.5
Meet with group at library to discuss proposal	1
Meet with Zach, John, Jesus to format proposal	1
Meet with Zach at gis lab to print proposal	0.75
Turn in proposal to Doug kokesh	1
Meet at depot to celebrate project proposal	1
discuss e-mail and denial from tc with Zach	0.5
research for new plan	1
Meet at depot to mourn project denial	2
research new site ideas	0.5
rewrite goals and objectives	0.5
rewrite problem statement	0.5
write up alternatives and solutions	1.5
meet with Kyle from CRP to discuss project	2
help Zach with sketch for project proposal	2
research sites similar to proposal	1
e-mail to rugby president	0.5
measuring site	1.5
help with sketch	1
meet with Zach about site	0.5
discuss site with permaiculture consultant	1.5
discuss project proposal with iliana from plant operations	1
write monitoring and evaluation	1
proofread/ format proposal	0.5
rewrite alternatives section	1.5
format goals and objectives	0.5
proof read implementation	0.2

Total
Hrs

73.55
71

Overall the group worked very well with each other. We all put in a lot of effort and hard work into the project.



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Project Hours

	Hours
Research for education project www.epa.gov/teachers/	2
<u>Initial research for chicken feed project, www.plamondon.com etc...</u>	1
<u>research for plastic bag project</u>	0.2
Decided on edible garden project, and joined with group.	0.5
Brainstorming with group at the library	1.5
Initial edible garden research	2
meet with group for plant selection	0.5
went to eureka for edible garden volunteer	3
Visit to edible garden site from previous group.	1
Visit to potawot (plant strawberries etc..)	3
research water catching methods	1
research methods for soil remediation	1
Looking at proposed site with group (Wrong site)	0.5
Visit plant operations, to try and meet Doug.	0.5
Discussing project with Illiana plant operations employee	1
First e-mail to Doug kokesh	1
work in kneland with raised beds	2
Eddie tanner presentation CCAT	2
meeting with Illiana from plant operations	0.5
Response from Doug (research for allotted spot)	1
Figure out why Doug does not know about our site, also send e-mail to group	1.5
Research for new proposal, smaller plot San Jose state raised beds etc...	1
Visit to veggielution/ meeting with Amie (volunteer)	4
discuss composting with Ryan owner of good karma restaurant	1
group meeting to discuss strategy	1
Visiting San Jose state raised beds, conversation with grounds keeper	2
Second e-mail to Doug Kokesh asking for raised beds	1
go to plant ops to try and meet with Doug	0.2
re-send e-mail to Doug	0.2
Meeting with previous student/ new project site	1
went to yes house for donation	0.5
went to associated students for donation	0.5
talked with CRP about compost	0.5
visit CRP compost site	0.5
Worked on new project proposal	2

Meet with doug kokesh about new proposal	1
Meet with tall chief about proposal	1.5
Proof read/ format project proposal	1
Draw sketch for raised bed	0.5
Get measurements for raised beds	1
redraw raised beds, add dimensions and photo	0.5
Meet with group at library to discuss proposal	1
Meet with Zach to format proposal	1
Meet with Zach at gis lab to print proposal	0.75
Turn in proposal to Doug kokesh	1
Meet at depot to celebrate project proposal	1
discuss e-mail and denial from tc with Zach	0.5
research for new plan	1
Meet at depot to mourn project denial	2
research new site ideas	0.5
rewrite goals and objectives	0.5
rewrite problem statement	0.5
write up alternatives and solutions	1.5
meet with Kyle from CRP to discuss project	2
help Zach with sketch for project proposal	2
research sites similar to proposal	1
e-mail to rugby president	0.5
measuring site	1.5
help with sketch	1
meet with Zach about site	0.5
discuss site with permaiculture consultant	1.5
discuss project proposal with iliana from plant operations	1
write monitoring and evaluation	1
proofread/ format proposal	0.5
rewrite alternatives section	1.5
format goals and objectives	0.5
proof read implementation	0.2

Total
Hrs

73.55

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Total time spent on project

Research for education project www.epa.gov/teachers/	2hrs
Decided on edible garden project, and joined with group.	
Brainstorming with group at the library	1.5hrs
Research: looked at different campus edible gardens:	
1.) http://asunews.asu.edu/20100127_communitygarden ;	
2.) http://www.insideurbangreen.org/edible-campus---mcgill/ ;	
3.) http://www.uga.edu/costarica/campus_garden.htm	2hrs
Further research of edible gardens:	
1.) http://www.wellsphere.com/organic-food-article/creating-an-edible-landscape/885164	
2.) http://www.gardenabcs.com/uploads/gardenmanual2.pdf	1.5hrs
Visit to edible garden site from previous group.	1hr
Met in the Library for edible plant suggestions	.5hr
Visited Eureka Garden near Winco for plant suggestion and volunteered	3hrs
Visit to Potawot:	3hrs
(planted strawberries, got seeds for the garden, and talked to Ed about suggestions)	
Looking at proposed site for garden multiple times (Wrong site)	2hr
Surveyed wrong site: Sunlight direction and terracing	1hr
Surveyed wrong site:	
(What type of water methods were we to use and how would that be accomplished)	1hr
Research: Gravity fed systems	2hrs.
http://www.preparedsociety.com/forum/f20/gravity-feed-water-system-1147/	
Met up in the library and talked about what was going to happen with project	1hr
Visit to plant operations, to try and meet Doug.	.5hr
Discussing project with Illiana plant operations employee	1hr
First e-mail to Doug kokesh	1hr
Eddie tanner presentation CCAT	2hrs
Meeting with Illiana (plant ops)	0.5hrs
Response from Doug	1hr
Met up group to resolve why Doug didn't know about proposed site	1.5hrs

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ENVS 410

Research for new proposal, smaller plot San Jose state raised beds etc...	1hr
Visit to veggielution/ meeting with Amie	4hrs
Discussed composting with Ryan owner of good Karma Resteraunt	1hr
Group meeting to discuss project strategy	1hr
Second email to Doug addressing raised beds	1hr
Re-send email, due to no response and attempt to meet with Doug at Plant ops	.5hr
Meeting with previous student/ new project site	1hr
Talked to CRP member to try and get compost for the garden	.5hrs
Visited compost near track field	.5hrs
Tried to get a letter head for donations: (Went to YES house and Associated Student)	1hr
Worked on goal and objectives	1hr
Had to modify goal and objectives	.5hrs
Worked on proposal	3hrs
Met up with Doug and Tall Chief about proposal	2hrs
Took measurements for raised beds	1hr
Helped with sketch for raised beds	.25hrs
Met up in the library to discuss new overall proposal	1hr
Submitted proposal to Doug Kokesh	1hr
Met up in the Depot regarding proposal	1hr
Met up with group to format proposal	1hr
Printed proposal in GIS Lab	1hr
Discussion of email and denial from Tall Chief	.5hrs
Looked into new sites	.5hrs
New proposal	2hrs
Write up of alternative and solutions	1hr
Met up with CRP to discuss project proposal	2hrs
Measured site behinds softball field	1.5hrs
Sketches for the site	1hr
Emailed Rugby president regarding tent on proposed site	.5hrs
Met at the Depot to regarding final structure of paper	2hrs

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Worked on monitoring and evaluation .5hrs

Modified monitoring and evaluation 1hr

Worked on paper with group in library 3hrs

Revised paper and modifications 1.5hrs

Total time spent 69.25 hrs
