

# **ENVS Common Area Remodel**



## **Prepared For**

ENVS 410: Appropriate Technology and Sustainability-  
The Campus as a Living Laboratory

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## Executive Summary

Both faculty and students currently underutilize the environmental studies (ENVS) common area. For the purposes of this report, the ENVS common area is defined as the entire environmental studies suite minus the individual staff and faculty offices, doors, and wall adjacent to the offices. It is supposed to be a space for students to study and interact with their professors, but our survey sent to all environmental studies students found that most either did not know where the common area is located or did not realize they could use it. Remodeling the ENVS common area will remedy this unfortunate situation, while giving the environmental studies department an exciting and unique opportunity to be a sustainable role model and further research for Western Michigan University.

Before formulating a plan for the area, we sent surveys via email to all environmental studies part-time and full-time faculty, staff, and students. After receiving feedback from most of the staff and faculty and many students, the main objectives are to, (1) improve the aesthetics to encourage cooperation and collaboration between student/student and student/faculty relationships and (2) create a space for sustainability demonstration projects and research pilots for Western Michigan University to possibly use in future campus renovations.

Our proposed plan to accomplish these goals is as follows:

### A. Aesthetics

1. Kitchen area
  - a. Sink
  - b. Counters
  - c. Shelves
  - d. Energy Efficient Coffeemaker/Espresso machine
  - e. Energy Efficient Microwave
  - f. Energy Efficient Refrigerator
2. Lounge
  - a. Couch
  - b. Chairs
  - c. Coffee table
3. Conference area
  - a. Conference table
  - b. Chairs
4. Office assistant's desk
5. Computer area
  - a. Computers with updated software and specialized research software
  - b. Printers

- c. Scanners
  6. Update and streamline the library
    - a. Provide ENVS required class textbooks
    - b. Provide professors' writings
    - c. Provide professors' recommended readings
- B. Sustainability Demonstration and Research Projects
  1. Bike generator
  2. Solar light tubes
  3. Vermicomposting
  4. Growing sprouts

## **Introduction**

Western Michigan University has recently shown interest and taken strides in becoming more sustainable by signing the Talloires Declaration, which states it “will be a leader in developing, creating, supporting and maintaining sustainability.” The second stated Action Plan Item in the Talloires Declaration is to “create an institutional culture of sustainability.” The environmental studies program should be eager to facilitate and encourage this positive direction with the proposed common area remodel by implementing the suggested sustainability demonstration and research projects.

The improved aesthetics will potentially promote collaboration, cooperation, and education for students and faculty. The hope is it will bring students to the area to promote active social learning by experiencing the space as a “living, learning, laboratory.”

One of the key problems expressed by a majority of students and faculty is the lack of adequate lighting. Solar light tubes will hopefully be installed to bring natural light to the space, while providing important research about the products themselves. Data will be collected and documented from two-three different brands of light tubes. This is a great opportunity to further students' sustainability education by conducting the research. The documented data could also be vital to the University to give it possible viable sustainable lighting options for future renovations.

In order to supplement the ENVS common area as a “living, learning, laboratory” and facilitate active social learning, three additional demonstration projects are proposed. The first is a stationary bicycle generator. It will be in place to power small appliances like a coffeemaker. It will allow students to tangibly see how much work it takes to create a kWh, which will

hopefully increase students' understanding of what it takes to create energy. The second is growing sprouts. The suggested idea is students will have trays and seeds available to grow their respective type of sprout. Having students be responsible for growing their own food will hopefully demonstrate and enhance their understanding that the food they consume does not just come from a grocery store. The final proposed demonstration project is vermicomposting. Using vermicomposting in the environmental studies common area will hopefully have two benefits. First, it can show students how much food waste they create and positive methods of disposing of it. Second, it will also potentially be a research tool for the University. Western Michigan University has already taken interest in implementing a large-scale vermicomposting system for the entire University, and it could possibly use the environmental studies common area to observe different variations of vermicomposting functioning on a small-scale to hopefully implement on a large-scale.

### **Methodology and Data**

We chose surveys as the best form of collecting data on how to improve the ENVS common area. The first of these surveys was for part-time and full-time faculty and staff. It was comprised of open-ended questions that allowed for the staff and faculty to inform us of goals, problems, changes, and concerns associated with the possible ENVS common area remodel. After we gathered information from the staff and faculty, we compiled the data and calculated percentages of the responses.

After we had analyzed the staff and faculty survey, we created a student version that included open-ended questions that were more relevant to the ENVS student body. These questions were to discover how much time they spent in the area, and what would make the area more appealing for student use. After analyzing and considering the faculty, staff, and student responses, we then started creating a plan and layout for the ENVS common area remodel.

With data collected from both the students and faculty, we started to arrange appointments with staff members and classes. During these times, we talked with staff in more detail about how they felt about solutions to different problems brought up by the surveys. This involved using solar light tubes, growing sprouts, variations on vermicomposting, and creating a stationary bicycle generator. We then went to the student body with these solutions and received constructive feedback on how they felt about them.

### **Example of Best Practice on Campus**

At this time, we are only aware of one other student involved sustainable remodel on campus. The Student Leadership and Activities Program is currently moving its offices from Faunce to the Bernhard Center. Students are allowed to give input and pick out office furniture from Steelcase, which is a Michigan based company specializing in sustainable products. It is encouraging to see other sustainable remodels in progress on campus. Our hope is our work and the work of others will encourage and supplement more potential “green” remodels on campus to further Western Michigan in being a “living, learning, laboratory.”

### **Examples of Best Practice on Other Campuses**

#### University of Pennsylvania

The University of Pennsylvania is an example of a campus with a student-led “green” renovation. Its students created a fund that would allow for future student-initiated green projects and renovations to have proper funding. One project created by this fund is suite-style resident halls that were built in accordance with green building standards.

#### Humboldt College

Humboldt College in California is an example of a student-implemented bicycle generator. The generators were hooked up to electrical appliances around campus that students could use. They had to pedal the proper amount of kWh to use the appliance. The students’ information about their bicycle generator has given us confidence that a similar system could be feasible in the ENVS common area remodel.

### **Discussion**

The surveys sent to both students and faculty and staff found the respective parties’ goals, problems, and changes associated with the ENVS common area. The faculty and staff survey also inquired about concerns with the possible remodel, while the student survey discovered how many hours each student spent in the common area per week. The following is the most cited from the student and faculty and staff surveys.

99% of students said they only spend 0-1 hour a week in the environmental studies common area. Most students were unaware of where the common area was located, and did not know they could use the available resources. Many others expressed the space was uncomfortable and too dark. Students wanted to see an open environment, improved lighting, kitchen area, and a lounge area to make it more appealing and comfortable for them to come to study and learn.

The main goal for the space expressed by the faculty and staff is transforming it to facilitate group interaction among students and faculty. The three biggest problems seen with the environmental studies common area were dim lighting, poor configuration of space, and unused and out-of-date resources. To help remedy these problems, the faculty and staff wanted to improve the lighting, create a lounge area, create a kitchen area, and streamline the library.

The main concern expressed by the faculty is the possible increased noise corresponding with the possible increased foot traffic in the ENVS common area. The fear is the increased noise could disrupt the productivity of the faculty. The other concerns expressed are a desire to maintain a form of the library, maintain a work area for the department, maintain a storage area, and making sure to consider confidentiality.

There is overlap between the two surveys, which helped us determine the priority of certain aspects in the proposal. We then considered all the input from faculty, staff, and students to create the best possible plan that would hopefully be satisfactory to everyone involved in the ENVS program.

### **Limitation of Analysis and Future Work**

The surveys we created built a strong foundation of knowledge that, up until this time, had never fully been explored. The limitation of it was the responses we received from the students. Although we did receive completed surveys from about 30% of the ENVS student body, we still feel that it would have been more beneficial for us to receive more responses. Another limitation is the surveys contained open-ended questions. Because the questions were not leading, it allowed for a multitude of answers. In the future, it may be more beneficial to give some sort of direction to the survey questions because most were unaware of the options and possibilities associated with the potential remodel.

For the future of this project, we will need to have outside construction and union crews come and do all the actual construction. This will involve the moving of desks and layout of the area, installation of solar light tubes, and the building of the kitchen area and lying of pipes. It is unfortunate that the students, staff, and faculty are not allowed to aid in this work because their desire and motivation would possibly help the speed at which the remodel could be completed.

We will also need to create a bicycle generator over the summer and from it complete our research. Finally, the construction of the vermicomposting units will have to be done and then brought to the ENVS kitchen where they will be put to use. Another component that would be beneficial is a “Welcome Station” for students entering the ENVS common area. It would be the first thing students see when they walk in. It will have a sign directing the students to Nancy Arneson’s office for advising, a calendar of up-coming events, a bulletin board for events and other relevant information to be posted, and an updated resource binder. The resource binder will include internships, jobs, volunteer opportunities, and graduate schools.

### **Conclusions/Recommendations**

In conclusion of our work and effort towards remodeling this area in one semester, we misjudged the amount of time a project like this takes. Although we started immediately with creating surveys and gathering data, we still found time to be a limiting factor. That said, we did gather and create a solid foundation of information that will be presented to ENVS staff and faculty, and to President Dunn. Assuming the basic plan is approved and the necessary funds are available, it will take time for construction and projects to be completed in the fall of 2009.

We feel this project has turned into a two-part process. The first is creating a plan for the space with feasible options for achieving it. Future students can then use this base to actually implement it to transform the ENVS common area into a “living, learning, laboratory” for students, faculty, and staff.

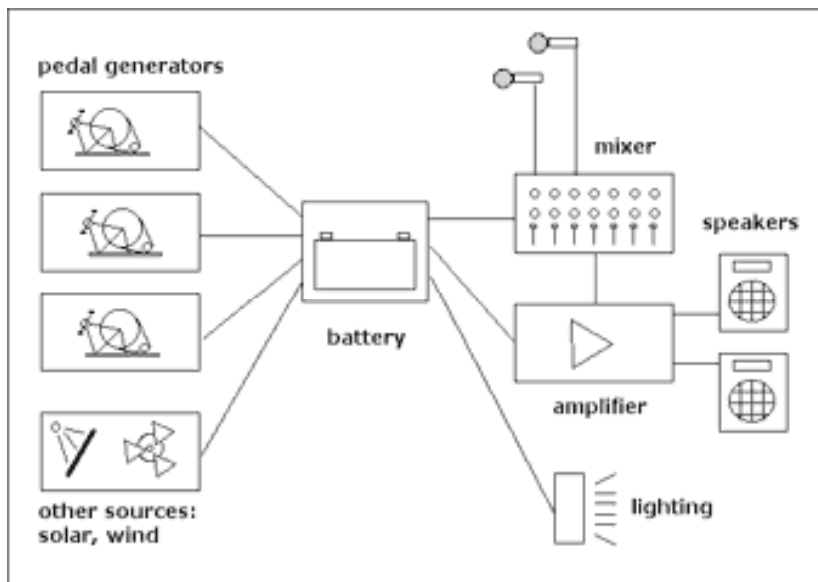
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## Appendix A

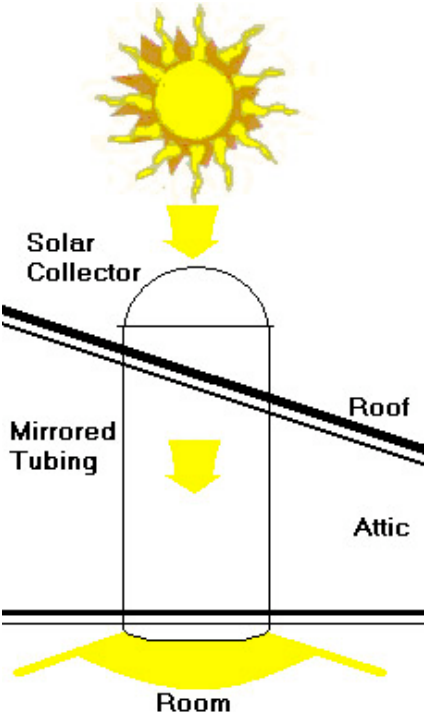
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## Appendix B



**Bike Generator Schematic**

**Appendix C.**



**Solar Light Tube Diagram**

## Appendix D

### ENVS Common Area Survey Summary

*This is the summary of the eleven responses we received from the part-time and full-time faculty and staff survey sent via email on February 11, 2009.*

#### **1. How would you like to see this space utilized to improve your productivity and that of your students?**

- improve the space to facilitate group interaction among students and faculty (45.5%)
- host events (9.1%)
- support environmental studies student research (9.1%)
- become an example to the environmental studies department and Western Michigan University for green re-modeling (9.1%)

#### **2. What are the primary changes that you believe could help make the space more inviting for conversation and collaborations?**

- improve lighting (54.5%)
- lounge area with comfortable chairs (63.6%)
- streamline the library (36.4%)
- reconfigure the space so the copier/printer/office supplies are in one area (36.4%)
- add computers (36.4%)
- no or less cubicles (27.3%)
- plants (18.2%)
- music (9.1%)
- good smells (9.1%)
- place for Powerpoint presentations (18.2%)
- shorter table for group work (9.1%)
- kitchen area with small appliances (9.1%)
- artwork (9.1%)
- recycling bins (9.1%)
- bike racks (9.1%)
- move bookshelves (9.1%)
- vermicomposting (9.1%)

#### **3. What are the problems you currently see with the ENVS Common Area?**

- dim lighting (54.5%)
- poor configuration of space (45.4%)
- lack of use by students and staff (27.3%)
- unused and out-of-date resources (36.4%)
- drab aesthetics (18.2%)
- cluttered feeling (18.2%)
- lack of kitchen area (18.2%)

- lack of research area (9.1%)
- lack of collaboration space (9.1%)

**4. Are there any aspects of the current ENVS Common Area that you feel should not or cannot be changed?**

- maintain a form of the library (36.4%)

**5. Do you have any concerns related to possible changes or reconfigurations of the ENVS Common Area?**

- increased noise corresponding with increased foot traffic (36.4%)
- lounge area encouraging napping (9.1%)
- maintain a work area for the department (9.1%)
- maintain a storage area (9.1%)
- consider confidentiality (9.1%)
- separate area for student employee workstation (9.1%)

## Appendix E

### ENVS Common Area Survey

*This is the summary of the student survey sent via email. We received responses from about 30% of the ENVS student body.*

#### **1. How many hours a week do you spend in the ENVS common area?**

- 99% of the students that took the survey said that they spend 0-1 hours in the ENVS common area.
- The 1% that spent more than 0-1 hours said it was between 3-5 hours a week

#### **2. If you answered 0-1 hours, what is your main reason for not spending time in the common area?**

- 53% of students who stated that they didn't know where the ENVS common area was.
- For those that knew where it was 23% didn't know that they were allowed to use the books.
- 15% of students explained that the layout of the area made them feel uncomfortable and uneasy working there.

#### **3. How would you like to see the space utilized to improve your productivity and to facilitate interaction and collaboration among students, staff, and faculty?**

- 67% wanted to improve the overall lighting of the entire space.
- 46% wanted a lounge area and a posting board.
- 15% thought new furniture and table space was needed
- 7% wanted to open it up more and make it less hall like.
- Some other great suggestions that came from students were :
  1. Computers for research and projects.
  2. More plants needed to make the area feel more alive and add some color to the area.
  3. Food/Drinks

#### **4. What are the primary changes that you believe could make the space more inviting for conversations and collaborations?**

- Students gave us many different suggestions. Some of the ones that came up a few different times were:
  1. Remove all of the clutter and extra items not being used.
  2. Conference table and meeting area.
  3. Books on internships, jobs, and what other ENVS students are doing.
  4. Coffee tables, lamps, and clearly labeled resources.
  5. Coffee.

#### **5. What other opportunities for improving the ENVS common area do you see?**

- Students really broke into four different groups on this issue
  1. Advertising and promotion of the area.
  2. An area explaining all the benefits of the area in a green way.
  3. An area to connect students within the department for projects going on.
  4. A location on campus where they could relax in between classes

#### **6. Do you have any other suggestions?**

-The students that completed the survey gave an incredible amount of support and showed a desire to see this area transformed. Almost every survey explained how they didn't understand why this area was considered a common area when all it looks like is a hall with offices.

## PROJECT BUDGET COST ESTIMATE

Project Title: Renovate Space

Project Manager: Dave Bonselaar

3/13/2009

Project Number: R8885

Proposed Scope of Work: Install cabinets and sink

DIVISION	QUANTITY	UNIT COST	ESTIMATE	ACTUAL
WMU Structural labor	20	55.00	\$1,100.00	
WMU Electrical labor	22	55.00	\$1,210.00	
WMU Paint labor				
WMU Plumbing labor	26	55.00	\$1,430.00	
WMU labor other				
Cabinets and sink		1682	\$1,682.00	
Electrical materials		250	\$250.00	
Plumbing materials		200	\$200.00	
Misc materials				
Furnishings				
HVAC				
Asbestos				
Fire alarms/suppression				
Security systems				
Other				
Contract labor				
Subtotal materials			\$2,132.00	
Subtotal labor			\$3,740.00	
General Conditions- 5%	YES		\$294.00	
Contingency- 15%	YES		\$881.00	
Sub-Total Costs # 2			\$7,047.00	
FEES				
Professional Fees- 5%	YES		\$200.00	50.00
Design Fees- 7.5%	NO			
Total of above (costs, fees and contingency)			\$7,247.00	
Above line total less Contingency- to be entered on Cost Estimate as Construction Costs and Fees			\$6,366.00	

ESTIMATED TOTAL PROJECT BUDGET:

WMU Remodeling Services



Estimate:           \$7,247.00          

Total:                           \$50.00