

## Lake Michigan College Benton Harbor, Michigan Green Building (Construction)

### SCHOOL

Lake Michigan College @ M-TEC, Public, 2-year, 4,500 students, Benton Harbor, Michigan.

### ABSTRACT

Lake Michigan College (LMC) is developing a job training program and working laboratory that will use large steel freight containers to create the exterior and internal shells of eco-friendly, functional spaces for people to work and live. A local partnership and collaboration formed the backbone of the LMC initiative, which is guided by a communitywide alliance of representatives from the public and private sectors. They imagined a modularized coursework approach, where students develop core competencies through classes already offered by the college and where their specialized training needs are met through the addition of a few new courses and co-op experience.

LMC is integrating existing academic offerings to create an innovative green program that meets the needs of students, employers and communities “without having to completely reinvent the wheel.” As the project is only in the planning phase, student involvement is limited. Three faculty members were involved in creating the guide, as well as 15 employers and other partners. The Greenforce Initiative grant was the only source of funding.

### GOALS AND OUTCOMES

#### Goals

1. Create community-wide alliance with project partners who will provide direction and resources.
2. Develop a step-by-step “How to Guide” for the establishment of a program for rehabilitation of a shipping container.
3. Disseminate “How to Guide.”

#### Accomplishments and Outcomes

The community-wide partners assisted with a feasibility study for shipping containers as sustainable housing for low-income individuals. They identified the core competencies needed to rehab a shipping container as well as the critical steps that shaped our “Up-cycling shipping containers: A How to Guide for establishing an educational program on your community college.” (“How to Guide” is ready for dissemination by Greenforce Initiative). Under



the leadership of our Instructional Leader, a gap analysis was completed in order to identify existing courses and needed new courses when compared to the required competencies.

### **Challenges and Responses**

A crucial early decision point is whether the shipping container is a teaching tool or a housing solution for the homeless in Berrien County. If it is a teaching tool, it is an “easy decision” because there are fewer variables. If it is a housing solution based decision then there are socio-economic issues to consider that go beyond the scope of the College’s mission and resource capability. Although there were community participants who were eager to investigate the use of containers as low-cost housing, the college determined that the project plan would focus on using the container rehabilitation to extend our current curriculum.

After an extensive evaluation of core competencies needed for this project, LMC determined that the curriculum design would be based on fundamental competencies, some of which we were already teaching. Therefore, time was not needed by our faculty and instructional leader for extensive curriculum development. Due to the lack of green jobs, the training was designed to provide job-transferable core competencies so that students were prepared for a wider spectrum of jobs.

A final challenge for this project is finding students for the green construction training. Many of our trade course students are funded by MichiganWorks. However, construction is not listed as a labor force need and WIA dollars are not available to sponsor students through MichiganWorks. In addition, local employment opportunities are limited for individuals who are trained in green construction.

### **Campus Climate Action: Your School’s On-Campus Sustainability Projects**

The Facilities Engineer from the College’s Facilities department served on the community-wide task force for this project. Given the nature of the project, there was no impact on campus sustainability or reducing the carbon footprint. The focus was on the feasibility of such training. There was no opportunity for hands on training.

### **Commentary and Reflection**

Before implementing this project, ensure that the “demand” side of the equation has been stimulated by identifying housing needs and finding funds to support the construction of shipping container homes. It is important to have the training focused on transferable core competencies given that there are no “pure” green jobs and the volume of shipping container rehabilitation may be limited.

## **ENGAGEMENT AND SUPPORT**

### **Leaders and Supporters**

College Personnel included: Ken Flowers, Director of M-TEC; Eric Martin, Facilities Engineer; Sam Volker, adjunct instructor, Gloria Winn, Instructional Leader and Marjorie Zibbel, Special Projects Facilitator.

The community-wide task force included Harbor Habitat; St Joseph Township building inspector, a LEED architect, Southwest Michigan Planning Commission. Representatives from the Krasl Art Center, Southwest Michigan Community Action Agency, and the Emergency Shelter helped LMC clearly define the need and provide avenues for public awareness building.

## Funding and Resources

No other funds were available for this feasibility study.

## Employer and Other School Partnerships

No training was provided. This grant provided the opportunity for determining if this job training would be feasible. It supported a curriculum gap analysis and curriculum model building. Previously, LMC collaborated with Grand Rapids Community College in the Green Construction Academy.

## Education and Community Outreach

The Krasl Art Center has a monthly sustainability forum that features a variety of speakers such as the Director of the LEED certified Grand Rapids Art Museum. The Shipping Container Task Force representatives presented a PowerPoint for 65 attendees. The presentation, entitled "Precious Cargo: Shipping Containers as Housing Solution" educated the public on the concept, gauged community acceptance and built support for this low-cost, green solution (PowerPoint available).



## CONTACT INFORMATION

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## MORE ABOUT YOUR SCHOOL

### Campus Sustainability History

Green Construction: With funding from a congressionally-directed grant, Lake Michigan College @ M-TEC established a Green Construction training program to increase the number of building practitioners skilled in construction and in using green technologies. The sixteen members of the first Green Construction Advisory Board (GCAB) were senior-level managers from Southwest Michigan in a range of industries, unions and governmental agencies. The GCAB advised the College on the needs in the community. The data collected was integrated into the strategic and tactical plans of LMC related to construction and green construction. Our goal is to implement a multi-faceted education and training program for a wide range of students in residential construction and renovation. The Green Advantage Environmental Certification workshop was offered at M-TEC. For instruction, we partnered with Grand Rapids Community College who has a certified instructor.

On Campus greening efforts....."LMC Goes Green" on the web at  
<http://www.lakemichigancollege.edu/Default.aspx?DN=27da5e89-717b-45d6-94ef-6e14ae2211c5>  
No Sustainability Office at LMC

Image Credit: Lake Michigan College's Container House Task Force