

Frog Island Community Garden: Giving Ypsilanti *Food for Thought and Learning!*

Proposed Funding Source: DTE Energy Foundation: L.E.A.D. Grant Program

Abstract: The Frog Island Community Garden provides a site for community members to gather and grow food, with the objectives of improving community relationships and promoting food security within the city of Ypsilanti, Michigan. To this end, we propose to expand the educational and environmental scope of the garden, by installing a demonstration bed and restoring an area of the adjacent Huron Riverbank to native prairie, and marking these areas with interpretive signs. The enlarged garden area and signs will provide facilities and the necessary information for garden members and Ypsilanti residents to increase their understanding of the local ecosystem and participation in the local food system. We request \$8625 from the DTE Energy Corporation to complete the proposed installations.

Introduction and Literature Review

At Frog Island Community Garden in Ypsilanti, Michigan, community members are growing more than just vegetables. Since their groundbreaking in the fall of 2006, they have been busily and passionately growing better health, food security, stronger relationships with fellow community members, and stronger relationships with their local natural environment. When the garden's founders, all members of the Ypsilanti Riverside Neighborhood Association, came together to start the garden on Frog Island, their initial goals were to supplement gardener diets with fresh, healthy, low-cost food while strengthening relationships with friends and neighbors at the same time. In the city of Ypsilanti there are only two commercial sources of food: a small



food cooperative and a newly opened Mexican grocery store. In a city of 20,000 residents, many of whom are low-income, there is a call for greater availability of local, low-cost, healthy food. Additionally, as in most urban settings in America, community members seldom meet each other and interact outside of their own personal sphere. Frog Island Community Garden wanted to help address these needs that must be addressed for the existence of a sustainable, healthy community. As the garden project at Frog Island began to develop, gardeners began to see the fruits (and vegetables!) of their labor before them and enthusiasm grew, not only amongst active gardeners in the garden, but also of Ypsilanti community members who would stop by the garden and ask about the new beautiful display of vegetables growing in the middle of their city on a previously plain expanse of grass.

With a new injection of energy, the garden's founders began to expand their vision for the role Frog Island Community Garden could play in the local community. What if this

community garden could serve to educate the community about their connection to food, to the local natural environment, and about the role that these connections have to strengthening the community of Ypsilanti as a whole? Given the state of environmental degradation occurring today at the global and local level, tying Frog Island's gardening activities into environmental wellbeing seemed essential. With excitement and conviction, Frog Island Community Garden has created an expanded mission to increase awareness among Ypsilanti community members through environmental education components of their garden regarding where food comes from and how it is grown so they can make responsible food choices that positively affect the natural environment, the local food economy, and themselves.

To this end, two additions to the garden are on the drawing table for implementation. A demonstration garden plot will be added to the pre-existing garden plots where community members currently pay a monthly fee for room to grow vegetables of their choice. This demonstration plot will highlight best practices of organic vegetable gardening including companion planting, square-foot gardening, and natural pest control. Interpretive signs will explain and elaborate on these topics and have a weatherproof container for free related educational material community members can take home with them. Information will also be displayed on the benefits of eating organically and locally for individual's physical wellbeing, the local food economy, and the environment. For instance, producing your own organic salad greens or buying them from a local farmer at a farmer's market would be better for one's physical health than pesticide-laden lettuce, keep money flowing within the local community, and decrease environmental degradation that would take place in the form of fossil fuel consumption and pollution to ship the lettuce from far away locales. For the garden's second addition, a section of land along the Huron River, which Frog Island is adjacent to, will be restored to a native landscape through the removal of invasive, non-native plant species and the addition of native plant species such as chickweed, butterfly weed, and buckwheat sorrel. Special attention will be given to planting wild edible plants to serve as an educational juxtaposition of food growing capabilities between wild and built settings. Interpretive signs will be present along the riverbank describing the species present in the native habitat and focusing on how food for human consumption is available in this wild setting. These signs will also elaborate on the variety of services native habitats provide ecosystems such as water filtration and soil-erosion control. Educational material will be available in weatherproof containers here as well for community members to take home information on their local native habitat.



How can gardens lead to improvements in the environment?

Gardens contribute to environmental health for a variety of reasons. Gardens physically improve the natural environment by providing valuable organic material to depleted soil and enhancing habitats for animals and insects. In the same way as cultivated gardens, restorations of native plants can also perform important services such as water filtration and erosion prevention, and can provide food for humans in the form of wild edible plants (PCA 2007).

Producing food in local gardens can also reduce reliance on the global food system, which requires incredible inputs of fossil fuels and causes large-scale environmental damage. For every 1.4 calories of food energy produced in the industrial system, we use 10.3 calories of fossil fuel energy for production, processing, and transportation, and this fossil fuel use

contributes to global climate change. Furthermore, industrial farming leads to pesticide and fertilizer runoff, erosion of topsoil, and depletion of the water supply – large-scale problems that impact all people (CSS 2007). Projects that bolster local food production, like the Frog Island Community Garden, represent a small effort that, if adopted in many communities, could have a huge impact on the global environment.

Gardens also enhance and encourage environmental stewardship behavior in a number of ways. Gardens provide a place for exploration and discovery that can lead to care and concern for the natural environment, particularly for children (Sobel 1995). Children who explore local natural environments with a role model are especially likely to develop caring and concern for the natural world (Chawla, 1998). Spending time in the outdoors when engaged in educational activities can increase knowledge about the environment and foster a change in personal attitudes toward it (Louv 2007). Developing knowledge as well as caring and concern for the environment are essential steps towards responsible environmental stewardship behavior amongst children and adults alike (Hungerford & Volk, 1990). Experts in the field of environmental education recognize knowledge acquisition, skill building, attitude change, value building and behavior change as the goals of environmental education, and these goals will be addressed with the educational components at Frog Island Community Garden (UNESCO, 1978).

How can gardens lead to improvements in the local economy?

Food consumers may hold more power over any other stakeholder in a local food economy (Halweil, 2002). When consumers make food choices that are socially and ecologically sound, they can be a change agent towards more sustainable practices in their community through leading by example, or more proactive means of communication or education (Halweil, 2002). Additionally, well-kept green areas such as gardens can increase the value of the properties surrounding them due to their natural beauty (Makaloff 1995).

Why are gardens good for strengthening people's health?

Community gardens can improve mental health. Natural environments have a special ability to restore our ability to focus because we are effortlessly drawn to aesthetically pleasing qualities in natural environments and feel our focus restored in this setting (Kaplan, 1995). These pleasing qualities create an environment where we are able to engage in thoughtful reflection, a mental process vitally important for overall mental and physical health (Kaplan, 1995). Exposure to outdoor natural settings also has been shown to increase test scores among children in multiple subjects, as well as decrease symptoms in children with attention deficit disorders (Louv 2007). Community gardens also have the special ability to cultivate community among the gardeners and nearby residents (Makoloff 1995).

Furthermore, the food grown in a community garden can help to improve physical health of its recipients. A 1991 study in Philadelphia found that community gardeners consumed more vegetables on average than non-gardeners (Kantor, 2001). In cities, where access to fresh produce is limited, community gardens can provide an essential supplement to the everyday diet. Ypsilanti needs such a supplement; a 2004 study by the Washtenaw County Department of Public Health found that only 14.3 percent of adults in the county at the recommended 5 daily servings of fruits and vegetables, compared to 25.3 percent who ate one or no servings. The numbers are similar for children (Washtenaw County Public Health

2004). Frog Island Community Garden is one link in a network of community gardens in Ypsilanti that are working to combat this trend of unhealthy eating.

How this project meets the mission of D.T.E. Energy Foundation L.E.A.D. Grant Program

We chose to request funding from the D.T.E. Energy Foundation L.E.A.D. Grant Program because the mission and values of this organization's grant program match well with those of Frog Island Community Garden. DTE Energy Foundation's mission is to support and enhance "...quality communities in which to live and work, a chance to live in harmony with their neighbors, the ability to excel in their livelihoods, [and] a clean environment to pass on to future generations." Frog Island Community Garden aims to increase community members' awareness of where food comes from and how it is grown so they can make responsible food choices for the health of the environment, the local economy, and themselves. The proposed demonstration garden plot, native habitat restoration, and interpretive signage at the Frog Island Community garden are intended to meet these goals. More detail on the link between Frog Island Community Garden's mission and the mission of D.T.E Energy Foundation is available in Appendix 3.

In sum, community gardens can bring about positive change in many ways: improving the local environment, fostering a sense of community among residents, even improving physical and mental health. The Frog Island Community Garden hopes to expand its capacity to create these positive changes for the residents of Ypsilanti, Michigan.

Goals and Objectives

Goal #1: Ypsilanti residents visiting Frog Island Community Garden (FICG) will be aware of basic ways in which food is produced in a natural habitat and built garden setting and demonstrate increase caring and concern for the health of the local native habitat as well as local gardening projects.

Objectives for Goal #1:

1) 75% of visitors will be able to identify 3-5 native and 3-5 invasive species from the native habitat restoration area at Frog Island. They will be able to identify 3-5 best practices of organic gardening. They will also be able to identify 3-5 reasons why supporting local food production is beneficial for the local and global environment. This knowledge will be assessed using a short true/false test administered after visitor has viewed the interpretive signs and native habitat area. A test will also be given to a control group of Ypsilanti residents who have not visited the restoration area.



2) 75% of visitors will increase caring and concern for the local native habitat. This will be demonstrated by self-reported measures on a five-point Likert scale. A test will also be given to a control group of Ypsilanti residents who have not visited the native restoration area.

3) Non-member visitors to the Frog Island Community Garden will increase by 30% in the year following installation of the native habitat restoration, the demonstration garden plot, and the interpretive signs. This will be assessed by counting the number of visitors in the garden on a given day in every month (for example, the first Saturday) in addition to monitoring a sign-in sheet available at all times for visitors.

Goal #2: Ypsilanti residents visiting FICG will be aware of the benefits of a strong local food economy and demonstrate increased caring and concern for the growth of one in their own community.

Objectives for Goal #2:

- 1) 75% of visitors will be able to identify 3-5 reasons why supporting local food production is good for the local economy. This knowledge will be assessed using a short true/false test administered after visitor has viewed the interpretive signs and demonstration plot. A test will also be given to a control group who have not visited the garden and restoration area.
- 2) 75% of visitors will demonstrate increased caring and concern for the development of a strong local food system. This will be demonstrated by self-reported measures on a five-point Likert scale. A test will also be given to a control group who have not visited the garden and restoration area.



Goal #3: Ypsilanti residents visiting the FICG will develop stronger feelings of belonging and commitment to their local community.

Objectives for Goal #3:

- 1) 75% of visitors will express stronger feelings of belonging and commitment to their local community. This will be measured by self-reported measures on a five-point Likert scale. The survey will be given to all visitors on a given day, and then given again to all returning visitors on a given day one year later.

Methods

We propose to install two educational components in the Frog Island Community Garden to achieve the above goals.

1) Demonstration garden plot

The demonstration plot will illustrate various organic gardening techniques, such as companion planting, square-foot



gardening, and natural pest control. This plot will be tended by FICG's planning team. It will serve as an example for other FICG gardeners and home gardeners who wish to learn new techniques to improve their own gardens or to aspiring gardeners to create a new garden.

A set of interpretive signs will accompany the garden. A few of them will point out and explain the various techniques in the garden, why they work, their historical significance (if any), and how to replicate them. Another sign will explain the importance of a local food system, and contain information about local food sources in Ypsilanti, such as the Food Co-op, Farmers' Markets, and local grocery stores. A final sign will have nutritional information about vegetables, as well as advice about healthy eating from the garden.

2) Restoration area

An area of approximately 100 square meters will be restored to native prairie vegetation. See attached map of garden area for illustration. Restoration will involve general cleanup, removing native species, and planting native plants. Some of the species in the restored riverbank area will be edible wild plants such as chickweed, butterfly weed, and buckwheat sorrel. This area will also be tended by the FICG planning team to ensure that invasive species do not recolonize the restoration bed.

Interpretive signs will also accompany the restoration area. One sign will contain illustrations and descriptions of invasive species, so that community members may feel empowered to remove any specimens they spot and take part in the care of the restoration area and surrounding riverbank. Other signs will identify native edible plants, pointing out the connection between the plants growing in the garden and plants growing in the wild. In a study by Widner and Roggenbuck (2000), interpretive signs were shown to be just as effective for environmental education as volunteers placed on-site with the intent of improving visitors' awareness of the issue at hand.

The Riverside Neighborhood Association (RNA) has already made significant progress on building its first individually tended garden plots, using limited funds and donated, recycled, or found materials. Chris Mueller, an RNA member and professional landscape architect, has drawn extensive plans for the Frog Island Garden, and will serve as the main planner during the implementation of the proposed installation. The Frog Island Garden was a community-initiated project, and all work has been done and will continue to be done by RNA volunteers.

Evaluations will be conducted by graduate students at the University of Michigan.

The Frog Island Community Garden is a project of the City of Ypsilanti's Downtown Development Authority (DDA). The Ypsilanti DDA is a 501c3 non-profit organization, and has had extensive experience administering large grants for projects in the Ypsilanti area. Brian Vosberg, the Director of the DDA, has extended the DDA's services in administering any incoming grant funding for the project at FICG.

See Appendix 4 for a timeline of project implementation.



Results, Products and Benefits

The main outputs of this proposal will be a native plant restoration area, a demonstration garden plot, and a set of interpretive signs containing educational material about these two cultivated areas. Overall, the project will create an interactive educational space that will be free and open to the public, serving as a site for group recreation, outdoor meetings, and play. Maintenance of the native habitat restoration, demonstration plots, and interpretive signage will be the responsibility of the FICG community gardeners, who by joining FICG have already committed to the upkeep of the garden area.

The proposed project seeks to increase participation in the Frog Island Community Garden within the community. We do not anticipate an increase in the number of FICG gardeners, simply because all the beds are already rented and this proposal does not include more individual beds. The FICG planning team keeps track of participation in the garden plots, since gardeners must pay rental fees to have a plot. We do not expect a decline in participation or in plot rental.

More importantly, we want to keep track of non-gardener participation in this proposed component of the FICG, since it intends to reach members of the Ypsilanti community at large. This will be accomplished by the presence of a log book, in which visitors may voluntarily sign in. Visitors to the garden on a particular day of every month (for example, the first Saturday) will be counted to monitor changes in FICG attendance. We expect that there will be a 30 percent increase in visits to the garden by non-members in the year after the installation.



We anticipate that community members spending time in the garden area will develop an increased awareness, knowledge, and appreciation of both cultivated and natural ecosystems, as well as of the importance of local food systems. The demonstration plot will showcase a number of historically significant and ecologically friendly planting techniques, emphasizing the connection between food and the ecosystem. The restoration area will contain native Michigan plants to illustrate the beauty of the native ecosystem, as well as edible plants that will reinforce the concept of the connection of food and the environment first laid out in the demonstration plot. The interpretive signs will highlight important facts about the environment and the food system, and will be colorful, engaging, and easy to understand.

We anticipate that 60 percent of FICG visitors will increase their knowledge of the native ecosystem and the local food system. The same number will also increase their caring for the native ecosystem and about the local food system. We will assess this outcome using short true-false quizzes and Likert-scale rating surveys to assess knowledge and appreciation. These assessment instruments will be given to visitors to the garden as well as to a group of people who have never visited the garden.

APPENDIX 1: REFERENCES

Andreatta, Susan L. (2005) Urban Connections to Locally Grown Produce. In P. Bartlett (Ed.), *Urban Place: Reconnecting with the Natural World*. Cambridge: MIT Press.

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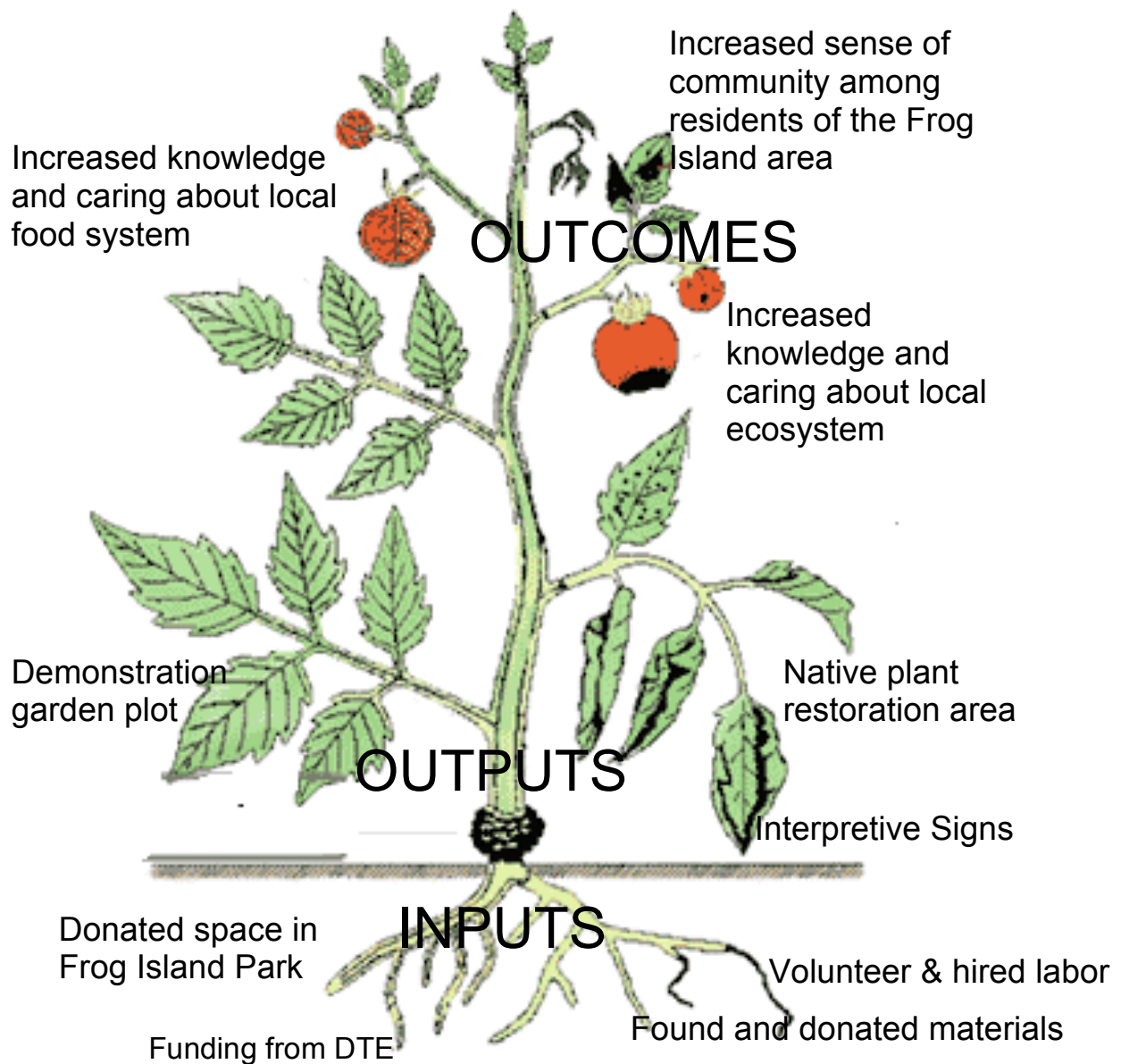
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Widner, C.J. & Roggenbuck, J.W. (2000). Reducing theft of petrified wood at Petrified Forest National park. *Journal of Interpretation Research*, 5(1), 1-18.

APPENDIX2:LOGICMODEL

APPENDIX 3: FUNDING SOURCE

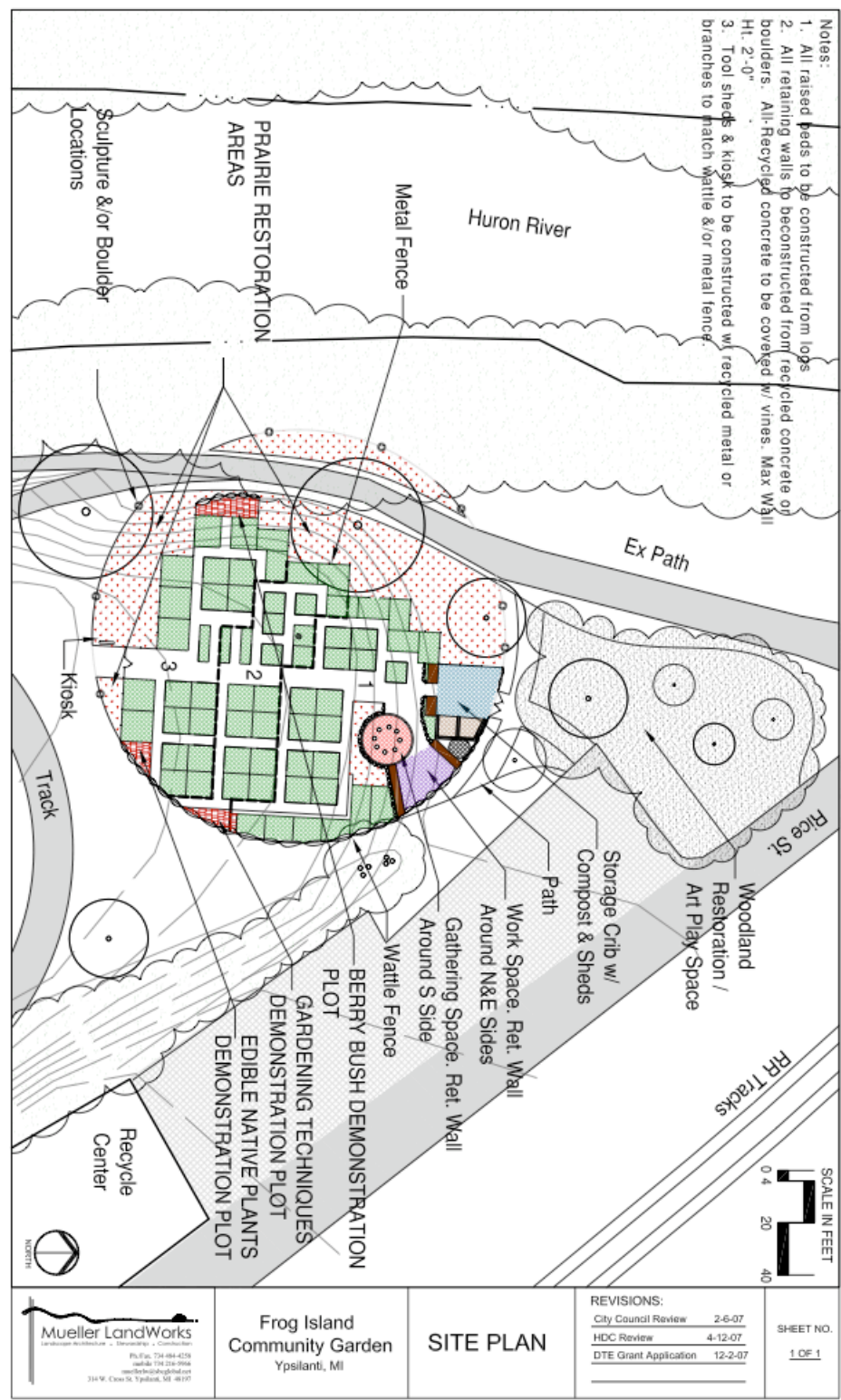
We plan on requesting funding for the proposed project at Frog Island Community Garden from the DTE Energy Foundation L.E.A.D Grant Program. We are applying for a grant with this foundation because the mission of Frog Island Community Garden is well aligned with that of the DTE Energy Foundation. DTE Energy Foundation's mission is to support and enhance "...quality communities in which to live and work, a chance to live in harmony with their neighbors, the ability to excel in their livelihoods, [and] a clean environment to pass on to future generations." The foundation seeks to meet their mission by providing funding for projects in six focus areas including: leadership, education, environment, achieving excellence, development, and diversity. Funding is given to environmentally focused projects that "develop an awareness and understanding of the connections between environmental protection and sustainable development." At Frog Island Community Garden, garden members aim to increase community members' awareness of where food comes from and how it is grown so they can make responsible food choices for the health of the environment, the local economy, and themselves. The proposed demonstration garden plot, native habitat restoration, and interpretive signage at the Frog Island Community garden are intended to meet these very goals. In the demonstration garden plot, community members will be able to see organic produce growing and learn about the benefits of local organics and important techniques to start one's own organic garden with the help of nearby interpretive signs. The native habitat restoration will highlight wild edible plants amidst its array of native vegetation, also accompanied by interpretive signs, and will raise awareness of what food nature grows as well as important ecosystem services that native habitat provides to the landscape it occupies and the people who live on or near this landscape such as water filtration, or reversing soil erosion. Increasing knowledge about how or why to grow or buy food locally can lead to a shift in attitudes or values that lead to a change in eating and buying practices of community members. This can strengthen the local food economy, improve health of Ypsilanti families, and aid in environmental health by connecting community members to their natural environment, helping them to cultivate care and concern for this environment which can then lead to an increase in environmentally responsible behavior. Additionally, using the plot of land that Frog Island Community Garden calls home can be considered to be a way to sustainably develop this piece of land because it uses the landscape to serve a genuine need of community members in a way that is gentle and even nurturing to that landscape.

The DTE Energy Foundation L.E.A.D. Grant Program provides funding in the amount of \$5,000 to \$10,000 on average. Past recipients of grants from the foundation in the area of the environment include "Energy and our World" Mini-Grant Programs for K-12 Educators, and West Michigan Horticultural Society for the Natural Bio-Filter Boardwalk in the Lena Meijer Children's Garden at the Frederik Meijer Gardens & Sculpture Park. We believe that our project at Frog Island Community Garden is a good match with the mission, objectives, and funding capabilities of the DTE Energy Foundation L.E.A.D. Grant Program. Grant proposals are accepted by three separate deadlines every year: April 15th, August 15th, and December 15th.

APPENDIX 4: PROJECT TIMELINE

Activity	Apr 08	Jun 08	Jul 08	Aug 08	Sept 08	Mar 09	Apr 09	May 09	May 10
Submission of Grant Proposal – April 15, 2008	X								
Notification of Funding Decision, mid-June, 2008		X							
Final planning, purchase of supplies		X	X						
Installation of restoration area, construction and installation of interpretive signs			X	X	X				
Construction of demonstration plot bed					X				
Planting Demonstration plot						X	X	X	
First administration of evaluation surveys								X	
Second administration of evaluation surveys									X

APPENDIX 5: SITE PLAN



APPENDIX 6: BUDGET



Frog Island Community Garden
Ypsilanti, MI

December 2, 2007

Environmental Education Grant - Materials Budget Estimate

(Note: Labor Not included except where listed)

Item	Qty.	Unit	Unit Price	Cost
<i>Prairie Restoration (Outside Fence & East of B2B Path)</i>				
Large Rototiller Rental	1	Sum	\$ 275	\$ 275
Labor to Rotill (if needed)	1	Sum	\$ 350	\$ 350
Compost	25	Cy	\$ 20	\$ 500
Bobcat Rental	1	Sum	\$ 275	\$ 275
Labor to move compost (if needed)	1	Sum	\$ 350	\$ 350
Prairie Seed Mix (Include Annual Flowers in Mix)	1	Sum	\$ 450	\$ 450
Straw Mulch	1	Sum	\$ 75	\$ 75
Subtotal				\$ 2,275
<i>Demonstration Plots</i>				
Compost	7	C.Y.	\$ 40	\$ 280
Sand	6	C.Y.	\$ 40	\$ 240
Berry shrubs 1 gal. pots (Plant 24-27" O.C.)	35	Ea	\$ 15	\$ 525
Edible Native Plants 1 quart pots (Plant 12-15" O.C.)	80	Ea	\$ 4	\$ 320
Annual Vegetables 1 quart pots (Plant 15-18" O.C.)	45	Ea	\$ 3	\$ 135
Mulch: Hardwood 1-2" depth	2	C.Y.	\$ 50	\$ 100
Subtotal				\$ 1,600
<i>Educational Signage</i>				
Professional Sign Development Services	1	Sum	\$ 40	\$ 40
Prairie Signs	3	Ea		\$ -
Demonstration Signs	3	Ea		\$ -
Sign Installation	6	Ea		\$ -
Subtotal				\$ -
Project Total				\$ 3,875