



Environment and Natural Resources Trust Fund (ENRTF) M.L. 2015 Work Plan

Date of Report: 4-24-15

Date of Next Status Update Report: 12-31-15

Date of Work Plan Approval:

Project Completion Date: 6-30-18

Does this submission include an amendment request? No

PROJECT TITLE: Building Deconstruction to Reduce Greenhouse Gas Emissions and Solid Waste

Project Manager: Steve Thomas

Organization: The NetWork for Better Futures

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Location: Twin Cities Metropolitan Area and North Central Minnesota

Total ENRTF Project Budget:	ENRTF Appropriation:	\$845,000
	Amount Spent:	\$0
	Balance:	\$845,000

Legal Citation: M.L. 2015, Chp. 76, Sec. 2, Subd. 07c

Appropriation Language:

\$845,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with Better Futures Minnesota in cooperation with the Northwest Indian Opportunities Industrialization Center and \$155,000 the first year is from the trust fund to the Board of Regents of the University of Minnesota - Duluth for the Natural Resources Research Institute to develop and test a model for implementing building deconstruction and material reuse as a competitive alternative to demolition for the purpose of reducing greenhouse gas emissions, reducing landfill waste, and providing job training.

I. PROJECT TITLE: Building Deconstruction to Reduce Greenhouse Gas Emissions and Solid Waste

II. PROJECT STATEMENT:

This project will establish deconstruction as an alternative to demolition and develop viable techniques for reducing greenhouse gas emissions and the amount of reusable building materials buried in landfills. The U.S. EPA estimates that construction and demolition debris is the second largest component of our waste stream, just behind municipal solid waste. Only 20-30 percent of this waste is recycled. One goal for this project is to deconstruct at least 30 buildings over a two year period. We estimate that the environmental impact of this effort is projected to: reduce carbon dioxide (CO₂) emissions by 900 metric tons, reduce the emission of methane gas (CH₄) by 45 tons, conserve the equivalent of 6,400 MMBTUs of energy, and divert 2,600 tons of building material from landfills.

As summarized by The Institute for Local Self-Reliance, deconstruction is the systematic disassembly of a building, with the purpose of recovering valuable materials for reuse or manufacturing into new products. By reducing waste, deconstruction also reduces greenhouse gas emissions and abates the need for new landfills and incinerators. It helps to steer the construction and demolition industry towards sustainability and reuse. It reduces the industry's consumption of virgin materials, helps preserve natural resources, and protects the environment from pollution related to extraction, processing, and disposal of raw materials.

The goals for this project are to: (1) Test and fully develop effective techniques and incentives for deconstructing buildings; (2) Develop and build value-added products and sustainable markets for the range of reusable materials recovered; and, (3) Document the environmental, social, and economic benefits of deconstruction, including reduced greenhouse gas emissions, reduced landfill use, and the reuse of natural resources. These goals will be achieved by: (1) Developing efficient techniques for deconstructing buildings safely; (2) Promoting deconstruction as alternative to demolition and establishing a marketplace for reclaimed materials; (3) Creating and manufacturing products made from reclaimed materials; (4) Calculating the environmental impact of this project and deconstruction work.

This endeavor is a partnership between Better Futures Minnesota (Minneapolis), the Northwest Indian OIC (Bemidji), and the Natural Resources Research Institute (NRRI) at the University of Minnesota Duluth. To advance this project and achieve the outcomes outlined in the work plan, the partners intend to meet monthly via conference call and hold face to face meetings each quarter.

Better Futures will: serve as the project manager; take the lead on testing and refining efficient techniques for taking apart buildings; take the lead on educating Tribal, local, county and State government agencies about the practice and benefits of deconstruction and work with these entities to implement incentives, policies and practices that promote deconstruction as an environmentally beneficial alternative to demolition; deconstruct up to 20 uninhabitable properties in various states of condition; and, work with the NRRI to develop and test products that can be manufactured from reclaimed materials. \$503,397 of the ENRTF appropriation is allocated to cover Better Futures' projected expenses.

The Northwest Indian OIC will: help test and inform the development of efficient techniques for taking apart buildings in North Central Minnesota; hire, train, and supervise NW OIC crew chief and workers; work with Tribal, State, county, and local agencies to implement incentives, policies and practices that promote deconstruction as an environmentally beneficial alternative to demolition; and, deconstruct up to 10 uninhabitable properties in various states of condition. \$341,603 of the ENRTF appropriation is allocated to cover Northwest Indian OIC's projected expenses.

The Natural Resources Research Institute (NRRI) at the University of Minnesota Duluth will: inform the development of techniques that maximize the quality and quantity of materials harvested from buildings that are in various states of condition and assess the value, quality, and quantity of materials harvested; identify or

develop a tool for calculating the yield and environmental impact of materials harvested from buildings, including reduced greenhouse gas emissions, energy savings, reduced landfill use, and the reuse of natural resources; and build prototypes and test products that can be manufactured from reclaimed materials. \$155,000 of the ENRTF appropriation is being appropriated directly to NRRI to cover its projected expenses.

III. OVERALL PROJECT STATUS UPDATES:

Project Status as of December 31, 2015:

Project Status as of June 30, 2016:

Project Status as of December 31, 2016:

Project Status as of June 30, 2017:

Project Status as of December 31, 2017:

Overall Project Outcomes and Results:

IV. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1: Develop efficient techniques for deconstructing tribal, publically-owned, or uninhabitable buildings safely

Description:

One key strategy for making deconstruction a cost-effective alternative to demolition is demonstrating viable, safe techniques for dismantling a building. In addition, as proponents of deconstruction, the partners must document the yield, value, and quality of the materials diverted. Accordingly, the tasks and outcomes in this area of activity are aimed at testing and refining techniques for maximizing the yield, quality, and value of material diverted from landfills either through recycling or reuse. The objective of maximizing yield and value of material diverted must be balanced with the cost of time and labor required to meet this objective.

Diverting the maximum amount of building materials from landfills generates significant environmental benefits. For example, the deconstruction of a 2000 square foot house in 2014 produced the following benefits: 82%, or 88 tons of the building was recycled or reused and this effort averted the emission of 33 metric tons of carbon dioxide and 1.5 metric tons of methane gas. This reduction in emissions is equivalent to conserving 211 MMBTUs of energy.

Better Futures and the NWIOIC will take apart in a methodical manner at least 30 Tribal, publically-owned, or uninhabitable buildings that are in various stages of condition (i.e. fully intact to partially damaged). These projects will be used to continuously refine deconstruction and material processing techniques during the course of this project. Better Futures and NWIOIC will also use the practical experience from these projects to develop and refine protocols that help workers maximize the yield, quality, and value of material harvested from each building. A related task is that partners will test a range of techniques for processing the material harvested to achieve the greatest value from recycling or reuse. NRRI (as outlined in their work plan) will be helping Better Futures and NWIOIC with assessing the value, quality and quantity of materials harvested.

This in-the-field, project experience will enable Better Futures and the NWIOIC to update and finalize an operating manual and safety protocols. In addition, all workers will receive training with credentialing related to safety, product identification, and harvesting techniques to maximize yield, value, and quality during the

deconstruction process. As with the operating manual and safety protocols, this training regimen will be refined and finalized during the course of the project.

Summary Budget Information for Activity 1:

ENRTF Budget: \$666,833
Amount Spent: \$ 0
Balance: \$666,833

Outcome	Completion Date
1. At least 30 tribal, publically-owned, or uninhabitable buildings, in various stages of condition (i.e. fully intact to partially damaged) are deconstructed. Of the projected 30 buildings, 20 are expected to be located in the Twin Cities Area and 10 in North Central MN.	June 30, 2017
2. At least 40 different at-risk adults and two supervisors are hired and trained for deconstruction work. LCCMR funding supports 29,000 hours of training and labor for the 30 projects.	June 30, 2017
3. On average, 75% of the materials from each building (estimated total weight of 2,600 tons) are reused or recycled and diverted from landfills.	June 30, 2017
4. A final report summarizing the following information is produced: the amount of material recycled or reused and diverted from each building; the type of materials recycled and reused from each building; and the quality and estimated value of the materials recycled and reused.	June 30, 2017
5. A final operating manual and safety protocol for building deconstruction is produced. The manual will contain guidelines for maximizing the yield, value, and quality of material harvested from buildings. The manual will also offer guidelines for assessing the viability of deconstructing a building based on its age and condition.	June 30, 2017

Activity Status as of December 31, 2015:

Activity Status as of June 30, 2016:

Activity Status as of December 31, 2016:

Project Status as of June 30, 2017:

Project Status as of December 31, 2017:

Final Report Summary:

ACTIVITY 2: Promote deconstruction as a sustainable alternative to demolition and a establish a marketplace for reusing materials harvested from projects

Description:

Another key strategy for making deconstruction a viable alternative to demolition is to introduce the value and benefits of deconstruction to a range of people in the community: homeowners, contractors, demolition companies, architects, Tribal, local, county and state government officials, and consumers. This effort to educate the community and public officials will consist of two objectives: promote the practice of deconstruction as a viable, cost effective alternative to demolition; and, increase awareness about the value and uses for materials harvested from buildings. A combination of information, promotion, and practical demonstrations are expected to generate a trend toward making deconstruction a common practice. In addition, these efforts are expected to increase the amount and types of materials being recycled and reused by consumers, contractors, architects, and government agencies.

The key activities in this area will consist of studying strategies and incentives used by public agencies across the country to promote the practice of deconstruction. In addition, we will study the practices of deconstruction and reuse organizations nationwide to determine their methods for promoting deconstruction and fostering a demand for reclaimed building materials.

This scan of practices nationwide will help inform the partner’s efforts in Minnesota. Specifically, Better Futures and the NWIOIC will develop briefing materials outlining the “why, what and how” of deconstruction, including a primer on the environmental benefits of this practice compared to demolition. A strategy for promoting deconstruction within key sectors (homeowners, contractors, architects, demolition companies, and public agency officials) will be developed and implemented. Briefing materials will be tailored for each of these audiences. Outreach tactics will include making presentations at home improvement shows and conventions sponsored by architects and builders. We will also host seminars and offer presentations for local, county, tribal, and State government officials, focusing on those officials with responsibility for issuing demolition permits and increasing waste recycling rates. The goal of this education and promotion effort is to increase the practice of building deconstruction statewide. In addition, we will work with local, county and State officials to adopt incentives for deconstruction such as reduced permit fees and/or diversion goals for projects.

Another set of activities will be focused on increasing Better Futures’ and the NWIOIC’s expertise for valuing and creating a demand for materials reclaimed during the deconstruction process. This effort to foster a demand and marketplace for reclaimed materials is critical since our preliminary data indicates that using reclaimed materials generates a dramatically higher environmental benefit than recycling. For example, in 2014 Better Futures diverted 175 tons of building material from the landfill. 74% of this material was recycled and 26% was reused. Material reuse, however, accounted for 80% of the carbon emissions averted. 180 metric tons of CO2 emissions were avoided by reusing materials compared to only 46 metric tons of CO2 prevented by recycling materials.

A set of activities to increase demand for and promote the reuse of materials will be advanced during this project. Information about the environmental benefits and range of potential uses for reclaimed materials will be prepared. This information will be promoted and accessible via each partner’s website. We will also promote reuse ideas at trade shows and remodeling fairs which target homeowners and crafts people. Social media will also be used to promote ideas for reuse and the range of materials available. A key tactic will consist of building and launching an on-line store to promote the availability and sale of reclaimed materials.

Summary Budget Information for Activity 2:

ENRTF Budget: \$109,922
Amount Spent: \$ 0
Balance: \$109,922

Outcome	Completion Date
1. The practice of deconstruction and information regarding its environmental benefits is widely promoted by: Meeting with Tribal, local, county, and State officials who issue demolition permits, demolish public buildings, and are responsible for increasing recycling rates; Hosting information booths and seminars at home improvement shows, and trade conventions for architects, contractors, and demolition companies.	June 30, 2017
2. At least six continuing education sessions regarding the practice and benefits of deconstruction and the reuse of materials are hosted by the partners. Architects and contractors are the prime audience for these sessions.	June 30, 2017
3. At least one Tribal government and three cities or counties or State agencies adopt incentives and/or material recycling and reuse goals for buildings targeted for demolition.	June 30, 2017
4. Demand for reclaimed materials increases by 75% over the course of the project (as	June 30, 2017

measured by Better Futures and NWIOIC revenue from the sale of material from January 2016 through December 2017)	
5. Tribal, local, county, and State agencies begin using reclaimed materials for tables and other types of basic office furniture.	June 30, 2017

Activity Status as of December 31, 2015:

Activity Status as of June 30, 2016:

Activity Status as of December 31, 2016:

Project Status as of June 30, 2017:

Project Status as of December 31, 2017:

Final Report Summary:

ACTIVITY: 3 Create and test higher value uses for reclaimed materials; develop markets for products made from reclaimed building materials

Description:

The Natural Resources Research Institute at the University of Minnesota Duluth will identify and test potential products that can be manufactured from reclaimed materials. Please see their work plan for a project description and budget.

NRRI will also train Better Futures and Northwest OIC staff on manufacturing processes, standards, specifications, and equipment needed to build products. The NRRI will also offer advice to Better Futures and Northwest OIC staff as they prepare for and begin manufacturing products. As noted below, a small portion of the budget will be used to support this area of activity.

Summary Budget Information for Activity 3:

ENRTF Budget: \$68,246
Amount Spent: \$ 0
Balance: \$68,246

Outcome	Completion Date
1. Better Futures and the NWIOIC use reclaimed materials to create at least three new products such as end tables, conference tables, and counter tops.	June 30, 2017

Activity Status as of December 31, 2015:

Activity Status as of June 30, 2016:

Activity Status as of December 31, 2016:

Project Status as of June 30, 2017:

Project Status as of December 31, 2017:

Final Report Summary:

ACTIVITY 4: Calculate the environmental impact of this project and deconstruction work.

Description:

The Natural Resources Research Institute at the University of Minnesota Duluth will develop a formula for calculating the environmental impact of this project. Please see their work plan for a project description and budget.

Activity Status as of December 31, 2015:

Activity Status as of June 30, 2016:

Activity Status as of December 31, 2016:

Project Status as of June 30, 2017:

Project Status as of December 31, 2017:

Final Report Summary:

V. DISSEMINATION:

Description:

As noted in the work plan, the partners intend to prepare marketing materials that promote the practice and multiple benefits of building deconstruction. These materials will focus on informing homeowners, architects, contractors, tribal governments, and government agencies (with a focus on North Central Minnesota and the Twin Cities). The partners also intend to identify key gatherings such as trade shows, industry conventions, and the State Fair to promote the practice of deconstruction and the reuse of used materials.

Better Futures will also Regular updates about the purpose and status of this project through its Facebook page and website (www.betterfuturesminnesota.com). Better Futures’ newsletter is another outlet for providing updates and promoting deconstruction. This newsletter is distributed via e mail every other month. Finally, the partners intend to use an on-line store to promote the reuse of materials and products made from reclaimed materials. This store will provide an additional outlet for promoting the practice of deconstruction and the reuse of used building materials.

Status as of December 31, 2015:

Status as of June 30, 2016:

Status as of December 31, 2016:

Project Status as of June 30, 2017:

Project Status as of December 31, 2017:

Final Report Summary:

VI. PROJECT BUDGET SUMMARY:

A. ENRTF Budget Overview:

Budget Category	\$ Amount	Overview Explanation
Personnel:	\$ 786,414	Better Futures Project Manager: \$156,023 (77% wages, 23% benefits); .60 FTE each year for 2 years NWIOIC Deconstruction Director: \$162,021

		(71% wages, 29% benefits); 1 FTE each year for 2 years NWIOIC Work Crew: \$163,759 (62% wages, 38% benefits); 2.3 FTE each year for 2 years BFM Work Crew: \$188,950 (62% wages, 38% benefits); 2.7 FTE each year for 2 years BFM Crew Chief: \$115,661 (69% wages, 31% benefits); 1 FTE each year for 2 years
Professional/Technical/Service Contracts:	\$30,000	Consultants (to be identified) to assist with developing tools for estimating time to complete a project and the projected value of materials.
Equipment/Tools/Supplies:	\$ 10,794	\$5,397 estimated cost for initial supply of hand tools, small power tools, ladders, and safety gear such as harnesses, glasses, vests, gloves and hard hats for NW OIC; \$5,397 estimated cost for replenishing tools and safety equipment due to wear and tear for Better Futures
Travel Expenses in MN:	\$ 7,792	Travel to Duluth, Minneapolis and Bemidji areas for project activities associated with deconstruction of buildings. Mileage: \$4,492 (10 trips to MSP, 5 to Duluth, 5 to Bemidji); Lodging: \$1,860 (30 nights); and Meals: \$1,440 (30 days)
Other:	\$10,000	Estimated cost of safety training and training related to proper use of tools; exact cost and provider(s) of training to be determined.
TOTAL ENRTF BUDGET:		\$845,000

Explanation of Use of Classified Staff:

Explanation of Capital Expenditures Greater Than \$5,000:

Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation: 7.6

Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation: .25

B. Other Funds:

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
Non-state			
To be determined	\$65,000		Box truck, pickup truck, trailer
To be determined	\$20,000		Out of state travel
To be determined	\$210,000	\$	Administrative overhead
State			
	\$	\$	
TOTAL OTHER FUNDS:	\$295,000	\$	

VII. PROJECT STRATEGY:

A. Project Partners:

This endeavor is a partnership between Better Futures Minnesota (Minneapolis) and the Northwest Indian OIC (Bemidji). Better Futures will serve as the project manager. Both agencies are committed to supporting at risk adults who are committed to changing their lives and lifestyles. Job creation and employment are core activities for both. For the past four years, Better Futures has been working with counties, contractors, and the MPCA to promote the practice of building deconstruction and develop markets and alternative uses for construction waste diverted from landfills. Their experience informs the proposal outlined in this work plan. Better Futures is partnering with the Northwest OIC to help build their capacity to provide this service in North Central Minnesota. The University of Minnesota Duluth's Natural Resources Research Institute (NRRI) recently began working with Better Futures to identify, prototype and assess uses for reclaimed materials. This grant will enable NRRI to increase their level of research and assistance for both Better Futures and the Northwest Indian OIC.

The following is a summary of each partner's role and responsibilities during this project. To advance this plan and achieve the outcomes outlined in the plan, the partners intend to meet monthly via conference call and hold face to face meetings each quarter.

Better Futures Minnesota:

1. Serve as Project Manager with overall responsibility for:
 - A. Preparing LCCMR work plan and budget and submitting status and final reports to the LCCMR
 - B. Organizing and shepherding the partnership, including managing contracts with each partner, establishing and monitoring work plans with each partner, and hosting monthly video meetings and quarterly face-to-face meetings with partners.
2. Take the lead on testing and refining efficient techniques for taking apart buildings
3. Develop, disseminate and update as needed operating manuals and protocols to maximize the amount of material recovered from deconstruction properties and diverted from landfills;
4. Develop, disseminate, and update as needed a training regimen related to safety, product identification, and harvesting techniques to maximize the yield, value and quality of materials from deconstruction properties
5. Hire, train, and supervise Better Futures crew chiefs and workers
6. Assist NRRI with assessing the quality, quantity, and value of materials harvested during the deconstruction process
7. Assist NRRI with developing strategies that maximize quality and quantity of materials harvested from buildings in various states of condition
8. With advice and assistance from NRRI and the Northwest Indian OIC, develop marketing handouts and implement a statewide promotion strategy targeting homeowners, architects, contractors and government agencies
9. With advice and assistance from NRRI and the Northwest Indian OIC, develop expertise for valuing and selling materials using on-line stores and auctions
10. Take the lead on recommending strategies for sustaining the practice of deconstruction statewide
11. With the NRRI and the Northwest Indian OIC, promote deconstruction services and materials, and the environmental benefits of this approach through relations with trade groups, trade shows, social media, and web pages
12. Assist NRRI with studying model deconstruction/diversion policies from across the country; take the lead on drafting model policy and practice options for Tribal, local, county and State government agencies to consider
13. Work with Tribal, State, county, and local agencies to implement public policies and practices that promote deconstruction as an environmentally beneficial alternative to demolition
14. Deconstruct up to 20 properties in various states of condition
15. Work with the NRRI to develop and test products that can be manufactured from reclaimed materials
16. Prepare an operating and financial plan to launch the manufacture of at least three products from deconstruction reclaimed materials. This plan may result in products being made by Better Futures or NW OIC independently or in cooperation with each other.

Natural Resources Research Institute at the University of Minnesota Duluth:

1. Assess the quality, quantity, type, and value of materials harvested during the deconstruction process
2. Develop strategies that maximize the quality and quantity of materials harvested from buildings that are in various states of condition and assess the value, quality, and quantity of materials harvested
3. Identify or develop a tool for calculating the yield and environmental impact of materials harvested from buildings, including reduced greenhouse gas emissions, energy savings, reduced landfill use, and the reuse of natural resources
4. Study and benchmark this venture against similar endeavors across the nation (i.e. their techniques, products, and the policies that support these techniques and products) with an emphasis on integrating the values and traditions of the Native American and African American cultures
5. Build prototypes and test products that can be manufactured from reclaimed materials
6. Review and test prototypes with potential customers; identify viable products
7. Develop manufacturing plan, identify equipment, and provide technical support, product specifications and quality assurance for each viable product in cooperation with Better Futures MN and NW Indian OIC

Northwest Indian OIC

1. Help test and inform the development of efficient techniques for taking apart buildings
2. Contribute to the drafting and updates of operating manuals and protocols related to material recovery and waste diversion;
3. Assist with drafting and training regimens related to safety, product identification, and harvesting techniques
4. Hire, train, and supervise NW OIC crew chief and workers
5. Assist NRRRI with assessing the quality, quantity, and value of materials harvested during the deconstruction process
6. Assist NRRRI with developing techniques that maximize quality and quantity of materials harvested from buildings in various states of condition
7. Assist with drafting a business and financial plan for sustaining this enterprise when start up funding, including the LCCMR funding ends
8. Assist NRRRI with studying model deconstruction/diversion policies from across the country; take the lead on drafting model policy and practice options for Tribal, local, county and State government agencies to consider
9. Work with Tribal, State, county, and local agencies to implement public policies and practices that promote deconstruction as an environmentally beneficial alternative to demolition
10. Deconstruct up to 10 properties in various states of condition
11. Work with the Natural Resources Research Institute to develop and test products that can be manufactured from reclaimed materials
12. Prepare an operating and financial plan to launch the manufacture of at least three products from deconstruction reclaimed materials. This plan may result in products being made by Better Futures or NW OIC independently or in cooperation with each other.

B. Project Impact and Long-term Strategy:

By adopting deconstruction on a broad-scale, Minnesota can achieve significant reductions in greenhouse gas emissions, reduce the amount of waste buried in landfills, and increase the amount of materials reused. There are, however, a set of challenges that hinder the development of deconstruction into a standard practice statewide. These include:

1. At present, there is no economic model to support this line of work. The cost of dumping in Minnesota is much cheaper than recycling and reuse and there are no established marketplaces for selling reclaimed materials. A new economic model must be developed and changes in public policy and practice are the main drivers for helping to foster this new model.

2. Local and State government is presently focused on the lowest bid to remove buildings and there is no current policy or incentives to take into account the additional jobs and environmental benefits that would be achieved from deconstruction.
3. Launching a new line of business and reaching a level of stability takes time (at least five years) and sufficient startup capital.
4. The State is an under-developed market for deconstruction, meaning that no one is offering this service, there is no prominent marketplace for selling used or reclaimed materials, and current public policy undermines attempts to develop the market more fully. This is both a challenge and an opportunity.
5. At present, there is only one appraiser who is willing to provide private owners with an appraisal for the goods donated to Better Futures. And this appraiser has very limited experience with the method for appraising harvested materials and complying with IRS policies.

This project is focused on addressing these challenges. The four activities being funded over the two year grant period: (1) Developing efficient techniques for deconstructing buildings safely; (2) Marketing deconstruction and establishing a marketplace for selling reclaimed materials; (3) Creating, manufacturing, and marketing products made from reclaimed materials; (4) Calculating the environmental impact of this project and deconstruction work; are formulated to demonstrate the economic, social and economic value of deconstruction. In addition, the partner’s experience gained and data generated will help inform the development of policies and practices to support deconstruction as an alternative to demolition. These new policies and practices will also help foster a marketplace for the reuse and reclamation of used building reused materials. And the experience and data will help inform strategies to support deconstruction as a financially viable practice statewide. Long term, deconstruction can become a financially sustainable line of business once the level of work generates adequate revenue from dismantling buildings, selling used materials, and selling products manufactured from reclaimed materials.

C. Funding History:

Funding Source and Use of Funds	Funding Timeframe	\$ Amount
MN Pollution Control Agency	11/15/12-6/30/14	\$18,833
		\$
		\$

IX. VISUAL COMPONENT or MAP(S):

Please see Attachment A

X. RESEARCH ADDENDUM:

XI. REPORTING REQUIREMENTS:

Periodic work plan status update reports will be submitted no later than: December 31, 2015; June 30, 2016; December 31, 2016; June 30, 2017; and December 30, 2017. A final report and associated products will be submitted no later than August 31, 2018.



Project Title: Building Deconstruction to Reduce Greenhouse Gas Emissions and Solid Waste
Legal Citation: Fill in your project's legal citation from the appropriation language - this will occur after the 2015 legislative session.
Project Manager: Steve Thomas
Organization: The NetWork for Better Futures
M.L. 2015 ENRTF Appropriation: \$1,000,000
Project Length and Completion Date: 3 Years, June 30, 2018
Date of Report: 4-23-15

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Activity 1 Balance	Activity 2 Budget	Amount Spent	Activity 2 Balance	Activity 3 Budget	Amount Spent	Activity 3 Balance	Activity 4 Budget	Amount Spent	Activity 4 Balance	TOTAL BUDGET	TOTAL BALANCE
BUDGET ITEM	<i>Develop efficient techniques for deconstructing tribal and publically-owned buildings safely</i>			<i>Promote deconstruction as a sustainable alternative to demolition and establish a marketplace for materials harvested from projects</i>			<i>Create and test higher value uses for reclaimed materials; develop markets for products made from reclaimed building materials</i>							
Personnel (Wages and Benefits)	\$628,048		\$628,048	\$91,930		\$91,930	\$66,437		\$66,437	\$0		\$0	\$786,414	\$786,414
Project Manager: \$156,023 (77% wages, 23% benefits); .6 FTE each year for 2 years														
BFM Work Crew: \$188,950 (62% wages, 38% benefits); 2.7 FTE each year for 2 years														
BFM Crew Chief: \$115,661 (69% wages, 31% benefits); 1 FTE each year for 2 years														
NW/OIC Deconstruction Director: \$162,021 (71% wages, 29% benefits); 1 FTE each year for 2 years														
NW/OIC Work Crew: \$163,759 (62% wages, 38% benefits); 2.3 FTE each year for 2 years														
Professional/Technical/Service Contracts	#REF!		#REF!	#REF!		#REF!	#REF!		#REF!	#REF!		#REF!	#REF!	#REF!
TBD: Consultant to develop template and formula for cost estimating and assist with identifying and valuing materials														
Equipment/Tools/Supplies	\$10,794		\$10,794	\$0		\$0	\$0		\$0	\$0		\$0	\$10,794	\$10,794
Hand and power tools and personnel safety equipment; tool belts for workers, starter supply of power and hand tools for NW OIC workers, replacement small tools for both agencies; hard hats, vests, eye protection, gloves, and steel inserts for boots. Specific costs and exact items to be determined.														
General woodworking supplies, saw blades, adhesives, wood finishes, cutting bits, stains, hardware,														
Travel expenses in Minnesota	\$2,991		\$2,991	\$2,992		\$2,992	\$1,809		\$1,809	\$0		\$0	\$7,792	\$7,792
Travel to Duluth, Minneapolis and Bemidji areas for project activities associated with deconstruction of buildings. Mileage: \$4,492 (10 trips to MSP, 5 to Duluth, 5 to Bemidji); Lodging: \$1,860 (30 nights); and Meals: \$1,440 (30 days)														
Other	\$10,000		\$10,000	\$0		\$0	\$0		\$0	\$0		\$0	\$10,000	\$10,000
Estimated cost of safety training and training related to proper use of tools; exact cost and provider(s) of training to be determined														
Shipping of samples and prototypes														
Laboratory testing of energy content of wood samples														
Grinding of wood materials that are not usable in sold form by a commercial wood grinding company														
COLUMN TOTAL	#REF!			#REF!			#REF!			#REF!			#REF!	#REF!



DECONSTRUCTION

Green Demolition: Recycle Your Building



Choose deconstruction to help your pocketbook, people, and our planet.

The advantages of deconstruction are astounding. The overall value of deconstruction can be usefully viewed through three layers of advantages — financial, environmental and social.

FINANCIAL BENEFITS — HELP YOUR POCKETBOOK

- Deconstruction generates tax savings from home or material donation
- Offers a cost savings to individuals, government, business and urban developers

ENVIRONMENTAL BENEFITS — HELP OUR PLANET

- Deconstruction reduces climate-altering greenhouse gas emissions from landfills
- Reduces the need for more toxic landfills
- Recycles perfectly useable material for reuse and creative repurposing
- Keeps material local, reducing additional adverse harvesting, mining and transportation effects

SOCIAL BENEFITS — CREATES JOBS

- Deconstruction generates jobs
- Creates training and career path opportunities for our workers

ABOUT BETTER FUTURES

Better Futures Minnesota is a 501(c)(3) social enterprise that helps men who want to change their lives and reach their full potential. Our business activities create jobs for chronically unemployed men and generate revenue to support this social mission.

Our model is based on the belief that for our men to walk a better path and stay on that path, they need to experience a strong, vibrant community and meaningful relationships. Housing, jobs, health, and coaching are our model's four fundamentals, all of which must be in place and work together to be effective.

3-9-2015

