

## **2018 Project Abstract**

For the Period Ending June 30, 2021

### **PROJECT TITLE: Expand Materials Reuse and Recycling Jobs Program**

**PROJECT MANAGER:** Steve Thomas

**AFFILIATION:** The NetWork for Better Futures (d/b/a Better Futures Minnesota)

**MAILING ADDRESS:** 813 North 5<sup>th</sup> Street

**CITY/STATE/ZIP:** Minneapolis, MN 55401

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**FUNDING SOURCE:** Environment and Natural Resources Trust Fund

**LEGAL CITATION:** M.L. 2018, Chp. 214, Art. 4, Sec. 2, Subd. 05k as extended by M.L. 2020, First Special Session, Chp. 4, Sec. 2

**APPROPRIATION AMOUNT:** \$800,000

**AMOUNT SPENT:** \$778,322

**AMOUNT REMAINING:** \$21,678

### **Sound bite of Project Outcomes and Results**

This project funded: the deconstruction of 29 properties; 10.5 FTE jobs; transitional employment of 200 people; a reuse project at a county landfill; and the promotion deconstruction and material reuse throughout the State. The project generated close to net zero emissions by diverting 80% of 8,000,000 pounds of material from landfills.

### **Overall Project Outcome and Results**

This project supported the growth of building material stewardship, an essential and viable alternative to burying 70% of the State's building waste in landfills. Practical alternatives to dumping are needed to avert the serious health, financial, and environmental costs of landfill use.

Three activities were completed. First, by providing advice and assistance to counties, a deconstruction incentive grant program for homeowners in Hennepin County was implemented and a diversion/reuse program at the Becker County landfill was established.

Second, through presentations and outreach the partners made significant progress in making the reuse and recycling of building materials a preferred practice statewide. One result is the Sustainable Building Materials stakeholder group with staff support from the MPCA. This work group is focused on informing rule changes for landfills, expanding deconstruction work in the State, and expanding the marketplace for the reuse of materials.

This outreach was combined with deconstructing 29 properties in 22 communities, launching a diversion and reuse program at a county landfill, and training and offering transitional employment for 200 people. The results of this effort - types and value of materials harvested and reused; jobs created; and the benefits for our air, water, and land - demonstrated to many audiences the value of this project.

The third activity focused on documenting that 70% (2771 tons or 5,542,000 pounds) of the 4,000 tons collected was diverted from landfills. The most beneficial environmental outcome is that 346 tons or 9% of the material was reused.

Overall, the benefits of the deconstruction and reuse, as an alternative to demolition, are broad and generous. Project data shows deconstruction generates 70% less emissions than demolition. This project also approached net zero emissions per ton of material collected: .63 metric tons of CO2 for deconstruction compared to 2.23 metric tons of CO2 for demolition.

This project can inform economic development and healthy environmental practices Statewide. The formula is practical: take apart and reuse buildings rather than dumping them in landfills and begin diverting reusable materials at landfills. These new methods create more jobs, provide quality materials for consumers, and dramatically reduces harmful pollutants.

### **Project Results Use and Dissemination**

The highlights of the partners' many and varied dissemination efforts included: an opportunity to introduce building material stewardship and deconstruction practices to more than 150 government, tribal, and business owners during statewide MPCA stakeholder meetings; an opportunity to describe this projects' value and impact to an international audience during a "virtual" conference sponsored by the Ellen McArthur Foundation in London, England; and, a presentation at the 2021 Environmental Initiative awards ceremony (Better Futures and Becker County received the 2021 Rural Innovation Award).

The partner's deconstruction pilot with St Louis County generated opportunities to promote the benefits and impact of deconstruction and material reuse.

<https://www.duluthmonitor.com/2020/10/01/better-futures-minnesota-and-st-louis-county-offer-house-parts-for-sale/>

<https://www.wdio.com/duluth-minnesota-news/st-louis-county-partners-with-better-futures-minnesota-/5872372/?cat=10335>

<https://www.duluthnewstribune.com/news/government-and-politics/6666537-Duluth-homes-condemned-but-value-not-forgotten>

<https://www.fox21online.com/2020/09/23/st-louis-county-partners-with-minnesota-organization-to-deconstruct-properties-in-duluth-2/>

<https://kbjr6.com/2020/09/23/county-partners-with-program-to-save-useful-items-from-blighted-homes/>

Becker County staff created a significant number of followers (over 2500) on Facebook Marketplace. This site along with Craig's List are effective venues for promoting the reuse pilot and promoting sales events. Staff also promote reuse on a local weekly radio show.



# Environment and Natural Resources Trust Fund (ENRTF)

## M.L. 2018 ENRTF Work Plan Final Report

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**Today's Date:** August 16, 2021

**Date of Next Status Update Report:** Final Report

**Date of Work Plan Approval:** June 27, 2018

**Project Completion Date:** June 30, 2021

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**PROJECT TITLE:** Expand Materials Reuse and Recycling Jobs Program

**Project Manager:** Steve Thomas

**Organization:** The NetWork for Better Futures (d/b/a Better Futures Minnesota)

**College/Department/Division:**

**Mailing Address:** 813 North 5<sup>th</sup> Street

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**Telephone Number:** 612-455-6133

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**Location:** Statewide

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**Total Project Budget:** \$800,000

**Amount Spent:** \$778,322

**Balance:** \$ 21,678

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**Legal Citation:** M.L. 2018, Chp. 214, Art. 4, Sec. 2, Subd. 05k as extended by M.L. 2020, First Special Session, Chp. 4, Sec. 2

### **Appropriation Language:**

\$665,000 the second 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 Community Development Corporation, and \$135,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota for the Natural Resources Research Institute in Duluth to expand building deconstruction and material-reuse practices and jobs in partnership with counties, tribes, and municipalities statewide and to document the environmental, health, and economic

benefits of these practices. Net income generated by Better Futures as part of this or a previous related appropriation from the environment and natural resources trust fund may be reinvested in the project if a plan for reinvestment is approved in the work plan.

M.L. 2020 - Sec. 2. ENVIRONMENT AND NATURAL RESOURCES TRUST FUND; EXTENSIONS. [to June 30, 2021]

### **I. PROJECT STATEMENT:**

This project intends to establish the reuse and recycling of building materials as a preferred practice statewide.

This proposal builds on and expands the strategies that were developed with a 2015 LCCMR grant award. The pilot phase of this project tested the viability of deconstruction as a sustainable alternative to demolition. As of March 2017, the outcomes from the 2015 LCCMR grant included: 1,650 tons of waste diverted from landfills; 3,435 tons of CO<sub>2</sub> emissions averted; 10 FTE jobs for chronically unemployed people created; and a marketplace for reclaimed materials established.

The second phase of this endeavor intends to: educate policymakers, building inspectors, homeowners, and contractors statewide about the value and techniques of deconstruction; deconstruct more buildings statewide; develop additional metrics to measure the benefits and impact of deconstruction; and, establish partnerships with (2) counties/municipalities and (1) Tribe to establish deconstruction as a preferred, common practice.

Building material stewardship is essential because the current practice of burying 70% of the State's building waste in landfills is not sustainable. Viable alternatives to dumping construction and demolition waste are needed to avert the serious health, financial, and environmental costs of landfill use. For example, 42 construction and demolition landfills in the State are leeching contaminants into our groundwater. Data from the pilot phase of this project shows every ton of building material buried in landfills emits 1.12 metric tons of carbon dioxide (CO<sub>2</sub>), versus .13 metric tons of CO<sub>2</sub> per ton from deconstruction.

A much cleaner alternative is deconstruction, the process of taking apart a building in a methodical manner to preserve materials. On average, 86% of all building material from deconstruction projects is diverted. This alternative practice can achieve net zero emissions and significantly reduces the leeching of harmful chemicals. Deconstruction generates 150% less CO<sub>2</sub> emissions than throwing away a building.

The goals for this project are to implement building material stewardship practices and create more jobs statewide.

The activities are:

- (1) Provide technical assistance and incentives to (2) counties/municipalities and (1) Tribe to adopt material reuse practices;
- (2) Promote and establish deconstruction techniques and material reuse/recycling strategies statewide;
- (3) Develop additional impact metrics and document the multiple benefits of material reuse and deconstruction.

This project is expected to divert at least 3,000 tons of waste, reduce CO<sub>2</sub> emissions by 3,120 metric tons, and support 11.1 FTE jobs. Any net income generated as a result of the activities in this project will be reinvested directly into this project.

## **II. OVERALL PROJECT STATUS UPDATES:**

### **First Update January 31, 2019**

The partners made good progress in advancing this project in the first six months. In late 2018, the MPCA held four stakeholder meetings across the state for organizations and individuals involved in the construction and demolition sector to provide feedback and suggestions on how to improve the overall construction and demolition system. The partners made presentations and participated in group sessions at three of the four meetings. Better Futures also trained more than 25 workers and deconstructed 8 LCCMR-eligible properties. Environmental impact data for these properties will be completed for the next report.

Progress was also made in introducing building material stewardship to entities statewide. Along with the MPCA sessions in Duluth, Mankato and St Paul, initial conversations were completed with nine potential partners for a second, more extensive deconstruction and reuse pilot in St Louis County. Deconstruction projects were also completed for the cities of Lauderdale and St Louis Park.

### **Amendment Request 5/10/2019:**

Better Futures Minnesota is requesting an amendment to its project budget. Specifically, we are requesting a shift of Better Futures' personnel funds to cover much higher fringe rates. This proposed shift uses a greater percentage of the personnel funds for fringe costs and less of these funds for wages. The proposed shift will not hinder Better Futures' ability to achieve the program goals and outcomes outlined in our approved work plan.

Here is the background. Our approved rates for our 2015 LCCMR grant was 38% for workers and 31% for crew chiefs. The rates in the 2018 approved budget, however, are 19% for workers and 28% for crew chiefs. These rates were not based on the real rates being paid at the time and these rates are much lower than we charged in 2015. An additional challenge is our workers comp rate increased significantly in 2018.

Accordingly, we request approval to use a fringe rate of 43.61% for crew chiefs and 48.16% for crew workers for the period of July 1 through December 31, 2018 (the first six months of the grant). In addition, we will request approval to use a fringe rate of 38% for both positions from January 2019 to the end of the grant period. This new proposed rate is still below our actual rate, but it will enable us to cover some of our fringe expense losses moving forward. **Amendment Approved by LCCMR 07/08/19.**

### **Second Update July 31, 2019**

This project lost some momentum during the first six months of 2019, due in large part to the winter weather, especially February. In spite of the cold and snow, 2 LCCMR-eligible properties were deconstructed in January. The partners also focused on making presentations, promoting reuse policies among policymakers, and marketing the benefits of material reuse statewide. During the first half of 2019, the partners made seven presentations, including two webinars. Better Futures also trained

more than 61 different workers (41 were Better Futures employees and 20 were employed by the NWICDC). Environmental impact data for all properties completed to date will be submitted with the next report.

Nine partners in St Louis County continued to work with the partners to develop a deconstruction and reuse pilot. The main roadblock to launching the pilot is funding. The County's Environmental Services agency submitted a proposal for 2021 LCCMR funding but the proposal was not selected. Better Futures also met with elected officials and staff in Minneapolis, St Paul, St Louis Park, and Richfield to advance building material stewardship policies in those communities. Better Futures also worked with Hennepin County to shape a pilot aimed at using financial incentives for homeowners to choose deconstruction over demolition.

### **Amendment Request October 8, 2019**

After consulting with our DNR program officer, the partners have determined it will not be possible to use "incentive funds" to achieve the outcomes in Activity One. Given the prescribed uses of Environmental Trust Funds along with the partner staff time required to develop and administer a sub-grant program, our original, planned use of the \$130,000 in incentive funds is not feasible.

Accordingly, we request an amendment to the first outcome for Activity One: reduce the number of jurisdictions implementing deconstruction practices from three counties or cities and one Tribe to two jurisdictions and one Tribe. In addition, we request an amendment to the second outcome for Activity One: reduce the number of jurisdictions testing incentives or policies from four to two jurisdictions and one Tribe. Finally, to support the amended work in Activity One, we request to shift the use of \$130,000 in incentive funds to cover additional Better Futures and NWICDC personnel costs. This reduction in scale (and the related revised outcomes) is necessary because the partner's project staff can only be deployed effectively to several locations. Grant funds, in contrast, typically require less direct staff involvement to generate desired outcomes.

The partner's personnel will work directly with at least two jurisdictions and one Tribe to develop and implement activities focused on reforming policies and diverting building materials from landfills. Our activities may include:

- Reviewing existing policies and practices related to the disposal of used building materials and recommending ways to increase the amount of this material that is reused or recycled.
- Employing Better Futures and NWICDC workers to assist with: diverting reusable materials at transfer stations and landfills; training contractors on techniques for diverting reusable and recyclable materials at job sites; assisting homeowners and contractors with deconstructing rather than demolishing properties. These tactics are intended to demonstrate cost effective and environmentally sound alternatives to dumping building materials.
- Training local contractors in these jurisdictions on safe and effective reuse techniques.

The specific requested budget revisions are as follows:

- 1) Decrease the "Professional Services and Contract" budget by \$130,000 for a revised budget of \$224,000.
- 2) Increase the "Personnel" budget by \$130,000 for a revised budget of \$556,000. The request increase in personnel funding is proposed to be allocated in the following manner:

- a) For Better Futures: increase funding for the Business Manager by \$5,000, from \$32,000 to \$37,000; increase funding for the crew chiefs by \$13,700, from \$35,200 to \$48,900; and increase funding for work crew members by \$81,300, from \$180,800 to \$262,100.
- b) For the NWICDC: increase work crew funding by \$30,000, from \$27,740 to \$57,740.

### **Amendment Approved by LCCMR 10/11/2019**

#### **Third Update January 31, 2020**

The project made significant progress during the past six months, particularly in the area of engaging public agencies in implementing reuse policies and practices. The MPCA launched a building materials sustainability work group (with four sub-groups) to propose ways to decrease and reuse the amount of building material sent to landfills. This group is composed of government officials, business owners, and landfill operators. Better Futures is a participant. Better Futures also presented in two webinars (one hosted by a foundation in Europe) and completed waste diversion planning work with two Greater Minnesota counties and one large manufacturer. A major victory was the adoption by the Hennepin County Board of a building material reuse project. The Board allocated \$100,000 in financial incentives for homeowners in Minneapolis and St Louis Park to deconstruct rather than demolish properties. This effort was informed in large part by Better Futures deconstruction work and advocacy.

In addition, 7 LCCMR-eligible properties were deconstructed (4 by Better Futures and 3 by NWICDC). To date, 17 properties have been deconstructed rather than torn down and buried. The partners also focused on making presentations, promoting reuse policies among policymakers, and marketing the benefits of material reuse statewide. Better Futures also trained and employed 46 different workers and NWICDC employed six different workers. Environmental impact data for all properties completed to date will be submitted with the final report.

#### **Amendment Request February 7, 2020**

As the partners begin the last six months of this project, they request approval to reallocate funds to ensure the activities for this endeavor are completed and every outcome fulfilled. This amendment is based in part on NWICDC's decision to direct its remaining funds for use by Better Futures for pilot projects in Becker and St Louis County.

The reallocation will help fuel the following important projects related to Activity One and Activity Two and enable the partners to meet all the expected outcomes for the grant.

1) In partnership with the Becker County Environmental Services Division, Better Futures expects to receive approval operate a 12-week building material waste diversion pilot at Becker County's Transfer Station in Detroit Lakes. This effort relates to the objectives and outcome related to Activity One of this grant. The goals of this pilot are to:

- A. Test a process and techniques for diverting used building materials and household goods from the waste stream
- B. Document the weight and type of materials diverted for reuse or recycling
- C. Document the financial costs and benefits of this diversion process
- D. Use the experience to inform the design of an ongoing diversion and reuse operation at the site
- E. Begin to promote the availability of reusable goods to County residents

2) In partnership with St Louis County, Better Futures expects to receive approval to deconstruct as many as five county-owned properties and (if sufficient funds are available) pilot a building material diversion pilot at one or two County-operated transfer stations. Both ventures are intended to help inform changes in the County's building removal and waste handling practices. This effort relates to the objectives and outcome related to both Activity One and Activity Two of this grant.

3) Better Futures will deconstruct at least five properties in the Twin Cities before June 30, 2020. Three of these five properties are owned by public agencies (Ramsey County, Three Rivers Parks, and City of St Louis Park). This deconstruction work relates to the objectives and outcome related to both Activity One and Activity Two of this grant. All three public entities have expressed a willingness to consider reforming their policies and practices to deconstruct rather than demolishing publicly owned buildings.

The specific budget revisions are as follows:

1) Decrease "NWICDC's Personnel Budget" by \$156,799 for a revised budget of \$51,201. \$14,034 of the remaining funds are requested to be allocated for the Director and \$37,167 of the remaining funds are requested to be allocated for workers.

2) Increase "Better Futures Personnel Budget" by \$137,377 for a revised personnel budget of \$485,377. This requested increase in personnel funding is proposed to be allocated in the following manner:

- A. Increase funding for the Business Manager by \$27,494, from \$37,000 to \$64,494;
- B. Increase funding for Better Futures crew chiefs by \$48,243 from \$48,900 to \$97,143;
- C. Increase funding for Better Futures workers by \$61,640 from \$262,100 to \$323,740.

3) Increase "Travel Expenses in Minnesota" by \$10,396 from \$12,500 to \$22,896.

4) Increase "Equipment, Tools, Supplies" by \$9,026 from \$7,500 to \$16,526.

#### **Amendment Approved by LCCMR 2/14/2020**

**Project extended to June 30, 2021 by LCCMR 6/18/20** as a result of M.L. 2020, First Special Session, Chp. 4, Sec. 2, legislative extension criteria being met.

#### **Fourth Update July 31, 2020:**

During the first six months of this year, Better Futures' community and operations were disrupted by two pandemics, COVID-19 and the murder of George Floyd, yet another tragic display of enduring racial discrimination and inequities in our society. These events also reinforce the incredible value and impact of LCCMR program funds in supporting our mission and critical work. The Environmental Trust Fund dollars are helping advance social and environmental justice agendas: combatting the effects of climate change AND creating meaningful work for primarily Black men who have been locked out of our society most of their lives. For these reasons, the extension of our current grant was an important action; not just for Better Futures and the men we serve, but for the communities most affected by the rioting and enduring racial inequities.

In spite of months of turmoil, uncertainty, and anguish, we preserved, and our work crews stay focused on working. Between January and June 2020, Better Futures' deconstruction crews worked steady. Eight projects funded in part with LCCMR grant funds were completed. Also, during this period, 28 different men worked 2,187 hours on these projects. Along with working and completing eight



deconstruction projects, 32 different workers completed our Deconstruction training 101 and 34 earned their OSHA-10 certification and completed fall protection training.

Overall, since the beginning of this project in July 2018, 21 deconstruction projects have been completed and 170 different people have been trained and/or employed on projects. We have exceeded our goal for number of deconstruction projects completed (21 completed compared to a goal of 20) And we are on course to deconstruct at least 5 more projects by the end of this grant period.

We also exceeded our goal for the number of FTE jobs maintained (8 FTE compared to the goal of 4 FTE). We have also exceeded our goal of providing deconstruction certification training for supervisors, 6 supervisors completed training compared to a goal of 5.

The COVID lockdown canceled opportunities to meet with policy makers and present at conferences. We did, however, continue to participate in and contribute to the work of the MPCA's Sustainable Buildings Work Group. In particular, Better Futures shared sample deconstruction policies and ordinance with the Group and we presented our training curriculum for deconstruction worker certification.

And during the lockdown, with the support of NRRI, we ramped up the production of Leopold benches made with reclaimed lumber. The benches were promoted and sold online. More than 40 benches were sold by the end of June. This project kept two men working during the lockdown.

Environmental impact reports are being completed for every project and the data should be presented in the next six-month update.

**Amendment Request July 31, 2020:**

With the extension granted by the Legislature, the partners are now able to request a reallocation of funds to ensure the activities for this endeavor are completed and most every outcome fulfilled. This amended budget will allow us to deconstruct at least 5 more properties; train and certify more workers; complete at least two diversion pilots with St Louis and Becker counties; work with Hennepin County to further expand its deconstruction incentives program and implement a deconstruction policy for County-funded projects; and, work with the MPCA to be implementing the recommendations from its Sustainable Building Materials Work Group.

Specifically, the proposed revised budget is needed to:

- 1) Transition the Project Manager, Steve Thomas, from a contractor to a paid employee of Better Futures Minnesota and extend his work for six months. Accordingly, add a new personnel line for the Project Manager and provide \$16,570 to fund this position;
- 2) Increase funding for two other personnel lines, Business Manager and Field Supervisors to staff a third year of the grant and complete more deconstruction work. Accordingly, increase funding for the Business Manager by \$8,893 for a revised budget total of \$73,387; and increase funds for the field supervisors by \$4,452 for a revised budget total of \$101,595.

- 3) To support deconstruction and diversion pilots in Becker and St Louis counties, and deconstruct more properties, increase the Tools and Equipment budget line by \$17,037, from \$16,526 to a revised budget of \$33,564, and; increase Travel by \$9,663, from \$22,896 to a revised budget of \$32,559. More equipment is needed to complete an increase number of projects (exceeding the original goal) and travel costs are increased to adhere to safety precautions related to COVID: hotel rooms cannot be shared and meals must be purchased individually.

To fund these increases, reduce funding for the following expenses:

- 1) Decrease funds for Better Futures workers by \$42,033 for a revised budget of \$281,707;
- 2) Decrease funds for the NWICDC Director by \$440 for a revised budget amount of \$13,594;
- 3) Decrease funds for the NWICDC work crew by \$716 for a revised budget amount of \$36,451;  
and,
- 4) Decrease in the Professional Services line by \$13,426 for a revised budget amount of \$210,574.

### **Amendment Approved by LCCMR 10/12/2020**

#### **Fifth Update January 31, 2021:**

The partners regained momentum as the “new normal” settled into a routine. In spite of Covid-19 precautions and practices, BFM was able to make significant progress in advancing this project’s goal of promoting building material diversion and reuse practices statewide. A second deconstruction pilot was completed in Duluth in partnership with St Louis County. And BFM launched a full time waste diversion and reuse pilot in partnership with Becker County at the County’s landfill and transfer station. Both pilots garnered media attention, provided meaningful work for at risk, formerly incarcerated people, diverted tons of waste for reuse, and helped promote environmentally sound alternatives for used building materials.

Between July and December 2020, Better Futures’ deconstruction crews worked a record number of hours. During this period, 31 different men worked 3,572 hours on LCCMR-funded deconstruction and reuse projects.

Since the beginning of this project in July 2018, 27 LCCMR-funded deconstruction projects have been completed and 201 different people have been trained and/or employed on all BFM deconstruction and reuse projects. Six projects funded in part with LCCMR grant funds were completed during this reporting period. We have exceeded our goal for number of deconstruction projects completed (27 completed compared to a goal of 20).

The restrictions imposed by the pandemic continued to hinder opportunities to meet with policy makers and present at conferences. We did, however, continue to participate in and contribute to the work of the MPCA’s Sustainable Buildings Work Group. In addition, BFM introduced its deconstruction and reuse services to homeowners and contractors in the region around Becker County via social media, radio shows, and mailings.

Environmental impact reports are being completed for every project and the data will be presented in the final report.

#### **Amendment Request February 12, 2021:**

As the partners enter the last six months of this project, they request a budget amendment to ensure all remaining funds are used effectively. The NRRI has \$59,002 in funds remaining and \$27,367 is available for Better Futures. This budget request is for a reallocation of Better Futures' remaining funds.

The specific budget revisions are as follows:

- 1) Decrease "Travel" by \$12,643 for a revised budget of \$3,900.
- 2) Decrease "Tools and Equipment" by \$2,269 for a revised budget of \$1,200.
  
- 2) Increase "Better Futures Personnel Budget" by \$14,912 for a revised personnel budget of \$538,216. This requested increase in personnel funding is proposed to be allocated in the following manner:
  - A. Increase funding for the BFM Crew Chief by \$4,052, from \$101,595 to \$105,647;
  - B. Increase funding for Better Futures workers by \$10,860 from \$281,707 to \$292,567.

### **Amendment approved by LCCMR 2-23-21**

#### **Amendment Request May 24, 2021:**

The partners are requesting an amendment to the project budget to ensure all remaining funds for Better Futures are used effectively. The NRRI has \$59,002 in funds remaining and \$2,328 is available for Better Futures. This budget request is for a reallocation of Better Futures' remaining funds retroactive to May 24, 2021.

The specific budget revisions are as follows:

- 1) Decrease "Travel" by \$1,628 for a revised budget of \$18,288.
- 2) Increase "Better Futures Personnel Budget" by \$1,628 for a revised personnel budget of \$539,844. This requested increase in personnel funding is proposed to be allocated in the following manner:
  - A. Increase funding for Better Futures workers by \$1,628 from \$292,568 to \$294,195.

### **Amendment Approved by LCCMR 6/9/2021.**

#### **Final Update June 30, 2021**

This project supported the growth of building material stewardship, an essential and viable alternative to burying 70% of the State's building waste in landfills. Practical alternatives to dumping are needed to avert the serious health, financial, and environmental costs of landfill use.

Three activities were completed. First, by providing advice and assistance to counties, a deconstruction incentive grant program for homeowners in Hennepin County was implemented and a diversion/reuse program at the Becker County landfill was established.

Second, through presentations and outreach the partners made significant progress in making the reuse and recycling of building materials a preferred practice statewide. One result is the Sustainable Building Materials stakeholder group with staff support from the MPCA. This work group is focused on informing rule changes for landfills, expanding deconstruction work in the State, and expanding the marketplace for the reuse of materials.

This outreach was combined with deconstructing 29 properties in 22 communities, launching a diversion and reuse program at a county landfill, and training and offering transitional employment for

200 people. The results of this effort - types and value of materials harvested and reused; jobs created; and the benefits for our air, water, and land - demonstrated to many audiences the value of this project.

The third activity focused on documenting that 80% (3,117 tons or 6,234,000 pounds) of the 4,000 tons collected was diverted from landfills. The most beneficial environmental outcome is that 346 tons or 9% of the material was reused.

Overall, the benefits of the deconstruction and reuse, as an alternative to demolition, are broad and generous. Project data shows deconstruction generates 70% less emissions than demolition. This project also approached net zero emissions per ton of material collected: .63 metric tons of CO2 for deconstruction compared to 2.23 metric tons of CO2 for demolition.

This project can inform economic development and healthy environmental practices Statewide. The formula is practical: take apart and reuse buildings rather than dumping them in landfills and begin diverting reusable materials at landfills. These new methods create more jobs, provide quality materials for consumers, and dramatically reduces harmful pollutants.

**III. PROJECT ACTIVITIES AND OUTCOMES:**

**ACTIVITY 1: Assist counties, Tribes, and municipalities with adopting reuse practices**

**Description:**

Establish partnerships; provide technical assistance; help implement viable deconstruction practices; develop financial incentives and/or policies to encourage material stewardship in local communities; initiate material stewardship planning with State agencies.

One strategy under this activity is to work with State agencies, particularly the MPCA, MNDOT, and the DNR, to adopt building material reuse practices for all State-funded projects.

Possible reuse and waste diversion activities may include the following:

- Reviewing existing policies and practices related to the disposal of used building materials and recommending ways to increase the amount of this material that is reused or recycled.
- Employing Better Futures and NWICDC workers to assist with: diverting reusable materials at transfer stations and landfills; training contractors on techniques for diverting reusable and recyclable materials at job sites; assisting homeowners and contractors with deconstructing rather than demolishing properties. These tactics are intended to demonstrate cost effective and environmentally sound alternatives to dumping building materials.
- Training local contractors in these jurisdictions on safe and effective reuse techniques.
- Additional innovative and creative ideas that may be proposed by the jurisdiction

**ENRTF BUDGET: \$193,000**

Outcome	Completion Date
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1. Two counties/cities and one Tribe implement deconstruction practices for projects	6-30-2021
2. Two jurisdictions and one Tribe test financial incentives/policies to encourage deconstruction and reuse	6-30-2021

**First Update January 31, 2019**

The partners prepared and delivered a presentation at three of the four MPCA-sponsored stakeholder meetings across the state for organizations and individuals involved in the construction and demolition sector. These sessions provided an opportunity to introduce building material stewardship and deconstruction practices to more than 150 government, tribal, and business owners. The partners also participated in group sessions focused on ways to reduce and increase the reuse of C and D waste. The partner’s presentation and key message points were the subject of an article in MinnPost and was reprinted in the Star Tribune.

An ordinance to require deconstruction and material reuse was drafted by a City Council sponsor in Minneapolis. Better Futures staff met on multiple occasions with City staff and council members to advance this ordinance toward adoption. A similar ordinance was reviewed with potential City Council sponsors in the City of St Paul.

Progress was also made in introducing building material stewardship to entities statewide. Along with the MPCA sessions in Duluth, Mankato and St Paul, initial conversations were completed with nine potential partners for a second, more extensive deconstruction and reuse pilot in St Louis County. Staff and elected officials in the cities of Lauderdale and St Louis Park emerged as proponents for material reuse and helped to secure deconstruction projects in their cities.

**Second Update July 31, 2019**

No progress has been made in releasing an RFP to counties and localities. After discussions with the DNR and LCCMR staff, it became apparent that the proposed funds to be sub-granted will need to be used within the DNR guidelines. This would eliminate the ability to use funds in creative and flexible ways. Accordingly, the partners intend to request an amendment to redirect the \$130,000 budgeted for this activity. The amended approach will still be focused on achieving the goals and objectives originally outlined; the amendment would propose using the funds in a manner that aligns with DNR guidelines and the partner’s existing budget.

**Third Update January 31, 2020**

The project made significant progress during the past six months, particularly in the area of engaging public agencies in implementing reuse policies and practices. The MPCA launched a building materials sustainability work group (with four sub-groups) to propose ways to decrease and reuse the amount of building material sent to landfills. This group is composed of government officials, business owners, and landfill operators. Better Futures is also participating. The work group met once in November, and all four sub-groups met before the end of the year. The MPCA hopes to craft a series of financial and regulatory proposals by October 2020. The entire effort is expected to increase building material reuse and dramatically reduce the amount of building materials buried in landfills. Better Futures and the NRRI are members of the work group and the MPCA is routinely asking both partners to contribute data and expertise to the discussions.

Better Futures also advanced building material waste diversion strategies with officials in Ramsey, Otter Tail, St Louis, and Becker counties. These efforts are expected to result in diversion and reuse pilot endeavors in at least three of these counties in the spring. The purpose of the pilots is to inform changes in the counties practices for removing properties: from demolition to a preference for material reuse using the method of building deconstruction. Similar policy reform discussions were advanced with the City of St Louis Park and the Three Rivers Parks District.

Better Futures also explored ways to increase material reuse and waste diversion outcomes with sustainability officials at Andersen Windows. Andersen staff toured Better Futures’ reuse warehouse and Better Futures staff toured the Andersen manufacturing facility to generate ideas and possibilities.

A major victory was the adoption by the Hennepin County Board of a building material reuse project. The Board allocated \$100,000 to provide financial incentives for homeowners in Minneapolis and St Louis Park to deconstruct rather than demolish properties. This effort was informed in large part by Better Futures deconstruction work and advocacy. The County will offer up to \$5000 per household to promote deconstruction over demolition. The County is also expected to soon adopt an internal policy requiring all County-funded building removal projects to use deconstruction and reuse as opposed to demolition.

Another successful result of Better Futures’ educational and advocacy effort was that City of Saint Paul decided to measure all the waste generated by city-funded projects in 2020. And finally, two City of Minneapolis council members plan to submit a building deconstruction ordinance for consideration by the full Council no later than July 2020. This ordinance (drafted and shepherded by Better Futures) would require all homes built prior to 1950 to be deconstructed rather than demolished when the homes have reached their “end of life “.

**Fourth Update July 31, 2020:**

The COVID-19 lock down halted practically all opportunities to promote and advance building material reuse policies with government entities. One positive step was our ability to continue participating virtually in the work of the MPCA’s Sustainable Buildings Work Group. In particular, Better Futures shared sample deconstruction policies and ordinances with the Group and we presented our training curriculum for deconstruction worker certification.

Finally, we were able to finalize our scope of work and timelines with Becker County (12-week waste diversion pilot at their transfer site) and a deconstruction demonstration with St Louis County.

<b>Status of Outcomes as of 7-31-20</b>	<b>Notes</b>
1. Two counties/cities and one Tribe implement deconstruction practices for projects	Partners are engaged with three counties: Hennepin, Becker, and St Louis counties; no Tribe is formally engaged
2. Two jurisdictions and one Tribe test financial incentives/policies to encourage deconstruction and reuse	Two counties (Becker and

	Hennepin) have implemented diversion policies, practices, and incentives. No Tribe is formally engaged.

**Fifth Update January 31, 2021:**

As mentioned in an earlier update, a major victory was the adoption by the Hennepin County Board of a building material reuse project. The first year of this program has been successful and the Board increased the pool for financial incentive for homeowners from \$100,000 to \$200,000 in 2021. The County offers up to \$5,000 per household to promote deconstruction over demolition. In addition to doubling the incentive pool, more localities are slated to participate in this program. This effort was informed in large part by Better Futures deconstruction work and advocacy.

In addition, using LCCMR funds, Better Futures launched a waste diversion and reuse pilot at Becker County’s transfer station and C and D landfill. This pilot is operated in partnership with Becker County environmental services staff. The County appreciates the value, impact, and multiple benefits of testing diversion and reuse techniques at their waste handling facility. This endeavor is BFM’s first opportunity in Greater Minnesota to test on-site diversion techniques at a landfill and assess the demand for used products and materials.

BFM’s waste diversion and reuse pilot with Becker County included two, two day sales events where materials diverted from the waste stream were offered to local citizens for purchase. The first sale on October 23-24, generated \$1,109 in revenue from the sale of 121 items. The reuse of these items diverted 1.65 tons of material from the waste stream. A second sale on December 2-3, generated \$1,606 in revenue from the sale of 194 items. The reuse of these items diverted 1.45 tons of material from Becker County’s waste stream. As per LCCMR requirements, all revenue was reinvested into the operation of this pilot.

The sales events along with a full time staff presence at the transfer station has developed momentum and visibility for this waste diversion and reuse experiment. An active use of social media and radio shows to inform the public and build interest has yielded excellent results. People now routinely ask about the next sales date or they ask staff to keep an eye open for particular items.

And in an effort to establish deconstruction and material reuse as a sustainable practice in St Louis County, BFM and NRRI conducted a second deconstruction pilot in St Louis County. This endeavor received a significant amount of press coverage. The partners held a one day sale but only a few customers visited. The weather was horrible and the sales site was at a remote location.

Final reports for both pilots will be prepared and incorporated in our final LCCMR report. BFM is also engaged with both counties to explore ways to sustain the diversion and reuse pilots in Becker and St Louis counties.

The restrictions imposed by the pandemic continued to hinder opportunities to meet with policy makers and present at conferences. We did, however, continue to participate in and contribute to the work of the MPCA’s Sustainable Buildings Work Group. In addition, BFM introduced its deconstruction and reuse services to homeowners and contractors in the region around Becker County via social media, radio shows, and mailings.

Status of Outcomes as of 1-31-21	Notes
1. Two counties/cities and one Tribe implement deconstruction practices for projects	Partners are engaged with four counties: Ramsey, Hennepin, Becker, and St Louis counties; two cities, St Louis Park and Duluth; and the Three Rivers Park District. No Tribe is formally engaged
2. Two jurisdictions and one Tribe test financial incentives/policies to encourage deconstruction and reuse	Two counties (Becker and Hennepin) have implemented diversion policies, practices, and incentives. No Tribe is formally engaged.

**Final Update June 30, 2021**

As presented below, the partners produced meaningful results under this activity. Several counties are deeply engaged in promoting and implementing deconstruction, diversion, and reuse practices. The State MPCA is also active. Both the Hennepin County incentive program and the Becker Reuse effort are operating models that can and will be introduced to other counties statewide.

A major disappointment with this project was the loss of the Northwest Indian CDC as a partner. The NWICDC fully participated as a partner through December 2019. They trained and employed over 20 people and completed three small projects. But they needed to withdraw from this project because they did not have sufficient funds to cover the array of project operating costs not covered by LCCMR funding.

The NWICDC was a valuable partner and ally for this project. The LCCMR should review ways to allow not for profit agencies of certain size to use LCCMR funds to cover overhead and administrative costs. Otherwise, only the State-funded agencies and institutions will be able to benefit from the LCCMR program.



Outcome	Completion Date
<p>Goal: Two counties/cities and one Tribe implement deconstruction practices for projects</p> <p>Result: Becker County piloted a diversion and reuse program at its transfer station in Detroit Lakes. Four one day sale events were held and 7.45 tons (14,900 pounds) of material was reused. As a result, 24.5 metric tons of CO2 emissions were averted. The County is converting this pilot into a full-time program.</p> <p>The partners were not able to engage a Tribe in adopting policy or practice changes under this activity. The NW Indian CDC had to cease being a partner in this project due to funding constraints.</p>	6-30-2021
<p>Goal: Two jurisdictions and one Tribe test financial incentives/policies to encourage deconstruction and reuse</p> <p>Result: The partners helped inform the discussions of the Sustainable Building Materials stakeholder work group sponsored by the MPCA. Recommendations from this group are helping shape reuse practices at the state and local level.</p> <p>Hennepin County adopted and funded a \$100,000 deconstruction incentive grant program in 2020 and increased the incentive grant fund to \$200,000 in 2021. Homeowners receive up to \$5,000 for reusing building materials rather than shipping the materials to landfills. This incentive program has generated a significant amount of deconstruction activity in the County.</p>	6-30-2021

**ACTIVITY 2: Promote deconstruction and reuse/recycling practices statewide**

**Description:**

Deconstruct uninhabitable, public, or Tribal-owned properties; test techniques for diverting material at job sites; certify managers and employ workers; test diversion tactics at landfills; promote deconstruction and reuse among homeowners, policymakers, and contractors

**ENRTF BUDGET: \$472,000**

Outcome	Completion Date
1. 20 uninhabitable, public, or Tribal-owned buildings are deconstructed, and impact data generated	6-30-2021
2. On-site reuse and recycling techniques are tested at 5 job sites	6-30-2021
3. Waste diversion techniques are tested at two construction and demolition landfills	6-30-2021

4. 4 FTE jobs for chronically unemployed people are maintained during the project	6-30-2021
5. 5 managers and supervisors are trained and certified as deconstruction specialists	6-30-2021
6. Deconstruction and reuse are promoted at 50 community, Tribal, and government gatherings statewide (i.e. trade shows, city councils, county boards, State and county fairs)	6-30-2021

**First Update January 31, 2019**

Better Futures deconstructed 8 LCCMR-eligible properties during the first six months of this grant period. Environmental impact data for these properties will be completed for the next report. In addition, an average of 6FTE jobs were maintained for deconstruction workers and 25 different workers were trained and completed on the job deconstruction training during this period.

**Second Update July 31, 2019**

Better Futures deconstructed 2 LCCMR-eligible properties during the first half of 2019. To date, 10 LCCMR eligible projects have been completed (against the goal of 20). Environmental impact data for all 10 properties will be submitted with the next report. In addition, an average of 6FTE jobs were maintained for deconstruction workers and 61 different workers were trained and completed on the job deconstruction training during this period (41 employees of Better Futures and 20 people employed by the NWICDC). 3 managers and supervisors also completed advanced training and earned a nationally recognized certification from Build Reuse.

The partners prepared and delivered seven presentations at two climate change conferences, at a gathering of environmental leaders from Tribal Nations, at a meeting with MNDOT staff, at a meeting for all Better Futures business staff, and the partners delivered two webinars for ReUSE MN. All sessions focused on promoting building material reuse as an alternative to the wasteful and harmful practices of demolition. The presentations also featured ways to create higher value products from reclaimed materials. About 200 people in total participated in these various sessions.

The partners also advanced efforts to implement building material stewardship ordinances in cities and counties. Along with continued discussions with staff and elected officials in Minneapolis and St Paul, the partners met with the mayors of Richfield and St Louis Park. The partners also initiated planning with Hennepin County to craft a deconstruction pilot program which would use financial incentives reduce the current financial cost of deconstruction. Several meetings with MNDOT staff were held to promote deconstruction of all MNDOT properties slated for demolition. One option being explored is to revise demolition contracts and require reuse and recycling of materials for each project.

The original plan to advance work for Outcome # 2 (Waste diversion techniques are tested at two construction and demolition landfills) was to work with St Louis County. St Louis County is prepared to host a building material diversion and reuse pilot, but the main roadblock is funding. We will propose an amendment to this project’s budget to help fund the testing of diversion techniques at C and D landfills in St Louis County. To advance work on outcome #3 (On-site reuse and recycling techniques are tested at 5 job sites), we intend to partner with a handful of contractors to test on-site diversion techniques. Again, we will propose an amendment to this project’s budget to help fund the testing of diversion techniques at job sites.

### Third Update January 31, 2020

Seven LCCMR-eligible properties were deconstructed (4 by Better Futures and 3 by NWICDC). To date, 17 properties have been deconstructed rather than torn down and buried. Better Futures also trained and employed 46 different workers and NWICDC employed six different workers. Environmental impact data for all properties completed to date will be submitted with the final report.

Better Futures' Business Manager also earned certification to train and certify deconstruction workers nationwide. Better Futures also prepared a curriculum and post-training test for training deconstruction workers. This training was submitted to a national trade organization, Build Reuse, for approval and certification.

The partners also continued to promote the multiple benefits of building material reuse statewide, at conferences, trade shows, community events. In addition, Better Futures presented in two webinars: one hosted by the Ellen Macarthur Foundation in London, England entitled "Re-Imaging Reuse". This webinar is available via YouTube is being viewed by consumers, advocates, business owners, and public officials from around the world. Better Futures also participated in a reuse conference workshop entitled "Measuring and Communicating the Impacts of Reuse".

### Fourth Update July 31, 2020:

In spite of months of turmoil, uncertainty, and anguish, we persevered, and our work crews stay focused on working. Between January and June 2020, Better Futures' deconstruction crews worked steady, completing 8 deconstruction projects funded in part with LCCMR funds. An average of five Black men earned a steady wage while working on these projects. Along with working and completing deconstruction projects, 32 different workers completed our Deconstruction training 101 and 34 earned their OSHA-10 certification and completed fall protection training. Since July 2018, 21 deconstruction projects have been completed, exceeding our goal of completing 20 projects. More important, over 170 different people have been trained and/or employed since the start of this project.

The COVID lockdown canceled opportunities to meet with policy makers and present at conferences.

Status of Outcomes as of 7-31-20	Notes
1. 20 uninhabitable, public, or Tribal-owned buildings are deconstructed, and impact data generated	21 projects deconstructed, at least 5 more in the pipeline
2. On-site reuse and recycling techniques are tested at 5 job sites	On site reuse and recycling tested at 7 sites
3. Waste diversion techniques are tested at two construction and demolition landfills	One pilot diversion initiative set to start in August 2020
4. 4 FTE jobs for chronically unemployed people are maintained during the project	8 FTE job slots maintained

5. 5 managers and supervisors are trained and certified as deconstruction specialists	7 managers and supervisors certified
6. Deconstruction and reuse are promoted at 50 community, Tribal, and government gatherings statewide (i.e. trade shows, city councils, county boards, State and county fairs)	Forums and presentations total 40 to date

**Fifth Update January 31, 2021:**

Between July and December 2020, 31 different men worked 3,572 hours on LCCMR-funded and other BFM deconstruction and reuse projects.

Since the beginning of this project in July 2018, 27 LCCMR-funded deconstruction projects have been completed and 201 different people have been trained and/or employed on all BFM deconstruction and reuse projects. Six projects funded in part with LCCMR grant funds were completed during this reporting period. We have exceeded our goal for number of deconstruction projects completed (27 completed compared to a goal of 20).

<b>Status of Outcomes as of 7-31-20</b>	<b>Notes</b>
1. 20 uninhabitable, public, or Tribal-owned buildings are deconstructed, and impact data generated	27 projects deconstructed, at least 1 more in the pipeline
2. On-site reuse and recycling techniques are tested at 5 job sites	On site reuse and recycling tested at 7 sites
3. Waste diversion techniques are tested at two construction and demolition landfills	One pilot diversion initiative currently active at Becker County landfill and deconstruction pilot completed in St Louis County
4. 4 FTE jobs for chronically unemployed people are maintained during the project	8 FTE job slots maintained
5. 5 managers and supervisors are trained and certified as deconstruction specialists	7 managers and supervisors certified
6. Deconstruction and reuse are promoted at 50 community, Tribal, and government gatherings statewide (i.e. trade shows, city councils, county boards, State and county fairs)	Forums and presentations total 40 to date

**Final Update June 30, 2021**

Overall, the results and impact under this activity were significant. The major shortcoming was finding outlets for recycling building materials harvested at job sites, particularly job sites outside the Twin Cities. Recycling assets are most developed in Hennepin County. Outlets for recycling building materials will need to be expanded throughout the State to achieve the huge benefits from deconstruction and reuse.

As noted below, the partners did test ways to recycle materials at a job site but this increased the cost and job time for a project. Lastly, a large portion of the C and D waste, especially in the Twin Cities is handled by private landfills. It is nearly impossible to establish diversion and reuse work at these private sites. Yet, many of the C and D landfills in Greater Minnesota are publicly owned which make these sites prime candidates for replicating the program adopted by Becker County.

<p>Goal: 20 uninhabitable, public, or Tribal-owned buildings are deconstructed, and impact data generated</p> <p>Result: 29 properties were deconstructed; 18 were taken apart to the foundation (full deconstruction) and a portion of 11 properties were deconstructed (partial deconstruction) An impact statement was generated for each project. This data is summarized in an attached table and highlighted under Activity 3.</p> <p>Just as important, this project helped spur demand for Better Futures’ deconstruction services NOT subsidized with LCCMR project funds. Better Futures’ estimates that 100 additional deconstruction jobs were completed along with the 29 LCCMR-funded jobs between July 2018 and June 2021. This additional work demonstrates the incredible impact of LCCMR’s project funds. The combination of education and practice generated the momentum needed to move deconstruction and reuse toward financially viable endeavors.</p>
<p>Goal: On-site reuse and recycling techniques are tested at 5 job sites</p> <p>Result: The partners tested various techniques for safely diverted materials at least five job sites. This work often increased the length of time to complete a job and required more containers. Yet, on site sorting will be required in areas of the State where building material recycling facilities do not exist.</p>
<p>Goal: Waste diversion techniques are tested at two construction and demolition landfills</p> <p>Result: One waste diversion pilot was completed at the Becker County landfill. The C and D landfills in the Twin Cities area are all owned by private companies which made it difficult to gain a presence. Moreover, COVID restrictions severely limited the partners ability to promote and operate multiple ventures at landfills. The pilot in Becker County was successful and is now operating as an on-going enterprise. The Becker project will be used to inspire other counties (who operate C and D landfills) to adopt Becker’s diversion and reuse program.</p>
<p>Goal: 4 FTE jobs for chronically unemployed people are maintained during the project</p> <p>Result: A total of 10.5 FTE jobs were maintained during the project, 5 of these positions were held by at-risk Black men. Just as significant, 200 at risk men were trained and offered transitional employment on a deconstruction work crew during the grant period.</p>
<p>Goal: 5 managers and supervisors are trained and certified as deconstruction specialists</p>

Result: 5 managers and supervisors did complete a training and testing offered by Build Reuse and their consultant/trainer. They earned a certification as deconstruction specialists.

Goal: Deconstruction and reuse are promoted at 50 community, Tribal, and government gatherings statewide (i.e. trade shows, city councils, county boards, State and county fairs)

Result: Despite the lockdown and restrictions related to the COVID-19 pandemic, the partners were able to promote the practice and benefits of deconstruction and material reuse at more than 60 gatherings. Highlights include: a conference for environmental directors representing Minnesota's Native American Tribes; three community meetings focused on building material stewardship hosted by the MPCA; multiple presentations before the MPCA's Sustainable Building Materials stakeholders group; the 2021 Environmental Initiative award ceremony; and a webinar with an international audience hosted by the Ellen MacArthur Foundation based in London, England.

### **ACTIVITY 3: Measure the environmental and health benefits of this project**

#### **Description:**

Create formulas for measuring environmental and health benefits; assist Tribes and government agencies with calculating impact and benefits (This activity will be completed by the Natural Resources Research Council (NRRI))

**ENRTF BUDGET: \$114,022 (NRRI has a separate budget for this activity)**

<b>Outcome</b>	<b>Completion Date</b>
1. Methods for measuring the environmental and health impact of deconstruction are created	6-30-2021
2. Environmental and health impact of every job and project are calculated	6-30-2021
3. Net zero emissions for 50% of this project's deconstruction jobs is achieved	6-30-202

#### **First Update January 31, 2019**

The NRRI team worked with Better Futures to provide support at various presentations including; Statewide C&D Waste Stakeholder sessions with the MPCA in Duluth and St. Paul, meetings with officials in St. Louis County to discuss diverting C&D waste and implementing building deconstruction to the greater region.

The NRRI team also started conducting a literature search in an effort to link additional hazardous materials that are produced by the decomposition of building materials in the landfill. The search has focused on keywords including demolition landfill, building materials toxicity as they decompose, quantitative leaching of building materials, demolition leaching, demolition or construction and leaching or decomposition, demolition waste leaching behavior in landfill. The goal of the search is to add health data and information to the existing tool used to report the environmental impact of each deconstruction job.

NRRI has contracted with Ecotone to identify additional harmful materials to the tool used for environmental impact for each project. These additional toxins will be included once the formula for calculating the impact is developed by the NRRI team. Data is being evaluated and calculated and

environmental impact reports are being generated for the eligible deconstruction projects that have been completed by Better Futures thus far.

**Second Update July 31, 2019**

The NRRI team worked with Better Futures to provide support for all the presentations cited earlier. One of the presentations was a climate change conference sponsored by the NRRI.

The NRRI team also continued its literature search in an effort to link additional hazardous materials that are produced by the decomposition of building materials in the landfill. As mentioned in the last report, the goal of the search is to add health data and information to the existing tool used to report the environmental impact of each deconstruction job.

A key activity for the NRRI is supporting the partners efforts to create higher value products with reclaimed materials. This includes helping to design a new MakerSpace being constructed by Better futures and advising on the type of tools and equipment needed for his space. The NRRI is also assisting Better Futures in identifying and assessing potential business partnerships with furniture manufacturers interested in using reclaimed materials in their products.

**Third Update January 31, 2020**

The NRRI team worked with Better Futures to provide support for all the presentations cited earlier. The team also prepared impact reports for four of the seven projects completed during this reporting period. NRRI continued to develop and test furniture made with reclaimed lumber and they conducted a bench building training for new Better Futures workers.

**Fourth Update July 31, 2020:**

During the lockdown, with the support of NRRI, we ramped up the production of Leopold benches made with reclaimed lumber. The benches were promoted and sold online (see attached marketing flyer). More than 40 benches were sold by the end of June. This project kept two men working during the lockdown with NRRI providing coaching via ZOOM.

Status of Outcomes as of 7-31-20	Notes
1. Methods for measuring the environmental and health impact of deconstruction are created	Methods and tools tested and created
2. Environmental and health impact of every job and project are calculated	Reports for each project in process of being completed
3. Net zero emissions for 50% of this project’s deconstruction jobs is achieved	Estimate that we are on course to consistently meet this goal in light of tonnage of material diverted to date

**Fifth Update January 31, 2021:**

NRRI invested valuable time in developing additional furniture prototypes using reclaimed wood. An outdoor lounge chair has been created and two other items are in the design phase. This chair along

with an end table and the Leopold bench developed earlier in this project will help Better Futures launch a full time furniture production endeavor this summer.

Environmental impact reports are being completed for every project and the data will be presented in the final report.

**Final Update June 30, 2021**

The impact data generated for this project clearly demonstrates the benefits of reuse and waste diversion. Even with the absence of recycling for six full deconstruction jobs, this project generated 70% less emissions than demolition work and the project nearly achieved net zero emissions. Increased options for recycling material statewide will routinely result in every deconstruction job achieving net zero emissions. Clearly, the impact data from this project shows deconstruction, diversion and reuse are key strategies for combatting the climate crisis. In addition, these new, healthier approaches create new jobs, new business opportunities, and affordable materials for consumers.

The NRRI tested ways to efficiently track the volume and impact of toxic chemicals in the materials. This process became challenging for many reasons but the measurement of building waste disposal on people’s health is possible and worthwhile. Further study and testing are required which is more work than anticipated in this work plan. Lastly, the partners believe that the impact analysis generated under this project (and the 2015 LCCMR project) are unique and not produced by any other entity in the country. Many practitioners summarize the weight and type of waste diverted. But the depth of analysis related to environmental costs and benefits for this project are distinctive; one of the many long term assets created with LCCMR grant support.

<p>Goal: Methods for measuring the environmental and health impact of deconstruction are created</p> <p>Result: The NRRI team explored various reliable methods for measuring the health impacts of deconstruction. This included completing the construction of a database using an EPA Ecological Toxicity data that would add a layer of reporting to the final assessments done for each deconstruction project. The goal was to create a database of potentially toxic chemicals found in common construction and demolition materials harvested and disposed of during deconstruction and link this to the current environmental impact reporting tool. The additional information would be used to characterize the possible effects the chemicals present might have on an ecosystem. A database was created and presented to Ecotone. A direct link to specific deconstruction materials was suggested, but difficult to report with the level of certainty required. Clearly, some of the building materials contain toxic chemicals. Additional work is required to prepare a separate toxicity report tied to the materials Generated by a deconstruction project.</p>	<p>6-30-2021</p>
<p>Goal: Environmental and health impact of every job and project are calculated</p> <p>Result: The environmental impact of all 29 deconstruction jobs along with the Becker County pilot was calculated. The results are summarized in two tables attached to this report.</p>	<p>6-30-2021</p>



<p>70% (2,771 tons or 5,542,000 pounds) of the 4,000 tons collected was diverted from landfills. The most beneficial environmental outcome is that 346 tons or 9% of the material was reused.</p> <p>Overall, the benefits of the deconstruction and reuse, as an alternative to demolition, are broad and generous. Project data shows deconstruction generates 70% less emissions than demolition. This project also approached net zero emissions per ton of material collected: .63 metric tons of CO2 for deconstruction compared to 2.23 metric tons of CO2 for demolition.</p> <p>The emissions averted during this project were equal to planting 110,000 trees or taking 1422 cars off the road for 12 months. The aggregate social value of these emission savings is \$1,066,698 (using the US Government’s Inter-agency Working Group figure of \$162 per metric ton of CO2).</p>	
<p>Goal: Net zero emissions for 50% of this project’s deconstruction jobs is achieved</p> <p>Result: The partner’s deconstruction jobs far exceeded this goal, but the results could have been even better. As highlighted on the table listing every job, six jobs DID NOT follow protocol for recycling materials before transferring material to a landfill; or no documentation was provided by the demo contractor to verify that some of the material (mostly concrete) was in fact recycled. Lacking adequate verification and knowing some demo contractors did not follow protocol, we presume any materials not reused or recycled for these six jobs were sent to landfills. Three of the jobs were in Duluth and three were in the metro area. The total diversion rate for this project increases from 70% to 90% if these six projects are subtracted from the final tally. The reuse rate increases slightly from 9% to 10%.</p> <p>In addition to documenting impact, the NRRI also invested time and talent in designing furniture to be made from reclaimed material. A square side table and a round side table were selected by Better Futures. The two pieces were developed specifically to utilize “short” material that is commonly sent to landfill after deconstruction. The NRRI team created two instructional documents and plans to provide training and assistance in the future. Pictures of these prototypes are attached to this final report. The partners will share these designs to interested parties if they commit to using reclaimed material.</p>	6-30-2021

**IV. DISSEMINATION:**

**Description:**

Better Futures will 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 statewide about the value and multiple benefits of deconstruction and material reuse. Better Futures will also develop and distribute “model” policies for

State agencies, county governments, and municipalities to consider. And as noted in the work plan, Better Futures and its partners intend to identify key gatherings such as community meetings, public hearings, trade shows, industry conventions, and the State Fair to promote the practice of deconstruction and the reuse of used materials.

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

#### **First Update January 31, 2019**

As mentioned under Activity One, the partners prepared and delivered a presentation at three of the four MPCA-sponsored stakeholder meetings across the state for organizations and individuals involved in the construction and demolition sector. These sessions provided an opportunity to introduce building material stewardship and deconstruction practices to more than 150 government, tribal, and business owners.

Better Futures also prepared materials to promote the adoption of building material stewardship ordinances in several cities. This included sample ordinance language which was based on similar ordinances adopted in more than 165 localities across the nation.

Better Futures also improved its materials for promoting deconstruction and material reuse to private owners. This includes a simple template to help owners compare the costs and benefits of deconstruction with demolition.

#### **Second Update July 31, 2019**

A key activity during this period was a regular use of social media outlets to promote Better Futures' deconstruction services and used materials warehouse.

#### **Third Update January 31, 2020**

##### **Fourth Update July 31, 2020:**

While we scrambled to adjust to business life during COVID-19, we quickly built and launched an online store. This site is being used to promote our reclamation and reuse of building materials and sell those materials. We also promoted and sold Leopold benches made by our men with reclaimed lumber.

Public appearances were curtailed during this period due to COVID. Representatives from Better Futures and the NRRI were able to remain very active in the MPCAs Sustainable Buildings Material Work Group. The partners participated in several virtual meetings each month. The partners also contributed ideas and samples for reuse ordinances, job training and certification for deconstruction workers and contractors, and incentives to spur diversion and reuse of materials.

##### **Fifth Update January 31, 2021:**

Within the constraints of the pandemic, the partner’s pilot in Duluth generated a good amount of press coverage. In all these cases, Better Futures or NRRI staff had the opportunity to promote the benefits and impact of deconstruction and material reuse.

<https://www.duluthmonitor.com/2020/10/01/better-futures-minnesota-and-st-louis-county-offer-house-parts-for-sale/>

<https://www.wdio.com/duluth-minnesota-news/st-louis-county-partners-with-better-futures-minnesota-/5872372/?cat=10335>

<https://www.duluthnewstribune.com/news/government-and-politics/6666537-Duluth-homes-condemned-but-value-not-forgotten>

<https://www.fox21online.com/2020/09/23/st-louis-county-partners-with-minnesota-organization-to-deconstruct-properties-in-duluth-2/>

<https://kbjr6.com/2020/09/23/county-partners-with-program-to-save-useful-items-from-blighted-homes/>

In addition, Becker County staff have helped build a significant number of followers (over 2500) on Facebook Marketplace. This site along with Craig’s List are effective venues for promoting the reuse pilot and promoting sales events. Staff also highlighted the Becker County pilot on a local weekly radio show.

#### **Final Update June 30, 2021**

The highlights of the partners’ many and varied dissemination efforts included: an opportunity to introduce building material stewardship and deconstruction practices to more than 150 government, tribal, and business owners during statewide MPCA stakeholder meetings; an opportunity to describe this projects’ value and impact to an international audience during a “virtual” conference sponsored by the Ellen McArthur Foundation in London, England; and, a presentation at the 2021 Environmental Initiative awards ceremony (Better Futures and Becker County received the 2021 Rural Innovation Award).

The partner’s deconstruction pilot with St Louis County generated opportunities to promote the benefits and impact of deconstruction and material reuse.

<https://www.duluthmonitor.com/2020/10/01/better-futures-minnesota-and-st-louis-county-offer-house-parts-for-sale/>

<https://www.wdio.com/duluth-minnesota-news/st-louis-county-partners-with-better-futures-minnesota-/5872372/?cat=10335>

<https://www.duluthnewstribune.com/news/government-and-politics/6666537-Duluth-homes-condemned-but-value-not-forgotten>

<https://www.fox21online.com/2020/09/23/st-louis-county-partners-with-minnesota-organization-to-deconstruct-properties-in-duluth-2/>

<https://kblr6.com/2020/09/23/county-partners-with-program-to-save-useful-items-from-blighted-homes/>

In addition, the NRRI used its newsletter to promote this project:

<https://www.nrri.umn.edu/natural-resources-research-institute/news/better-futures-2020>

<https://www.nrri.umn.edu/natural-resources-research-institute/news/deconstruction-pilot>

June also noted a KSTP piece, from August 2020, that was about Better Futures efforts, but NRRI is not mentioned.

<https://kstp.com/news/home-deconstruction-on-the-rise-in-the-twin-cities/5818002/>

Becker County staff created a significant number of followers (over 2500) on Facebook Marketplace. This site along with Craig’s List are effective venues for promoting the reuse pilot and promoting sales events. Staff also promote reuse on a local weekly radio show.

Better Futures’ deconstruction work was also featured on a local newscast in 2020:

<https://kstp.com/news/home-deconstruction-on-the-rise-in-the-twin-cities/5818002/>

Finally attached to this final report are two PowerPoint presentations. These slides are a sample of the materials and message used to promote the practice and value of deconstruction and material reuse statewide.

**V. PROJECT BUDGET SUMMARY:**

**A. Preliminary ENRTF Budget Overview:**

<b>BUDGET ITEM</b>	<b>AMOUNT</b>
Personnel	\$ 426,000
Professional/Technical/Service Contracts	\$ 354,000
Equipment/Tools/Supplies	\$ 7,500
Travel	\$ 12,500
<b>TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST</b>	
<b>=</b>	<b>\$ 800,000</b>

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

**Explanation of Use of Classified Staff:**

**Total Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation: 10.2**

Enter Total Estimated Personnel Hours: 21,216	Divide by 2,080 = TOTAL FTE: 10.2
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**Total Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation: .9**

Enter Total Estimated Personnel Hours: 2,000 (does not include NRRI staff hours)	Divide by 2,080 = TOTAL FTE: .9
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**B. Other Funds:**

SOURCE OF AND USE OF OTHER FUNDS	Amount Proposed	Amount Spent	Status and Timeframe
<b>Other Non-State \$ To Be Applied To Project During Project Period:</b>			
Hennepin County (\$50,000); Better Futures MN (\$100,000 from foundations and earned revenue); Northwest Indian Community Development Center (\$25,000 from foundations and earned revenue)	\$ 175,000	\$ 500,000	The Hennepin County Funds (\$50,000) were used to offset project costs not covered by the LCCMR grant. For Better Futures (at least \$450,000) in grants from foundations, payments from deconstruction customers, and proceeds from sale of used materials helped to offset project costs not covered with LCCMR funds.
<b>Other State \$ To Be Applied To Project During Project Period:</b>			
	\$ 0	\$	
<b>Past and Current ENRTF Appropriation:</b>			
M.L. 2015, Chp. 76, Sec. 2, Subd. 07c M.L. 2017, Chapter 96, Section 2, Subdivision 18	\$845,000	\$	Less than \$350,000 of this grant is legally obligated
<b>Other Funding History:</b>			
Hennepin County Environment and Energy	\$ 405,000	\$	A portion of this grant was used to offset project costs not covered by the LCCMR grant.

**VI. PROJECT PARTNERS:**

**A. Partners receiving ENRTF funding**

Name	Title	Affiliation	Role
Tuleah Palmer	Executive Director	Northwest Indian Community Development Center	Assist with promoting deconstruction and material reuse policies and practices statewide with a focus on tribal governments

			Deconstruct eligible properties Train workers Assist with job site and landfill diversion tactics  Note: The NWICDC fully participated as a partner through December 2019. They needed to withdraw from this project because they did not have sufficient funds to cover the array of project operating costs not covered by LCCMR funding.
Victor Krause	Principal Scientist	The Natural Resources Research Institute – University of Minnesota at Duluth	Develop and prepare environmental and health impact analyses Retain and supervise Tim Roman, Ecotone consultant

**B. Partners NOT receiving ENRTF funding**

Name	Title	Affiliation	Role

**VII. LONG-TERM- IMPLEMENTATION AND FUNDING:**

By adopting deconstruction and material reuse on a broad-scale, Minnesota will achieve significant reductions in greenhouse gas emissions and other pollutants, reduce the amount of waste buried in landfills, and increase the amount of materials reused. This initiative will create a stewardship policy and practice for used building materials and help develop a more vibrant reuse economy across the State. Long term, this initiative will contribute to deconstruction and building material reuse becoming financially sustainable lines of business which create new jobs and the growth of small, local businesses.

**VIII. REPORTING REQUIREMENTS:**

- **The project is for two years, will begin on July 1, 2018, and end on June 30, 2021.**
- **Periodic project status update reports will be submitted on January 31, 2019, July 31, 2019 and January 31, 2020.**

- **A final report and associated products will be submitted between June 30 and August 15, 2021.**

**IX. SEE ADDITIONAL WORK PLAN COMPONENTS:**

**A. Budget Spreadsheet: Attachment A**

**B. Visual Component: “Why Throw Away a House?”**

**Attachment A:**

**Environment and Natural Resources Trust Fund**

**M.L. 2018 Budget Spreadsheet**

**Project Title: Expand Materials Reuse and Recycling Jobs Program**

**Legal Citation:** M.L. 2018, Chp. 214, Art. 4, Sec. 02, Subd. 05k

**Project Manager:** Steve Thomas

**Organization:** The NetWork for Better Futures (d/b/a Better Futures Minnesota)

**College/Department/Division:**

**M.L. 2018 ENRTF Appropriation:** \$800,000

**Project Length and Completion Date:** Three years, June 30, 2021

**Date of Report:** August 16, 2021



<b>ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET</b>	<b>BUDGET</b>	<b>5-24-21</b>	<b>AMOUNT SPENT</b>	<b>TOTAL</b>
			<b>thru 6-30-21</b>	<b>BALANCE</b>
<b>BUDGET ITEM</b>				
<b>Personnel (Wages and Benefits)</b>		<b>\$539,844</b>	<b>\$539,844</b>	<b>\$0</b>
To comply with Federal SBA Paycheck Protection Program FTE requirements, Steve Thomas was converted from a consultant to paid staff person; 25% of his time as an employee is budgeted for the remaining months of this project beginning August 3, 2020. \$13,426 (88.8% wages and 11.2% benefits)		\$16,570	\$16,570	\$0
BFM Business Manager: \$32,000 (72% wages, 28% benefits); .25 each year for 2 years		\$73,387	\$73,387	\$0
BFM Crew Chief: \$35,200 ( 56.39% (through 12/31/18) and 62% (after 12/31/18) for wages; ( 43.61% (through 12/31/18)and 38% (after 12/31/18) for benefits); .3 FTE each year for 2 years		\$105,647	\$105,647	\$0
BFM Work Crew: \$180,800 ( 51.84% (through 12/31/18) and 62% (after 12/31/18) for wages, (48.16% (through 12/31/18) and 38% (after 12/31/18) for benefits); 2.6 FTE each year for 2 years		\$294,195	\$294,195	\$0
NWICDC Deconstruction Director: \$150,260 (72% wages, 28% benefits); .7 FTE each year for 2 years.		\$13,594	\$13,594	\$0
NWICDC Work Crew: \$27,740 (81% wages, 19% benefits); .8 FTE each year for 2 years		\$36,451	\$36,451	\$0
<b>Equipment/Tools/Supplies</b>		<b>\$31,294</b>	<b>\$31,294</b>	<b>\$0</b>
Replacement of tools due to wear and tear, storage containers, safety gear, forklift rental when needed				
<b>Professional Services and Contracts</b>		<b>\$210,574</b>	<b>\$189,596</b>	<b>\$20,978</b>
1. Steve Thomas, The Next Frontier, LLC, to be retained by Better Futures as a consultant to serve as Project Manager for two years (\$84,000)		\$70,574	\$70,574	\$0
2. Incentive funds to counties and/or municipalities to help implement deconstruction policies and practices (\$130,000); funds to be distributed based on level of commitment to implement material reuse standards for public and private building removal projects		\$0	\$0	\$0
3. Funding for the Natural Resources Research Institute to complete tasks described in Activity 3; includes \$30,000 in funding for Tim Roman, Eco-Tone (a social benefit corp.) to develop and complete impact analyses (\$135,000) (See separate budget for NRRRI expenses		\$135,000	\$114,022	\$20,978
4. Contracts with trainers for deconstruction certification (\$5,000)		\$5,000	\$5,000	\$0
<b>Travel expenses in Minnesota</b>		<b>\$18,288</b>	<b>\$17,588</b>	<b>\$700</b>
Site visits and meetings between NWICDC (Bemidji), NRRRI (Duluth), and BFM (Mpls). In-state travel to workshops, community meetings and trade shows. 20 overnight trips in State for presentations; will use travel formula prescribed by the DNR;overnight stays for work in Greater Minnesota; transport of materials from Greater MN to Minneapolis warehouse; overnight stays and meals for crews in Becker County and St Louis County; due to COVID-19, not able to share hotel rooms				
<b>Other</b>				
<b>COLUMN TOTAL</b>		<b>\$800,000</b>	<b>\$778,322</b>	<b>\$21,678</b>