

**Environment and Natural Resources Trust Fund
2019 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 120-C

GreenStep Schools: Statewide Program, 20 School District Pilot

Category: C. Environmental Education

Sub-Category:

Total Project Budget: \$ 992,959

Proposed Project Time Period for the Funding Requested: June 30, 2022 (3 yrs)

Summary:

Minnesota GreenStep Schools Program gets students, school staff and communities learning about the environment as they explore their school's built and natural infrastructure while saving energy, water, waste, and habitat.

Name: Beth Mercer-Taylor

Sponsoring Organization: U of MN

Title: _____

Department: Institute on the Environment

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Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

Map showing that twenty school districts across Minnesota will pilot a new GreenStep Schools program leveraging prior grants to achieve environmental and education outcomes, and launch a statewide program.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %
_____ If under \$200,000, waive presentation?			



PROJECT TITLE: MN GreenStep Schools: Statewide Program, 20 School District Pilot

I. PROJECT STATEMENT

MN GreenStep Schools adopts the successful MN GreenStep Cities program concept of supporting and recognizing voluntary best practices for environmental responsibility and efficient use of resources, and applies it to schools for experiential learning opportunities. Starting with 20 pilot school districts, students will become leaders innovating solutions to environmental challenges in their own school buildings, grounds and communities. Students, school district staff, teachers, parents and community members will work in teams to learn about the built and natural infrastructure of their school and landscapes. They will develop skills to save energy and water, reduce waste, and protect natural habitat by leveraging existing environmental education curriculum and connecting to resources through the program.

Project Goal and Results: Environmental benefits, economic savings, environmental education through hands-on projects and community events, and exploration of professional and trade STEM careers.

Objectives to meet Goal:

- 1) Launch a statewide MN GreenStep Schools program with a 20 school district pilot, while also providing access to the program for any interested school in Minnesota.
- 2) Communicate school district successes and opportunities via a program website, which replicates the design and functionality of the stable, easy-to-understand MN GreenStep Cities website.

Need and Response: A just-completed planning project (www.mngreenstepschools.org) funded by the MN Pollution Control Agency (MPCA) established that Minnesota K-12 Schools need a program that pulls together into one framework the many ways that school communities can improve energy, water, air quality, green purchasing and hands-on environmental education. While Green Ribbon Schools (a Federal green school award) provides a comprehensive framework and awards four exceptional schools per state per year, it requires an advanced level of effort. In contrast, MN GreenStep Schools meets the needs of schools at every level, providing support and recognition of incremental progress. **MN GreenStep Schools integrates the proven, beginner-friendly MN GreenStep Cities program with the comprehensive Green Ribbon framework.** The program gives schools an accessible pathway to sustainability, a common framework, and supports small efforts over time. It spurs sustainable behavior outcomes using peer network strategies, shown by research to be effective. This grant launches the program, supports 20 schools in adopting key best practices, builds a website available to all interested schools and engages school groups, state agencies and communities in the implementation.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Pilot MN GreenStep Schools in 20 school districts, engaging over 30 resource organizations

Description: Support 20 school districts across the state to set up teams, pass resolutions, and implement best practices to achieve environmental education and savings outcomes over a three-year pilot period.

- University of Minnesota (UMN) will manage the project, supporting 20 pilot schools using the program, engaging resource organizations, and conducting evaluations to inform the program development.
- Youth Eco Solutions (YES!, formerly Youth Energy Summit), will lead pilot implementation and outcomes in 15 schools, drawing on their proven, youth-led model and statewide network.
- Other resource organizations will be chosen by another 5 schools to test other approaches, with an allowance for district and project expenses (substitute teachers, project materials, etc.)

ENRTF BUDGET: \$ 648,045 (approximately 65% average over three years)

Outcomes (based on 4 schools in year 1, 12 schools in year 2, and 20 schools in year 3)	Completion Date
1. 150+ students directly involved in hands-on environmental education and stewardship	6/30/2022
2. 100+ school staff will be involved in implementing and sharing best practices	6/30/2022
3. 30+ school resource organizations will pilot and engage with the program	6/30/2022



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2019 Main Proposal Template**

4. An estimated 10,000 (500 per school) other students and community members will learn about the school improvement story and outcomes	6/30/2022
5. Education and actions taken for 5-10% reduced energy, water, waste, or stormwater runoff	6/30/2022
6. 20 schools in the MN GreenStep Schools program will obtain Step 1-2 recognition levels	6/30/2022
7. Evaluations of environmental education and impact throughout, and final evaluation report	6/30/2022

Activity 2: Develop MN GreenStep Program Interactive Public Web App and Database

Description: Develop a public interactive MN GreenStep Schools web application based on the design from a prior grant, in coordination with the MN GreenStep Cities website, pilot test it, and launch it statewide.

- UMN will coordinate web app design with MPCA, synthesize pilot feedback, format best practices for the database, create GIS maps for visual analysis of regional progress, needs, and opportunities.
- MPCA will administer funds for web app development integrated with MNIT and GreenStep Cities. The developer will build the database and application releasing versions that respond to pilot feedback.

ENRTF BUDGET: \$ 344,915 (approximately 35% average over three years)

Outcomes (based on 1 or 2 versions per year informed by participant feedback)	Completion Date
1. Interactive web application based on MN GreenStep Cities model for best practices	6/30/2022
2. Features for web connections between schools, resource organizations, and community	6/30/2022
3. Geographic Information System (GIS) display of regional progress, resources, and needs	6/30/2022
4. MN GreenStep Schools Website Version 1.0 Launched statewide, populated with best practice examples from 20 schools across the state, and 30+ school resource organizations	6/30/2022

III. PROJECT PARTNERS:

The University of Minnesota will lead the team, expanding the program advisory group from a prior grant and coordinating participants from 20 school districts, and 30 or more school resource organizations (see visual.)

Partners receiving ENRTF funding

Name	Title	Affiliation	Role
Shelli-Kae Foster	YES! Program Manager	Youth Eco Solutions (YES!)	Lead implementation in 15 schools, inform best practices for integrating environmental ed. & action
TBD/*P.Muessig	Web App Developer	MNIT/TBD (*MPCA)	Develop web app/database like GreenStep Cities
Lola Schoenrich	Vice President	Great Plains Institute	Coordination with GreenStep Cities

B. Partners NOT receiving ENRTF funding

Name	Title	Affiliation	Role
*Philipp Muessig	Program Coordinator MN GreenStep Cities	Assistance Division, Pollution Control Agency	*Administer web development funds, web coordination with MNIT, GreenStep Cities liaison, environmental best practices review
John Olson	Science Content Specialist, Green Ribbon Coordinator	Dept. of Education	Environmental education best practices review, Green Ribbon liaison
Dan Tranter	Supervisor, Indoor Air Unit	Dept. of Health	School health best practices review

IV. LONG-TERM- IMPLEMENTATION AND FUNDING:

- Grant results: 20 school participants, education and environment outcomes, launched public program
- Outside this grant, UMN will lead a continuation plan for governance and financial sustainability.
- Long-term: achieve education, environment, economic, and health benefits for all Minnesota Schools.

V. TIME LINE REQUIREMENTS:

Three years allows time for program launch through 20 school district pilot and iterative web app development.

2019 Proposal Budget Spreadsheet

Project Title: MN GreenStep Schools: Statewide Program with 20 School District Pilot

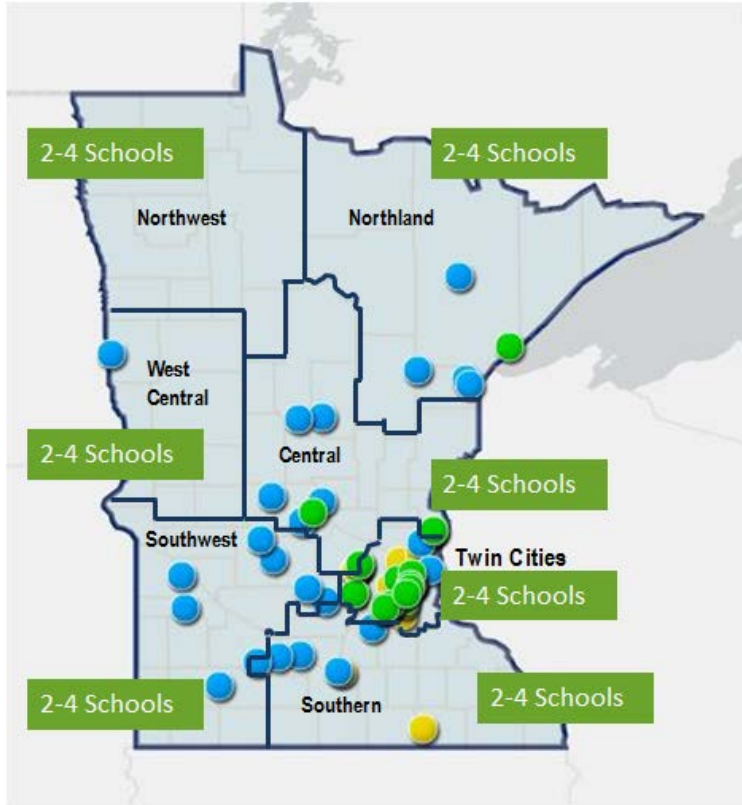
IV. TOTAL ENRTF REQUEST BUDGET Three (3) years

BUDGET ITEM	AMOUNT
Personnel: Beth Mercer-Taylor, Institute on the Environment; Role: Project Manager; FTE 5%; 75% salary, 25% benefits, 3 Yrs	\$ 16,989
Personnel: New Hire, Institute on the Environment; Role: Pilot Coordinator; FTE 75%; 79% salary, 21% benefits (Civil Service), 3 Yrs	\$ 187,695
Personnel: Jonee Brigham, Minnesota Design Center; Role: Lead Program Design Researcher; FTE: 75%; 75% salary, 25% benefits, 3 Yrs	\$ 251,163
Personnel: Gill Roehrig, College of Education and Human Development; Role: STEM Education Evaluation; FTE: 1%; 75% salary, 25% benefits; 3 Yrs	\$ 4,200
Personnel: Tom Fisher, Director, Minnesota Design Center, College of Design; Role: Design Futures Lead; FTE 1%; 75% salary, 25% benefits; 3 Yrs	\$ 8,361
Personnel: Diana Dalbotten, St. Anthony Falls Lab; Role: Grant Evaluation, Diversity Advisor, FTE: 3%; 75% salary, 25% benefits; 3 Yrs	\$ 10,755
Personnel: Len Kne, U-Spatial; Role: GIS Design Development; FTE 7%; 75% salary, 25% benefits; 3 Yrs	\$ 22,181
Personnel: Grad Student, College of Education and Human Development; Role: Education Evaluation Analysis; FTE: 50% for 10 weeks each of 3 summers; rate \$22.50/hr; 87% salary, 13% benefits	\$ 22,059
Professional/Technical/Service Contracts: Prairie Woods Environmental Learning Center (PWELC) for Youth Eco Solutions (YES!, formerly Youth Energy Summit): Pilot School Implementation Lead for (15) School districts and Develop program design and content for environmental education pillar. \$64,500 year 1; \$95,000 year 2; and \$127,778 year 3 totalling \$287,278 for 3 years. (Includes travel, and YES administered district expenses and project seed funds within the YES! contract.) Only LCCMR project expenses will be allowed.	\$ 287,278
Professional/Technical/Service Contracts: Web Development Contract Administered by Minnesota Pollution Control Agency (MPCA) in coordination with MNIT. Web development funds: \$35,000 year 1, \$30,000 year 2, and \$30,000 year 3, totalling \$95,000. MPCA administers but does not receive web development funds.	\$ 95,000
Professional/Technical/Service Contracts: Great Plains Institute (GPI): GreenStep Cities Integration Lead; \$2,000 per year for 3 years.	\$ 6,000
Professional/Technical/Service Contracts: Five (5) School District Contracts (TBD); Funds for environmental education program providers, district expenses, and project seed funds. U of MN will monitor expenses - only LCCMR eligible expenses will be allowed. Phased over 3 years, total contracts are \$9,500 year 1, \$26,000 year 2, \$40,000 year 3, totalling \$75,500.	\$ 75,500
Travel: U of MN Staff travel to regional meetings and pilot projects. Based on 300 miles/month x 36 months = 10,800 miles x \$0.535 = \$ 5,778.	\$ 5,778
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 992,959

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ To Be Applied To Project During Project Period:	NA	
Other State \$ To Be Applied To Project During Project Period:	NA	
In-kind Services To Be Applied To Project During Project Period: Minnesota Pollution Control Agency: In-kind staff time for project support and best practice guidance		<i>Pending</i>
In-kind Services To Be Applied To Project During Project Period: Minnesota Department of Education: In-kind staff time for project support and technical advice		<i>Pending</i>
In-kind Services To Be Applied To Project During Project Period: Minnesota Department of Health: In-kind staff time for project support and technical advice,		<i>Pending</i>
Past and Current ENRTF Appropriation:	NA	
Other Funding History:	NA	

Visual: MN GreenStep Schools: Statewide Program with 20 School District Pilot



Each Region will have 2-4 Pilot Schools
Drawing from (and expanding) an existing network

Existing Green School Interest and Activity

- YES! Schools (26+)
- Green Ribbon Applicants (17+)
- Green Ribbon Awardees (19+)

And more schools use green programs from...
LEED, state, county, municipal,
non-profit, and independent projects



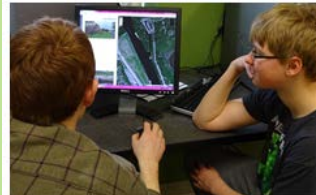
Stewardship Planting (YES! Team)



Exploring Solar Energy (YES! Team)



Exploring Stormwater (UMN Camp)



STEM/GIS (River's Edge/UMN)



Natural Infrastructure (UMN Camp)

Youth-Led, Place-Based, Hands-On Learning and Stewardship

Team: University of Minnesota | Youth Eco Solutions (YES!) | Minnesota Pollution Control Agency
Minnesota Department of Education | Minnesota Department of Health | Great Plains Institute

Expressing Support: Minnesota School Boards Association | Minnesota Environmental Quality Board
Minnesota Association for Environmental Education

See More at www.mngreenstepschools.org

PROJECT TITLE: MN GreenStep Schools: Statewide Program with 20 School District Pilot

PROJECT MANAGER QUALIFICATIONS AND ORGANIZATION DESCRIPTION

Project Manager Qualifications: Beth Mercer-Taylor, JD, is Sustainability Education Coordinator for the Institute on the Environment. As Manager and PI, she will provide administrative oversight for the project, including managing the budget and personnel drawing on her experience in program planning, management of multi-institutional projects, sustainability education, and digital communication. She will also promote project connections between K-12 and higher education. Mercer-Taylor administers Sustainability Education programs, the Sustainability Studies Minor, and related courses. Her work involves mentoring students, supporting faculty, and leading campus sustainability initiatives. She oversees emerging K-12 sustainability programs at the University, such as Water Journey Camps, GreenStep Schools and an internship program.

Organizational Description: The University of Minnesota's Institute on the Environment mission is to lead the way toward a future in which people and the environment prosper together. The approach bridges disciplines and sectors to create a synergistic setting for discovering solutions, educating leaders, and engaging partners.

Qualifications of other Task Leaders at the University :

Lead Program Design Researcher: Jonee Kulman Brigham, AIA, LEED AP O+M, is a Senior Researcher at the Minnesota Design Center and an Institute on the Environment Fellow working in Green Schools and Environmental Education. As Co-PI, she will continue her leadership of MN GreenStep Schools design development as it is implemented in the web application, engaging input from the advisory group, schools, resource organizations, school professional organizations, and state agencies. Brigham's experience includes sustainable guideline development for the State of Minnesota, energy and environmental consulting and research, and development of art/design-led experiential, place-based, environmental education where youth explore their learning environment and its ecological and engineered connections to the region using GIS.

STEM Education, Evaluation: Gillian Roehrig, PhD is Co-Director of the STEM Center and Associate Professor of Science Education in the College of Education and Human Development. As Co-PI, she will advise on STEM Ed intersections, and lead survey evaluation to track program impact on each team's learning and capacity for making improvements. Her research includes improving secondary science instruction in inter-disciplinary approaches to K-12 teaching and learning and she has directed numerous K-12 science education programs.

Design Futures Lead: Tom Fisher, Director, Minnesota Design Center (MDC) and Co-PI will lead 'design thinking for the future' to help shape a program that is innovative and future-ready, anticipating societal and economic shifts. The MDC uses design thinking to address systemic issues in the Twin Cities region and beyond, helping communities and organizations realize opportunities in their built and natural environment to stimulate economic prosperity, encourage social vitality, and enhance human health and well-being.

Grant Evaluation, Diversity Lead: Diana Dalbotten, PhD, Director of Diversity and Broader Impacts, St. Anthony Falls Lab, leads grant evaluation, diversity. She has led Native youth/UMN citizen science projects.

GIS Lead: Len Kne, GISP, U-Spatial Associate Director, will lead design and development of GIS elements of the web application. He brings extensive experience with GIS, data collection, and database design to the project.

Qualifications of Task Leaders Outside the University

Program Pilot Delivery Leader: Shelli-Kae S. Foster is the YES! (Youth Eco Solutions) Program Manager and will lead the pilot implementation of the program in 15 school districts and inform best practices. She has an MBA in sustainable business and has led YES! projects including ones funded by ENRTF. Previously, Foster worked as a School District Energy Manager. YES! is a program of **Prairie Woods Environmental Learning Center.**

Web Application: MPCA will administer funds for web development with MNIT, building on its 10 year experience running the MN GreenStep Cities Program and web application for over 120 cities statewide.

GreenStep Approach: Great Plains Institute, co-leader GreenStep Cities, will advise on programs integration.