Environment and Natural Resources Trust Fund

M.L. 2025 Approved Work Plan

General Information

ID Number: 2025-149

Staff Lead: Tiffany Schaufler

Date this document submitted to LCCMR: June 9, 2025

Project Title: ESTEP 2.0: Earth Science Teacher Education Project

Project Budget: $643,000

Project Manager Information

Name: Lee Schmitt

Organization: Minnesota Science Teachers Association

Office Telephone: ( ) -

Email: lee.m.schmitt@gmail.com

Web Address: https://www.mnsta.org/

Project Reporting

Date Work Plan Approved by LCCMR: June 24, 2025

Reporting Schedule: March 1 / September 1 of each year.

Project Completion: June 30, 2028

Final Report Due Date: August 14, 2028

Legal Information

Legal Citation: M.L. 2025, First Special Session, Chp. 1, Art. 2, Sec. 2, Subd. 05n

Appropriation Language: $643,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with Minnesota Science Teachers Association to provide professional development for Minnesota science teachers statewide in environmental and earth science content to strengthen environmental education in schools.

Appropriation End Date: June 30, 2028

Narrative

Project Summary: The Earth Science Teacher Education Project (ESTEP) will provide statewide professional development for Minnesota science teachers in Environmental and Earth Science content and pedagogy to strengthen environmental education in schools.

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

With adoption of the 2019 Minnesota Academic Standards in Science, all 6th grade teachers in Minnesota are required to teach earth/environmental science using a new phenomenon-based approach to instruction. Grade 3-8 teachers are being asked to teach science subject matter in which most have little or no background. In addition, all Minnesota high schools will need to develop and implement earth/environmental science courses to meet the new earth science graduation requirement. These high school teachers, especially in rural districts, need accessible, affordable graduate-level earth/environmental science courses to procure a 9-12 Earth and Space Science teaching license.

All the quality work and successes of LCCMR-funded programs will have little longevity if we do not develop and maintain a citizenry educated in the richness, value and fragility of Minnesota's natural resources. Now is the time to continue and complete our successful statewide initiative to prioritize and strengthen earth/environmental education in schools. Environmental education in Minnesota is being stimulated and rejuvenated through ESTEP programs by providing teachers with quality earth/environmental science training while supporting implementation of the new 2019 science standards.

ESTEP 2.0 seeks funding to complete its goal to enhance earth/environmental education in Minnesota.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

The urgent need for statewide professional development in Earth and Environmental Sciences for Minnesota teachers is being met through our currently-funded ESTEP grant (2022-169). To date, MnSTA, through the ESTEP project, has served 342 Minnesota teachers from throughout the state by delivering six, in-person, high-quality, five-day summer institutes and 10 online courses. From now until the grant ends on June 30, 2025, ESTEP will provide four more five-day institutes and six more online courses for as many as 680 additional teachers, i.e. serving over 1000 teachers statewide. (See ESTEP 2023 Pre-Post Data Analysis in Attachments for ESTEP's impact on teachers and environmental education in Minnesota.)

This grant request for ESTEP 2.0 will fund an additional 12 institutes and 17 online courses through June 30, 2027. ESTEP 2.0 will also expand its program offerings to include 12 Saturday Seminars and 16 Virtual Short Course Workshops to support the implementation of environmental themes into school curricula while supporting continued use of Minnesota natural resources as phenomena for investigation.

ESTEP has created a statewide emphasis in environment education in middle and high school earth science classrooms across Minnesota. MnSTA seeks ENRTF funding to complete this mission.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

ESTEP will help protect all Minnesota's natural resources by teaching teachers about Minnesota's land, water, air and minerals so they can better teach their students and build their lifelong appreciation for these resources.

To improve the quality of earth/environmental education, ESTEP will:
1) Increase teacher content knowledge in earth/environmental sciences with direct emphasis on Minnesota's water, air, land, minerals, and climate.

2) Increase teacher skills in designing and facilitating phenomenon-based instruction.
3) Increase curriculum time devoted to environmental science and student-directed investigations.
4) Increase teacher confidence and enthusiasm for teaching science.
5) Increase outdoor learning experiences for students.

Project Location

What is the best scale for describing where your work will take place?

Statewide

What is the best scale to describe the area impacted by your work?

Statewide

When will the work impact occur?

During the Project and In the Future

Activities and Milestones

Activity 1: Fulfillment of ESTEP Professional Development Summer Institutes and Online Courses

Activity Budget: $585,300

Activity Description:
Objectives

1) Deliver 14 high-quality, environmentally-focused summer professional development institutes for up to 160 high school and 150 K-8 science teachers.

Summer institutes are regional place-based programs specifically focused on environmental themes related to Minnesota natural resources. Programs for high school teachers include Meteorology, Astronomy, Hydrology, Stability and Change, Rock/Mineral Resources, and Minnesota Environmental Issues. For K-8, topics in summer 2025 include Soudan Iron Mines, Minnesota Waters, Minnesota Rock/Mineral Resources, and Karst Topography. All include a geology study of the region. All programs are intense content- standard- and pedagogically-focused and include outdoor learning experiences. Evaluation is addressed in Activity 2.

2) Provide a total of 17 fall, spring and summer online courses serving as many as 320 teachers.

A total of 17 online courses will be offered between fall of 2025 and spring 2027. Online courses include Earth Essentials, Environmental and Earth Science Advanced Topics, Geoscience for Middle School Teachers, Meteorology, Astronomy, Teaching Environmental Topics in 3D, and Minnesota Rocks and Natural Resources. Each course can enroll up to 20 teachers, but some instructors can and do take more students.

ESTEP 2.0 will serve as many as 1300 Minnesota teachers impacting as many as13,000 students.

Activity Milestones:

Description	Approximate Completion Date
Complete three high school and four grade 3-8 summer programs for up to 140 teachers.	August 31, 2025
Deliver three online courses serving as many as 60 teachers in fall 2025.	December 31, 2025
Deliver three online courses serving up to 60 teachers in spring 2026.	May 31, 2026
Complete four high school and three grade 3-8 summer programs for up to 140 teachers.	August 31, 2026
Deliver up to four summer online course serving 80 teachers.	August 31, 2026
Deliver four online courses serving up to 60 teachers in fall 2026.	December 31, 2026
Deliver three online courses serving 60 teachers in spring 2027.	May 31, 2027

Activity 2: Evaluation and Reporting ESTEP Impact on Environmental Education in Minnesota Schools

Activity Budget: $8,000

Activity Description:
Objective: Collect data from ESTEP teacher participants to determine the effect of the ESTEP program on their teaching and the integration of Minnesota-related environmental topics into their curricula.

The attitudinal instrument used was developed in advance of ESTEP funding and at our own risk using non-ENTRF funds from MnSTA planning grants and complies with ENTRF funding requirements.

Teacher Tests: Standards-based evaluative instruments have been developed to gauge teacher learning of

earth/environmental concepts. These content tests vary depending on the field work location and topics addressed. Pre/post institute score analysis will determine the percent in knowledge gains.

Teacher Surveys: This is a project-specific, Likert-type instrument designed to assess changes in attitude and classroom practice. Surveys are completed by teachers online pre-program and again, eight months later, in mid-school year. Items are compared pre versus post to determine percent changes in responses related to confidence in teaching earth science/environmental topics and amount of instructional time devoted to environmental and phenomenon-based teaching. (See ESTEP 2023 Pre-Post Data Analysis in Attachments.)

Activity Milestones:

Description	Approximate Completion Date
Administer online survey instrument to teachers registered for summer 2025 institutes.	July 31, 2025
Administer pre/post teacher content tests at 2025 summer institutes.	August 31, 2025
Administer online survey instrument again to teachers after one-half year of teaching post-ESTEP training.	January 31, 2026
Analyze/report findings on teacher achievement and classroom advances in Minnesota earth/environmental education.	February 28, 2026
Administer online survey instrument to teachers registered for summer 2026 institutes.	May 31, 2026
Administer online survey instrument again to teachers after one-half year of teaching post-ESTEP training.	February 28, 2027
Analyze/report findings on teacher achievement and classroom advances in Minnesota earth/environmental education.	February 28, 2027

Activity 3: Expansion of ESTEP Professional Development through Saturday Seminars and Virtual Workshops

Activity Budget: $38,800

Activity Description:
Objectives

1) Present 12 in-person Saturday Seminars at host schools engaging as many as 240 teachers.

To expand the impact of ESTEP, the ESTEP team has added regionally-focused and topic-specific Saturday morning workshops. These are hosted by local earth science teachers at their schools and supported by ESTEP instructors. The goal is to provide convenient, localized professional develop in area geology, Minnesota environmental issues, and classroom implementation of the new science standards while targeting those who have not attended ESTEP summer programs. These 12 seminars (six for grade 3-8 teachers and six for high school teachers) will be held in October, January and April over the two years of the project.

2) Produce 16 Virtual Short Course Workshops on specific earth/environmental/teaching topics involving up to 384 teachers.

These half-day online Zoom meetings will again target teachers who did not or could not attend ESTEP summer programs. Each virtual workshop (eight for grade 3-8 teachers and eight for high school teachers) will focus on environmental issues facing Minnesota – groundwater, loss of habitat, mining, air/water pollution, climate change, etc. – and include a guest expert on the topic. How the topic can be integrated into their curricula will be dicussed.

Activity Milestones:

Description	Approximate Completion Date
Plan topics and recruit expert guests for 16 virtual short-courses.	September 30, 2025
Recruit former ESTEP teacher participants to host a Saturday Seminar at their school.	October 31, 2025
Plan and present 12 Saturday Seminars at host schools serving as many as 240 teachers.	April 30, 2027
Plan and present 16 topic-specific Virtual Short Courses on Zoom serving up to 384 teachers.	May 31, 2027

Activity 4: Lead a 10-teacher Team in Collecting and Evaluating Teacher-written and Online Resources to Create a MnSTA Online Repository.

Activity Budget: $10,900

Activity Description:
As a requirement for receiving a stipend or earning credit, each ESTEP participating teacher is required to submit a lesson specific to one or more of the topics addressed in the summer institute or online course. These teacher-written lessons help assure that environmental topics and benchmark-specific content is translated to classroom practice. Every earth/environmental teacher in Minnesota is clamoring for ideas for how to teach to the new science benchmarks while implementing a three-dimensional approach to student learning.

To organize and share this wealth of classroom resources, as well as search for relevant and ready online lessons, ESTEP will recruit a 10-member team of science teachers to review and submit lessons and teaching resources to a centralized MnSTA Online Repository thereby providing a much-needed tool in support of earth/environmental education throughout the state. The repository team and ESTEP repository coordinator will meet virtually three time over the course of the grant and each receive five hours of planning time in search of resources. When this online repository is completed, any teacher, not just MnSTA members, will have access to this resource.

Activity Milestones:

Description	Approximate Completion Date
Recruit 10 teachers to serve on the repository committee.	November 30, 2025
Hold three committee meetings over the course of the grant.	April 30, 2027
Complete, post and market the new MnSTA Online Repository for Minnesota environmental education.	June 30, 2027

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Dr. Russell Colson, Professor of Geology	Minnesota State University, Moorhead	Dr. Colson will serve as lead instructor for high school science teachers seeking additional licensure in 9-12 Earth/Environmental Science. Colson will lead two, 5-day high school institutes at MSU-Moorhead, one grade 3-8 institute, and instruct four online courses over the two years of the project.	Yes
Dr. Bryce Hoppie, P.G. (Mn), Professor of Geology	Minnesota State University, Mankato	Dr. Hoppie will be the lead earth/environmental science instructor for two, grade 3-8 regional science teacher summer institutes, lead three 5-day high school institutes in locations around the state, and teach three ESTEP online courses.	Yes
Dr. Kate S. Pound, Professor of Geology	Gustavas Adolphus College	Dr. Pound will be the lead earth/environmental science instructor for two grade 3-8 science teacher summer institutes and teach two ESTEP online courses.	Yes
Dr. Jennifer L.B. Anderson, Professor of Geoscience	Winona State University	Dr. Anderson will serve as lead instructor for two high school summer institutes hosted at MSU-Winona.	Yes
Dr. Hillary A. Barron, Assistant Professor of Biology	MSU-Bemidji	Dr. Barron will be a guest presenter for Saturday Seminars on the topics of teaching toward equity in science/environmental education and Native American perspectives on science and the environment.	Yes
Dr. Rachel Humphrey, Professor	St. Cloud State University	Dr. Humphrey will lead and host one high school summer institute at St. Cloud State and instruct two online Meteorology courses for teachers.	Yes
Larry Mascotti, Community Faculty	Metropolitan State University	Mr. Masotti will instruct two online Astronomy courses for teachers over the two years of the project.	Yes
Kate Rosok, MESTA President	Minnesota Earth Science Teachers Association (MESTA)	MESTA - a statewide organization serving Minnesota earth science teachers - will provide help with statewide coordination, identify regional field sites, and provide teaching resources and networking for ESTEP participants. MESTA receives no funding from ESTEP.	No

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.
The ultimate goal of ESTEP 2.0 is to continue and complete the initiatives of ESTEP (1.0) by providing teacher professional development in earth/environmental sciences. This newfound teacher knowledge and pedagogy in environmental science will be integrated into the science curricula of Minnesota schools to instruct and inspire students on the value, protection and conservation of Minnesota's natural resources. Environmental studies in middle and high school science classes will be taught by newly-knowledgeable, motivated and confident science educators. Data from ESTEP summer and online programs, resources and teaching strategies will be shared statewide through MnSTA conferences, website and newsletters as well as a new powerful resource - the MnSTA ESTEP Online Repository developed during ESTEP 2.0. The Science Museum of Minnesota, with their new LCCMR grant, has approached MnSTA to contribute to a video exhibit on how ESTEP has influenced environmental education in schools and inform the public of the broad impact ENRTF funds have achieved in Minnesota. Other educational organizations will be tapped to spread the news of how Minnesota ENRTF funds have supported the new state science standards, eased the transition for science teachers, and enriched environmental education statewide. The ENRFT also will be acknowledged through use of

the trust fund logo and required verbiage on all printed material, PowerPoints, the MnSTA website, marketing materials, MnSTA newsletter, and any other publications.

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?

The result of ESTEP to date is a statewide cohort of science teachers who have participated in ESTEP programs and are now more confident in their content understanding and pedagogical skills in addressing the new Earth/Environmental Science standards. Data show the implementation of a more vibrant, environmentally- and Minnesota-focused approach to teaching science is underway in Minnesota classrooms. (See ESTEP 2023 Pre-Post Data Analysis in Attachments.)

Resources and strategies will continue to be distributed statewide through MnSTA conferences, website and online repository of resources. All expenses in maintaining communication and sharing of resources post-ESTEP will be funded by MnSTA.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
ESTEP: Earth Science Teacher Education Project	M.L. 2022, , Chp. 94, Art. , Sec. 2, Subd. 05f	$495,000

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
							Sub Total	-
Contracts and Services								
Dr. Russell Colson	Service Contract	Dr. Colson (MSU-Moorhead) will lead instruction for two, 5-day high school institutes and one, three-day grade 3-8 institute totaling 11.5 days of instruction at $1000/day, plus instruct four online courses at $5000 per course (Normal reimbursement would be $9348.), plus 70 hours planning time.				0.96		$33,600
Dr. Bryce Hoppie	Service Contract	Dr. Hoppie (MSU-Mankato) will lead instruction for two, three-day grade 3-8 institutes and three, 5-day high school institutes totaling 18 days plus teach three online courses at $5000 each, plus 70 hours planning time at $30/hr. The $1000/day stipend for PhD instructors is based on NSF guidelines.				1		$35,100
Dr. Kate Pound	Service Contract	Dr. Pound (Gustavus Adolphus) will lead instruction for two three-day, grade 3-8 summer institutes at $1000/day, instruct two online courses at $5000 each, and up to 70 hours of planning time at $30/hr. The $1000/day stipend for PhD instructors is based on previous NSF rates.				0.44		$15,100
Dr. Rachel Humphrey	Service Contract	Dr. Humphrey (St. Cloud) will instruct two online courses in Meteorology at $5000 each, serve as lead instructor for one HS institute at $1000/day, plus 70 hours planning time. $5000 rate per online course is based on 50% of the standard university rate for teaching a three-credit online course.				0.48		$17,100
Larry Mascotti	Service Contract	Mr. Mascotti (Metro State) will instruct two online courses in Astronomy over the two years of the grant. The instructor rate of $5000 per online course is based on 50% of the standard university rate for teaching a three-credit online graduate course.				0.36		$10,000
Dr. Jennifer Anderson	Service Contract	Dr. Anderson (MSU-Winona) will serve as lead instructor for two 5-day high school institutes at $1000/day and receive up to 70 hours of planning				0.34		$12,100

		time at $30/hr. The $1000 daily rate is based on NSF grant guidelines for PhD instructors and includes personal expenses.						
Dr. Hillary Barron	Service Contract	Dr. Barron (MSU-Bemidji) will lead two virtual half-day workshops at $500 each. She will also guest present on achieving equity in science/environmental education and Native American perspectives in four Saturday Seminars at $400 each.				0.06		$2,600
Dana Smith	Service Contract	Ms. Smith (Bemidji MS) will co-instruct in grade 3-8 institutes totaling 7 days and co-instruct three high school programs for 15 days at $750/day; lead 12 Saturday Seminars at $300; co-instruct for three online courses (39 hours), and 250 hours per year for project coordination at $30/hr.				1.4		$38,370
Marlene Schoeneck	Service Contract	Ms. Schoeneck (Parkers Prairie HS) will co-instruct in four grade 3-8 institutes focusing on environmental education and pedagogy totaling 6 days at $750/day; teach four online courses at $5000 each; lead the online repository work group at $5000; and receive up to 70 hours planning time at $30/hr.				1.26		$34,600
Mary Ann Colson	Service Contract	Ms. Colson (Moorhead MS) will co-instruct one grade 3-8 institute and two 5-day high school programs totaling 11.5 days at $750/day, co-instruct for three online courses at 50% of $5000, and receive up to 70 hours of planning time at $30/hour.				0.66		$18,225
John Olson	Service Contract	Mr. Olson, MnSTA Treasurer, will manage the ESTEP 2.0 budget and be responsible for all budget-related transactions. $4000 per year is based on an estimated 200 hours per year at $20/hour.				0.26		$8,000
Lee Schmitt	Service Contract	Mr. Schmitt (Hamline) will manage ESTEP 2.0 project evaluation and reporting, co-teach three grade 3-8 institutes totaling three days at $750/day, and receive up to 70 hours planning time at $30/hr. $4000 per year for evaluation and reporting is based on an estimated 200 hours per year.				0.5		$12,350
MSU-Moorhead	Subaward	Course credit for teacher participants. Amount is based on 60% of total participants in summer (186 teachers) plus 100% of online participants (340 teachers) @$165/credit x 3 credits (526 teachers x $165/credit x 3 credits = $260,370) $165/credit is a		X		0		$260,370

		negotiated fee from MSU-Moorhead (see justification).						
Haley Kalina	Service Contract	Ms. Kalina (Alexandria HS) will co-instruct in all four grade 3-8 institutes focusing on pedagogy and standards implementation totaling 6 days at $750/day plus 70 hours planning time at $30/hr. The $750/day stipend is based on NSF grant guidelines for non-PhD instructors and includes personal expenses.				0.34		$9,600
Kate Rosok	Service Contract	Ms. Rosok (Minneapolis Public Schools) will co-instruct two high school summer institutes totaling 10 days at $750/day.				0.28		$7,500
Melissa Olson	Service Contract	Ms. Olson (Becker High School) will co-instruct one high school summer institute for five days at $750/day.				0.14		$3,750
Eric Koser	Service Contract	Mr. Koser (Mankato East High School) will lead the technology component of developing the MnSTA ESTEP Online Repository. $2000 stipend is based on 100 hours at $20/hour.				0.08		$2,000
							Sub Total	**$520,365**
Equipment, Tools, and Supplies								
	Tools and Supplies	General field/lab supplies TBD based on specific curricula in each region. Supply amount is based on 40% of the MSU- and NSF-recommended $125/student for instructional supplies in a graduate-level science class.	Items for the 310 teachers enrolled in the 5-day summer institutes include notebooks, field lenses, geologic maps, testing chemicals, geo-scales, soil charts, plus tools and specific lab supplies TBD. These supplies are used for observation and investigation of Minnesota rocks, soils, water, habitats and mineral resources. Funds are not used to purchase classroom sets of materials.					$15,235
							Sub Total	**$15,235**
Capital Expenditures								
							Sub Total	**-**

Acquisitions and Stewardship								
							Sub Total	**-**
Travel In Minnesota								
							Sub Total	**-**
Travel Outside Minnesota								
							Sub Total	**-**
Printing and Publication								
	Printing	Duplicating of handouts and maps. Printing amount is based on 310 participants x $10 each.	Printouts will be needed for teachers to use in processing data, gaining insight into lesson design, and to highlight pertinent earth/environmental science content.					$3,100
							Sub Total	**$3,100**
Other Expenses								
		Stipends for Teacher Participants	Amount based on 40% of the 310 total participants in summer institutes (124 teachers) @$80/day x 5 days; plus three repository sessions (10 teachers) @$80/session x 3 sessions plus 5 hours work time @$30 x 10 teachers; plus 12 Saturday Seminars (180 teachers) @$50 plus 16 Short Courses (320 teachers) @$50/course. Equation: (124 teachers x $80 x 5 days + 10 teachers x $80/day x 3 days + 5 hours x $30/hr x 10 teachers + 20 teachers x $50/session x 12 sessions + 20 teachers x $50/course x 16 courses = $81,500) $80/day for attending professional development is 45% of the average teacher stipend rate of $180/day. The	X				$81,500

			$50 stipends are for shorter half-day workshops. Participants in online courses do not receive a stipend.					
		12 Saturday Seminar Lead Teachers	Saturday Seminar lead teachers, who will plan, host and co-teach seminars at their schools, receive a $300 stipend based on 10 hours of planning and presentation time at $30/hr. (12 seminars x $300 = $3600) These Saturday Seminars continue and expand teacher knowledge of local environmental concerns while supporting their continueing efforts to theme their lessons around Minnesota natural resources.	X				$3,600
		16 Virtual Short Course Lead Teachers	Virtual Short Course lead teachers will receive a $450 stipend based on 15 hours of planning and presentation time at $30/hr. (16 online workshops x $450 = $7200) These short courses are based on teacher-requested topics of interest or concern and support the ongoing effort to transition to 3D teaching and implement environmental content into their curricula.	X				$7,200
		12 Site Coordinators	Site Coordinators are paid $1000/week for organizing the 5-day summer institutes at their site. (12 programs x $1000 = $12,000) Site Coordinators are responsible for reserving space, finding teacher housing, daily attendance, gathering teaching materials, room set up, technology, etc. Their role is essential for institute instructors whose job is to lead participants to achieve grant objectives.	X				$12,000
							Sub Total	**$104,300**
							Grand Total	**$643,000**

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Contracts and Services - MSU-Moorhead	Subaward	Course credit for teacher participants. Amount is based on 60% of total participants in summer (186 teachers) plus 100% of online participants (340 teachers) @$165/credit x 3 credits (526 teachers x $165/credit x 3 credits = $260,370) $165/credit is a negotiated fee from MSU-Moorhead (see justification).	Educational professional development grants typically fund a teacher credit or stipend option. MSP, ITQ, 3M, Medtronic, and NSF grants all allow for payment of credits or stipend to teachers. Participation in ESTEP 2.0 requires a large commitment of time, and teachers deserve some form of compensation. MnSTA has negotiated with Minnesota State University, Moorhead to provide a "co-sponsored rate" for graduate credits at $165 per credit. This pays for administration of the credit only (recording, posting grades, transcripts, etc.) and provides no "profit" or overhead for the university. MSU-Moorhead would normally charge $535/credit, so $165 is a real bargain. When soliciting universities, MSU-Moorhead was the lowest credit offer. Course credits will be consolidated and all payments for credits will be made exclusively to MSU-Moorhead. Note: calulation is based on full enrollment in all programs. This is unlikely. Credits for teachers were funded in the first ESTEP grant (2022-169).
Other Expenses		Stipends for Teacher Participants	Educational professional development grants typically fund a teacher credit or stipend option. MSP, ITQ, 3M, Medtronic, MDE and NSF grants all allow for payment of credits or stipend to teachers. Participation in ESTEP requires a large commitment of time, and teachers deserve some form of compensation. $80/day for attending ESTEP 2.0 professional development is 45% of the average teacher daily stipend rate of $180/day. Note: calculation is based on full enrollment in all programs. This is unlikely. Stipends were funded in the first ESTEP grant (2022-169).
Other Expenses		12 Saturday Seminar Lead Teachers	Stipends for these lead teachers are based on 10 hours of preparation and presentation time at $30/hour. These teachers must reserve space at their school, collect needed supplies, and plan activities, discussions and at least one outdoor learning experience.
Other Expenses		16 Virtual Short Course Lead Teachers	Virtual Short Course lead teachers' stipends are based on 15 hours planning and presentation time at $30/hr. Lead teacher must assemble an agenda for the session, gather online resources to share and invite guest experts.
Other Expenses		12 Site Coordinators	Site Coordinators are responsible for reserving space, finding teacher housing, daily attendance, gathering teaching materials, room set up, technology, etc.

Non ENRTF Funds

Category	Specific Source	Use	Status	$ Amount
State				
			State Sub Total	**-**
Non-State				
In-Kind	Summer Instructor and Presenter Travel	Instructors' summer mileage for travel to and from summer institute locations will be waived. (200 miles/year x .67/mile x 14 instructors/presenters x 2 years = $3752 in kind.)	Secured	$3,752
In-Kind	Participant Travel to Field Sites	Program bus/van mileage to transport teachers to field sites will be replaced by using teacher vehicles. (4 vans/summer x 300 miles/day x 0.67/mile x 14 days = $11,256 in kind.)	Secured	$11,256
In-Kind	Lead Instructor Planning Mileage	Mileage for Drs. Colson, Hoppie, and Pound to visit and select field sites for investigation will be waived. (300 miles x .67/mile x 3 instructors x 2 years = $1,206 in kind.)	Secured	$1,206
In-Kind	Minnesota Universities and Schools	Rental fees for use of university facilities and school sites for summer institutes will be waived. (Estimated $500/week x 12 weeks = $6000 in program savings.)	Secured	$6,000
In-Kind	Minnesota Science Teachers Association (MnSTA)	A one-year membership in MnSTA/MESTA will be provided in kind for summer teacher participants. (310 participants x $25 = $7750 in kind.)	Secured	$7,750
In-Kind	Minnesota Science Teachers Association (MnSTA)	MnSTA website marketing, registration, and statewide online distribution of resources will be provided in kind. ($800/year x 2 years = $1600)	Secured	$1,600
In-Kind	Minnesota Science Teachers Association (MnSTA)	The six-member ESTEP Lead Planning Team received two $10,000 planning grants from MnSTA. These non-ENRTF funds were used for planning and preparing online courses, summer teacher institutes and evaluation instruments all matching grant initiatives and LCCMR guidelines.	Secured	$20,000
In-Kind	Minnesota School Districts	Minnesota school districts are asked to reimburse teacher travel expenses to ESTEP summer institutes using their available ESSA funds. Room and board amount is based on 50% need for K-6 teachers and 100% need for high school teachers staying in university dorms plus a $107/day per diem. (235 teachers x $125/week lodging + $107/day per diem x 160 teachers x 5 days = $114,975)	Potential	$114,975
In-Kind	Minnesota School Districts	Districts pay a registration fee for their teachers to attend ESTEP. ($200 x 160 high school + $140 x 150 K-8 teachers = $53,000)	Potential	$53,000
			Non State Sub Total	**$219,539**
			Funds Total	**$219,539**

Total Project Cost: $862,539

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: 10c1ea00-0b9.pdf

Alternate Text for Visual Component

The logo contains the letters ESTEP in an open format with graphics within each letter. The "E" contains a cross-section of a volcano, "S" contains an image of soil and rocks, "T" show a river system, "E" contains clouds and a tornado, and "P" a planet's surface with starry skies....

Financial Capacity

Title	File
MnSTA 990-EZ 2022	dfdfb3d3-2e7.pdf
MnSTA Certificate of Good Standing	5cc04186-faf.pdf

Board Resolution or Letter

Title	File
MnSTA Authorization Letter for ESTEP 2.0	968ba79c-919.pdf

Supplemental Attachments

Capital Project Questionnaire, Budget Supplements, Support Letter, Photos, Media, Other

Title	File
2019 Minnesota Academic Standards in Science	1ceb7244-b9c.pdf
6th & 9-12 Minnsota Environmental Benchmarks (Highlighted)	c765d36d-ed4.pdf
ESTEP 2023 Pre-Post Data Analysis	ace278b2-ce7.xlsx
ESTEP Teacher Testimonials	8da683ff-b69.pdf
ESTEP 2024 Pre-Post Data Analysis	e3cb492d-a2b.xlsx

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

In an effort to reach more teachers, the ESTEP planning team decided to make the 6th grade summer programs available to all grade 3-8 science teachers who teach to earth science benchmarks. This is reflected in the verbiage of the grant. After extensive discussion with the ESTEP team, we realize that we may not have enough instructors and time in the summer to do three grade 3-8 institutes. We have cut one grade 3-8 institute each summer. These will be replaced with two high-demand high school summer programs thereby not affecting the budget.

Other changes to the ESTEP 2.0 work plan (submitted June 9, 2025) include the project manager's home address, in Subawards for two instructors to say "in two years" verses "final two years", Dr. Barron's academic title, changing all references to "K-8 institutes" to "grade 3-8 institutes" (ESTEP programs do not address specific primary-grade science standards.), correcting the total number of online courses to be offered from 18 to 17, and changing the project end date to match the appropriation end date of June 30, 2028.

Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?

N/A

Do you understand that travel expenses are only approved if they follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

N/A

Does your project have potential for royalties, copyrights, patents, sale of products and assets, or revenue generation?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

No

Does your project include the pre-design, design, construction, or renovation of a building, trail, campground, or other fixed capital asset costing $10,000 or more or large-scale stream or wetland restoration?

No

Do you propose using an appropriation from the Environment and Natural Resources Trust Fund to conduct a project that provides children's services (as defined in Minnesota Statutes section 299C.61 Subd.7 as "the provision of care, treatment, education, training, instruction, or recreation to children")?

No

Provide the name(s) and organization(s) of additional individuals assisting in the completion of this project:

From MnSTA: John Olson and Dana Smith

Do you understand that a named service contract does not constitute a funder-designated subrecipient or approval of a sole-source contract? In other words, a service contract entity is only approved if it has been selected according to the contracting rules identified in state law and policy for organizations that receive ENRTF funds through direct appropriations, or in the DNR's reimbursement manual for non-state organizations. These rules may include competitive bidding and prevailing wage requirements

Yes, I understand