

**Environment and Natural Resources Trust Fund**

# 2022 Request for Proposal

## **General Information**

**Proposal ID:** 2022-212

**Proposal Title:** Emergency Location Markers For Minnesota's Trails, Parks & Landings

## **Project Manager Information**

**Name:** Stephen Swazee

**Organization:** SharedGeo

**Office Telephone:** (651) 285-5015

**Email:** sdswazee@sharedgeo.org

## **Project Basic Information**

**Project Summary:** Improve the enjoyment and safety of Minnesota’s trails and outdoor recreational areas by accelerating installation of Emergency Location Markers (ELM) on these public lands.

**Funds Requested:** $198,000

**Proposed Project Completion:** June 30 2024

**LCCMR Funding Category:** Small Projects (H) **Secondary Category:** Environmental Education (C)

## **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

## **Narrative**

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

Numerous backcountry Search and Rescue (SAR) incidents over the years have highlighted the public often has difficulty communicating location quickly and accurately to first responders. There are multiple reasons why this is the case, some of which include cellphone GPS location reporting that is typically very poor in rural areas where recreational spaces are located, and multiple (thus confusing) versions of latitude/longitude. To solve this problem, in 2011 the National Search and Rescue Committee - comprised of the seven federal agencies involved in SAR – adopted U.S. National Grid (USNG) as the nation’s geo-coordinate standard for reporting emergency locations. At about this same time, St. Paul based nonprofit SharedGeo and Lake County, Minnesota partnered on a research project which installed the nation’s first standardized USNG Emergency Location Marker (ELM) system. In addition to that trail system cutting SAR response times by as much as 90%, the demonstrated value of this approach has subsequently led to adoption in seven other states, selection by NASA for use at Cape Canaveral, and National Park Service authorization as approved signage after an expansive pilot install at Kennesaw Mountain Battlefield National Park – a park which sees over 2.5 million visitors annually.

**What is your proposed solution to the problem or opportunity discussed above? i.e. What are you seeking funding to do? You will be asked to expand on this in Activities and Milestones.**

SharedGeo will accelerate installation of U.S. National Grid geo-coordinate ELM systems across the state by providing consulting, planning, training and materials to support local land managers and Emergency Services Sector (ESS) personnel who wish to install ELMs in their jurisdiction. To accomplish this mission, SharedGeo will use administrative, technical and training materials it previously developed (www.usngcenter.org), as well as a core of highly experienced instructors it has worked with over the past decade. Working collaboratively with local land managers and first responders, each project team will identify optimal locations to place ELM signs. SharedGeo will then have ELM signs manufactured and shipped to the land managers for installation. An in-kind labor program will be used to qualify install proposals from around the state. It will then be up to the selected local land managers to install and maintain their respective systems. In support of this project flow, SharedGeo has previously published an ELM system basic installation planning guide (https://bit.ly/3sEVvwX) and posted a YouTube video describing the evolution of the ELM concept and how to plan for an install (https://youtu.be/dJu98jUsh9U). Per efficient use of funds, SharedGeo's 2019 project spend rating was 94%.

**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?**

In the same way being able to call in street address information to 911 during an emergency lends a sense of security in the urban environment, enjoyment of Minnesota's natural resources will be greatly enhanced for recreational users wherever ELM signs are located on Minnesota's parks, trails and landings. ELMs will also help land, forest, wildlife and water managers, conservation officers, firefighters and law enforcement personnel respond more quickly to emergency situations, thus maximizing their efficiency. Finally, damages to our natural resource infrastructure - trails, boat landings, bridges, etc. - can be more easily located and reported for repair.

## **Activities and Milestones**

### **Activity 1: U.S. National Grid and Emergency Location Marker Training**

**Activity Budget:** $141,000

**Activity Description:**On-site regional training one day workshops (3-6) with additional on-line webinars (5-10). This would include working with first responders, emergency managers, recreational user groups, and managers for parks, forests, trails, and aquatic environments to learn the USNG ELM system and identify key, strategic locations for Emergency Location Marker placement. All elements of this training have previously been created. Informational materials would be printed and provided electronically to training attendees which would allow them to return to their communities and serve in a "train-the-trainer" capacity.

**Activity Milestones:**

|  |  |
| --- | --- |
| **Description** | **Completion Date** |
| Present on-site and virtual workshops around the state | January 31 2023 |
| Project proposals due from land and water managers | March 31 2023 |
| Select proposed projects | May 31 2023 |

### **Activity 2: US National Grid Emergency Location Marker Manufacture and Installation Technical Support**

**Activity Budget:** $57,000

**Activity Description:**By July 31, 2023, all ELM signs will be manufactured and shipped to the partners for installation by June 30, 2024. The amount budgeted is for an estimated 2,000 signs @ $25/sign. ELM informational brochures will be printed and shipped; then distributed as part of the recipient's ongoing public relations program. Amount budgeted is $7,000.

**Activity Milestones:**

|  |  |
| --- | --- |
| **Description** | **Completion Date** |
| Manufacture and ship sign orders | July 31 2023 |
| Print and distribute locale specific ELM system informational brochures | August 31 2023 |
| Complete follow up orders for bad or damaged signs | October 31 2023 |
| Installation of ELMs complete | June 30 2024 |

## **Project Partners and Collaborators**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Organization** | **Role** | **Receiving Funds** |
| Parks & Trails, Forestry, Ecology and Waters, Fish & Wildlife Divisions | Minnesota Department of Natural Resources | Receive training on the Emergency Location Markers (ELM) system. Place and maintain ELMs at strategic locations on state trails, parks, forests, and waterways. Incorporate project provided educational materials into public outreach efforts. | No |
| Minnesota County Lands and Parks Departments | Minnesota Counties | Receive training on the Emergency Location Markers (ELM) system. Place and maintain ELMs at strategic locations on county trails, parks, forests, and waterways. Incorporate project provided educational materials into public outreach efforts. | No |
| Tribal Lands Departments | Minnesota Tribes | Receive training on the Emergency Location Markers (ELM) system. Place and maintain ELMs at strategic locations on tribal trails, parks, forests, and waterways. Incorporate project provided educational materials into public outreach efforts. | No |
| Recreational User Groups | Non-profit Recreational User Groups across Minnesota | Outdoor associations such as snowmobile, bicycle, hiking, hunting, and watercraft groups receive training on the Emergency Location Marker (ELM) system. Where appropriate, place and maintain ELMs at strategic locations in areas of responsibility in coordination with the trail land owners. Incorporate project provided educational materials into outreach efforts. | No |
| Emergency Services Sector: Wildland Search & Rescue teams, Conservation Officers, Law Enforcement, EMS, Firefighters, Emergency Managers | Minnesota First Responders | Receive training on the Geo-referencing chapter of the National Search and Rescue Committee's "Land Search and Rescue Addendum to the National Search and Rescue Manual," FEMA directive 092-5 "Use of the United States National Grid (USNG)," and how Emergency Location Markers connect to this national standards ecosystem for emergency geo-location. | No |

## **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 be funded?**As has been the case where pilot ELM projects have been initiated in Minnesota - such as Lake, Dakota and Cook Counties - demonstration of utility has led local governments to fund project expansion. In one out of state case, Cobb County Georgia has committed over $300,000 to its effort. Thus, it is envisioned the ENRTF grant will be "seed" money which accelerates ELM adoption and expansion across Minnesota. As these additional pilot projects take hold, a critical mass will be achieved which will bring on additional installs funded through other federal, state, local and club sources.

## **Project Manager and Organization Qualifications**

**Project Manager Name:** Stephen Swazee

**Job Title:** Executive Director

**Provide description of the project manager’s qualifications to manage the proposed project.**Steve Swazee is retired Navy Captain and former Delta Air Lines 747 pilot who has chaired the Emergency Preparedness Committee (EPC) of the Minnesota Geospatial Advisory Council since 2008. He was also previously a member of the Minnesota Geospatial Advisory Council and Geospatial Information and Technology Association (GITA) Board of Directors. During Hurricanes Katrina, Ophelia, Rita and Wilma in 2005, he was recalled to active duty to serve as the senior Department of Defense (DoD) Emergency Preparedness Liaison Officer at the Pentagon. He was subsequently a by-name appointment to the DHS-DoD post-Katrina data work group charged with developing a national Common Operating Picture that can be used by all levels of responders and decision makers. He is a graduate of the Naval Post-Graduate School of Aviation Safety, and while on active duty was the Director of Safety and Standardization of the U.S. Marine Corps’ largest Air Group. His expansive experience in the Emergency Services Sector led him to help found St. Paul based SharedGeo, a nonprofit well known for its innovative mapping products which are typically released into the public domain. He has served as that organization’s Executive Director since 2008, and in 2010 was awarded a Governor’s Commendation for his service to the state as chair of the EPC.  
  
Specific to Emergency Location Markers:  
- Created and built the national center of excellence for information on the U.S. National Grid (USNG), the U. S. National Grid Information Center (www.usngcenter.org)  
- Conceived the ELM concept, and developed technical standards which led to formal creation of the ELM  
- Managed development of ELM production standards and procedures now used by commercial vendors   
- Created an ELM web store with all proceeds going to support additional ELM research, development and install projects (www.usngstore.org)

**Organization:** SharedGeo

**Organization Description:**SharedGeo is a federally recognized 501 (c) 3 nonprofit founded in September 2008 with the mission to help government, nonprofit, education, and corporate entities use mapping technologies and share geographic data for the public good. SharedGeo’s initial focus was on disaster response and relief operations in the United States, but it has since become engaged in a wide variety of related activities – including environmental, public safety and specialized software development. Many of its employees donate their time – which allows SharedGeo to keep expenses low and use incoming revenues to develop additional products which benefit the public. Some of its current and past clients include the nation’s largest professional geospatial association focused on infrastructure, Geospatial Information & Technology Association (www.gita.org), U.S. Fish and Wildlife Service, Iowa Department Homeland Security and Emergency Management, Minnesota Department of Transportation, and Airborne Data Systems (www.airbornedatasystems.com). It is home to one of the world’s 21 software programs sanctioned by the Open Source Geospatial Foundation (OSGeo), GeoMOOSE (www.geomoose.com), which since 2008 has been used by hundreds of units of government around the world to share their geospatial data with the public for free.

## **Budget Summary**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category / Name** | **Subcategory or Type** | **Description** | **Purpose** | **Gen. Ineli gible** | **% Bene fits** | **# FTE** | **Class ified Staff?** | **$ Amount** |
| **Personnel** |  |  |  |  |  |  |  |  |
| Steve Swazee |  | Project Manager/Installation Coordinator |  |  | 7.1% | 0.5 |  | $30,000 |
| Bob Basques |  | Technical Support |  |  | 7.1% | 0.2 |  | $15,000 |
| Nancy Read |  | Contract Manager |  |  | 7.1% | 0.1 |  | $6,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$51,000** |
| **Contracts and Services** |  |  |  |  |  |  |  |  |
| USNG/ELM Instructors | Professional or Technical Service Contract | Instructors will be individually contracted via respective Project Assignments to provide high quality, task specific training throughout the project cycle. It is anticipated all instructor personnel who will be used are currently known to SharedGeo and have been previously vetted for their expertise on subject matter. |  |  |  | 1.2 |  | $80,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$80,000** |
| **Equipment, Tools, and Supplies** |  |  |  |  |  |  |  |  |
|  | Tools and Supplies | 2000 Emergency Location Marker Signs at $25/sign delivered, $50,000 total. | Manufacture and shipping of ELM signs |  |  |  |  | $50,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$50,000** |
| **Capital Expenditures** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Acquisitions and Stewardship** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Travel In Minnesota** |  |  |  |  |  |  |  |  |
|  | Miles/ Meals/ Lodging | USNG ELM workshops and installation support visits by employees | Workshops on USNG, Emergency Location Markers and installation procedures |  |  |  |  | $5,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$5,000** |
| **Travel Outside Minnesota** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Printing and Publication** |  |  |  |  |  |  |  |  |
|  | Printing | Brochures describing ELM system - 50,000 copies total (5,000/10 projects) | Project specific outreach to the public to help them understand how to use the ELM system |  |  |  |  | $6,000 |
|  | Printing | First Responder training support handouts/materials - 1,000 packets/$4.00 | Take away information packet given to attendees of instructional sessions |  |  |  |  | $4,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$10,000** |
| **Other Expenses** |  |  |  |  |  |  |  |  |
|  |  | Art support | Graphic designer in support of public information and first responder printed items. $1,000 allocated to public information brochures, $1,000 allocated to training support items. |  |  |  |  | $2,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$2,000** |
|  |  |  |  |  |  |  | **Grand Total** | **$198,000** |

### **Classified Staff or Generally Ineligible Expenses**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category/Name** | **Subcategory or Type** | **Description** | **Justification Ineligible Expense or Classified Staff Request** |

### **Non ENRTF Funds**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Specific Source** | **Use** | **Status** | **Amount** |
| **State** |  |  |  |  |
| In-Kind | Existing State, County and Tribal sign infrastructure installation and repair programs. | State, County and Tribal land managers will contribute their time and tools to install ELM signs at their designated locations. This may be done as part of their on-going sign installation and repair programs. | Potential | $50,000 |
|  |  |  | **State Sub Total** | **$50,000** |
| **Non-State** |  |  |  |  |
|  |  |  | **Non State Sub Total** | **-** |
|  |  |  | **Funds Total** | **$50,000** |

## **Attachments**

### **Required Attachments**

#### ***Visual Component***

File: [98a5984c-116.pdf](https://lccmrprojectmgmt.leg.mn/media/map/98a5984c-116.pdf)

#### ***Alternate Text for Visual Component***

Attachment is a PDF poster which walks through the story of how Minnesota's Emergency Location Marker (ELM) system come into existence and is now spreading across the nation. Designed to print at 4'x6', it opens at 26% size and needs to be adjusted up to read properly on a computer monitor. Highlights: (1) "What" is an ELM, (2) "Why" ELMs are needed, (3) Where ELMs can be found graphic, (4) ELM system creation steps, and (5) Examples of ELM styles, support products and project awards....

#### ***Financial Capacity***

File: [cd0762ef-b65.pdf](https://lccmrprojectmgmt.leg.mn/media/financial_capacity/cd0762ef-b65.pdf)

#### ***Board Resolution or Letter***

|  |  |
| --- | --- |
| **Title** | **File** |
| SharedGeo BOD Project Support Letter | [5d25b9f7-aeb.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/5d25b9f7-aeb.pdf) |

### **Optional Attachments**

#### ***Support Letter or Other***

|  |  |
| --- | --- |
| **Title** | **File** |
| Eight ELM Proposal Letters of Support | [b05586a5-6a6.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/b05586a5-6a6.pdf) |

## **Administrative Use**

**Does your project include restoration or acquisition of land rights?**   
 No

**Does your project have potential for royalties, copyrights, patents, or sale of products and assets?**   
 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?**   
 Yes, SharedGeo