



GIS Data For Next Generation 911

Prepared by Beaverhead County
for Montana State Library MLIA Grant Program FY 2023

Submitted by Tracy Sawyer

Submitted on 02/28/2022 1:03 PM Mountain Standard Time

Opportunity Details

Opportunity Information

Title

MLIA Grant Program FY2023

Description

In accordance with the Montana Land Information Act (MLIA), the Montana State Library administers an annual grant program to distribute accumulated funds from the Montana Land Information Account, established by MLIA. Grant applications are evaluated by the State Library and its advisory council, the Montana Land Information Advisory Council, and follow the MLIA Grant Subcommittee Code of Ethics. Grant criteria are established based on the original intent of the MLIA and the goals and objectives of the annual Montana Land Information Plan. Please direct all grant program questions to MLIAGrants@mt.gov.

Please use the companion MLIA Grant Program Application Guidelines for more program information and instructions:
<https://docs.msl.mt.gov/MLIAC/FY2023/MLIAGrantProgramApplicationGuidelinesFY2023.pdf>

The MLIA Grant Program will be offering two training programs for MLIA grant applicants. One training will be held on January 25, 2022, at 1:30 p.m. to provide instruction on completing and submitting an application using the AmpliFund system. A second training will be held on January 28, 2022, at 9:00 a.m. to provide instruction on the nuts and bolts of writing a grant proposal. Registration is required for both training sessions. More details and registration information can be found at the following link:
<https://docs.msl.mt.gov/MLIAC/FY2023/MLIAGrantTrainingFlyer2022.pdf>

Prospective applicants are also encouraged to contact MLIA Grant Program staff for assistance with the grant application. Staff are available for one-on-one meetings with applicants to answer questions and provide guidance on completing the MLIA Grant Application. Please contact mliagrants@mt.gov for assistance.

Awarding Agency Name

Montana State Library

Agency Contact Name

Erin Fashoway

Public Link

<https://mt.amplifund.com/Public/Opportunities/Details/123802e0-eb1a-49ba-aef4-1804047fe225>

Is Published

Yes

Funding Information

Total Program Funding

\$250,000.00

Funding Sources

State

Award Information

Award Period

07/01/2022 - 06/30/2023

Award Announcement Date

5/16/2022

Award Type

Competitive

Capital Grant

No

Indirect Costs Allowed

No

Matching Requirement

Yes

Submission Information

Submission Window

01/13/2022 4:30 PM - 02/15/2022 5:00 PM

Submission Timeline Type

One Time

Submission Timeline Additional Information

<https://docs.msl.mt.gov/MLIAC/FY2023/MLIAGrantProgramApplicationGuidelinesFY2023.pdf>

Allow Multiple Applications

Yes

Technical Assistance Session

Technical Assistance Session

Yes

Session Date and Time

01/25/2022 1:30 PM

Conference Info / Registration Link

<https://docs.msl.mt.gov/MLIAC/FY2023/MLIAGrantTrainingFlyer2022.pdf>

Eligibility Information

Eligibility Type

Public

Eligible Applicants

Additional Eligibility Information

<https://geoinfo.msl.mt.gov/mliagrant>

Applicants must represent one of the following forms of government within Montana:

Any department, agency, board, commission, or other division of state government. (This includes the Montana University System.)

Any city, county, or other division of local government.

A tribal government/entity within the state.

Additional Information

Additional Information URL

<https://docs.msl.mt.gov/MLIAC/FY2023/MLIAGrantTrainingFlyer2022.pdf>

Additional Information URL Description

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Project Information

Application Information

Application Name
GIS Data For Next Generation 911

Award Requested
\$52,067.00

Cash Match Requirement
\$0.00

Cash Match Contributions
\$0.00

In-Kind Match Requirement
\$0.00

In-Kind Match Contributions
\$3,848.00

Total Award Budget
\$55,915.00

Primary Contact Information

Name
Tracy Sawyer

Email Address
tsawyer@beaverheadcounty.org

Address
2 S. Pacific St, Suite 7
Dillon, MT 59725

Phone Number
(406) 683-3757

Project Description

Part 01: Proposal Information

Proposal Information

Please see the [MLIA Grant Program and Application Guidelines](https://docs.msl.mt.gov/MLIAC/FY2023/MLIAGrantProgramApplicationGuidelinesFY2023.pdf) for more information about the MLIA Grant - <https://docs.msl.mt.gov/MLIAC/FY2023/MLIAGrantProgramApplicationGuidelinesFY2023.pdf>.

The applicant must identify one MLIA FY2023 Grant Priority that the proposed project will address. To read about all MLIA Grant Priorities, please read the [FY2023 MLIA Land Information Plan](#).

Identify Grant Priority

Develop GIS Information to Support Next Generation 9-1-1 (NG9-1-1) – Development of GIS data that are National Emergency Number Association (NENA) Standard Compliant

Please indicate whether or not the proposed grant is part of a multi-year proposal. If it is, please identify the intended total number of years for the project and the current year of the project. After clicking "yes" below, you will see text boxes appear in which you can enter the required information about the multi-year project.

Multi-Year Proposal

- Yes
 No

Executive Summary

Beaverhead County is looking to implement methodologies and workflows based on NENA standards and best practices that synchronize and maintain our GIS data for Next Generation 9-1-1 (NG9-1-1) adoption. Much like our neighboring counties and because current workload is making it difficult to realize any efforts in this area, we would like to utilize consultant knowledge and expertise to accomplish our goals.

The advantages NG9-1-1 will provide cannot be realized without accurate and standardized GIS data. Beaverhead County has adopted E9-1-1 technology but even that is decades old and uses data tables to represent roads, addresses, and boundaries. However, with a recent upgrade of our PSAP with new equipment and CAD software, we now have a preview of what NG9-1-1 can do. GIS data from our office has laid the foundation for the enhanced functionality of our upgraded PSAP. Callers can communicate location information which is geo-located using GIS Address data maintained by county staff. The day when this GIS data is NG9-1-1 compliant and fully able to integrate location, MSAG, and ALI/TN functionality will be incredible. By leveraging all the benefits of modern technology, emergency services will be handled more quickly and accurately. The antiquated data tables and equipment will be replaced with GIS data conforming to a national standard allowing PSAPs to work seamlessly across the nation during man-made or natural disasters.

The project directly relates to the MLIA FY2023 Grant Program, Land Information Plan Tier 1 Priority a. "Develop GIS Information to Support Next Generation 9-1-1 (NG9-1-1) – Development of GIS data that are National Emergency Number Association (NENA) Standard Compliant". Geographic Information Systems (GIS) is a critical part of the NG9-1-1. Accurate and standardized geospatial data will be a core requirement of the solution. Maintaining data efficiently while developing processes to regularly convert required local government data to a final NENA standard format will be fundamental in a successful implementation of NG9-1-1. Our geospatial data related to NG9-1-1 will conform to those standards.

Part 02: Funding Partners & Statements of Support

Funding Partners

All funding partners must be identified. Statements of support are required for each identified funding partner. Please attached a statement of support for each identified partner in .pdf version. Any funds pledged to this proposal must be reflected in the statements of support. See MLIA Grant Compliance – MLIA Grant Funding Partners section for the definition of a funding partner in the [FY2023 MLIA Grant Program and Application Guidelines](#).

Please follow the instructions below to report information about all applicable funding partners and to attach letters of support. If there are no funding partners on this project, please select "Mark as Complete" and move on to the next form.

Do you have a Funding Partner?

- Yes
- No

PLEASE MARK THIS FORM AS COMPLETE TO MOVE ON

Part 03: Relevance

Relevance to the FY2023 Montana Land Information Plan: In this section, please:

1. Describe how the proposal meets the purpose of the Montana Land Information Act: to develop a standardized, sustainable method to collect, maintain, and disseminate information; and
2. Clearly demonstrate how the proposal meets the defined [FY2023 Montana Land Information Plan Priority](#).
3. **EXCEPTION:** This section is not required for applicants submitting proposals for the sole purpose of collecting new survey control data.

Relevance

Is the proposed project for the sole purpose of collecting new survey control data

- Yes
 No

Relevance

Montana is currently developing a statewide NG9-1-1 system. With state leadership and oversight, local governments can provide input and knowledge to a statewide project that has a high potential of success. With the help of our consultant, Beaverhead County will be better prepared with standardized NG9-1-1 GIS data and maintenance methodologies.

To prepare for synchronizing GIS data with E9-1-1 and NG9-1-1, Beaverhead County has developed road centerlines, structures, and administrative boundaries. This proposed project would accomplish the next phase converting our core feature classes and tables to the National Emergency Number Association's (NENA) NG9-1-1 data model (NG9-1-1 Standard for Site/Structure Address Points, Road Centerlines, Emergency Service Boundaries; NENA-STA-006.1.1-2020 Standard for NG9-1-1 GIS Data Model) and completing synchronization audits of our required NG9-1-1 layers. Export Processes and Workflows would also be realized to match the final NENA database standard. We will work with our consultant to finalize our NENA required data attributes and implement workflows to regularly convert required layers to a NENA compliant dataset for Beaverhead County.

SCORING: RELEVANCE - 100 TOTAL POINTS

Meets Purpose of MLIA (Reviewer Only)

EXCEPTION: This section is not required for applicants with the sole purpose of collecting new survey control data. Assign full credit in this category for those applications.

The applicant clearly states how the proposal will meet the purpose of the Montana Land Information Act: to develop standardized, sustainable methods to collect, maintain, or disseminate information in digital formats about the natural and artificial land characteristics of Montana (0-50 Points)

(Reviewer Only)

Meets Purpose of MLIA (0-50 Points) (Reviewer Only)

Meets Land Information Plan Defined Grant Priority (Reviewer Only)

The applicant describes how the proposal will meet one of the defined grant priorities of the FY2022 Land Information Plan. The applicant provides specific examples that clearly explain how the project addresses specific goals and objectives in the Land Plan. If the proposed grant applies to an MSDI theme, the applicant demonstrates a knowledge and understanding of that theme. (0-50 points)

(Reviewer Only)

Meets Land Information Plan Defined Grant Priority (0-50 Points) (Reviewer Only)

Part 04: Public Benefit

Public Benefit: In this section, please describe why and demonstrate how the grant project will:

1. Benefit one or more specific [MSDI themes](#), including any theme-specific priorities as identified in the [FY2023 Land Information Plan](#);
2. Enhance the land information needs of multiple business workflows/initiatives, agencies, and/or jurisdictions; and
3. Benefit the citizens of Montana
4. *Exception: This section is not required for GIS Project Planning applicants or applicants with the sole purpose of collecting new survey control data.*

Is the proposed project for GIS Project Planning applicants or applicants with the sole purpose of collecting new survey control data?

- Yes
 No

Public Benefit

The public expects rapid response and assistance in times of need. The 9-1-1 system in use today was developed decades ago and would not measure up to the public's perception of how modern technology should work. NG9-1-1 will bring intelligence and modernization to this antiquated system. But NG9-1-1 dependence on GIS is a challenge for rural areas. Our 9-1-1 and MSAG data in use today was created before GIS was available and has never been synchronized to our road centerlines, structures, or civic addresses. Synchronization is critical to NG9-1-1 and methods will be developed to remain synchronized in the future as local changes are made to the data. Coordination of administrative boundaries will help all emergency responders to be efficient and successful. This project is designed to improve jurisdictional coordination and cooperation.

SCORING: PUBLIC BENEFIT - 100 TOTAL POINTS

(Reviewer Only)

EXCEPTION: This section is not required for applicants with the sole purpose of collecting new survey control data or proposing a GIS project planning grant. Assign full credit in this category for those applications.

(Reviewer Only)

(Reviewer Only)

The applicant's proposal demonstrates how the proposal will benefit one or more specific MSDI themes, including any theme-specific priorities identified in the FY2023 Land Information Plan; enhance the land information needs of multiple business workflows/initiatives, agencies, and/or jurisdictions; and benefit the citizens of Montana. (0-100 points)

1. *The proposal clearly describes how it will benefit one or more specific MSDI themes, including any theme-specific priorities identified in the FY2023 Land Information Plan;*
2. *The proposed project describes how it will enhance the land information needs of multiple business workflows/initiatives, agencies, and/or jurisdictions; for example, a county project benefits public works, the sheriff's office, and planning department. The proposed project describes how it will benefit multiple cross-jurisdictional agencies. For example, a county project may also benefit the Forest Service, BLM, and a tribal government entity;*
3. *The proposed project demonstrates public benefit to the citizens of Montana.*

(Reviewer Only)

Public Benefit (0-100 Points) (Reviewer Only)

Part 05: Project Management

Primary Project Manager Contact Information

Salutation
Mr.

Primary Project Manager Name
Tracy Sawyer

Primary Project Manager Title
GIS Coordinator

Primary Project Manager Organization
Beaverhead County

Primary Project Manager Email Address
tsawyer@beaverheadcounty.org

Primary Project Manager Phone Number
406-683-3757

Secondary Project Manager

Salutation
Mrs.

Secondary Project Manager Name
Rochelle Hoerning

Secondary Project Manager Title
Administrative Assistant

Secondary Project Manager Organization
Beaverhead County

Secondary Project Manager Email Address
rhoerning@beaverheadcounty.org

Secondary Project Manager Phone Number
406-683-3766

Organizational Capability

In this section, please demonstrate the organization's past record of performance with similar projects; the ability to implement the methodology described in the scope of work; and the organization's capability to support and sustain the project.

Organizational Capability

The primary project manager will be Tracy Sawyer, GIS Coordinator for Beaverhead County. The secondary project manager will be Rochelle Hoerning, Administrative Assistant to the DES, Planning, GIS, and Sanitation departments.

As Technical Advisor to Beaverhead County's 9-1-1 Committee, the GIS Coordinator has communicated NG9-1-1 events and issues for several years. As a committee we are fully aware the advantages an NG9-1-1 system will provide but realize the system relies on GIS data meticulously created and maintained.

Beaverhead County Sheriff, Commissioners, and DES departments have been educated to the looming NG9-1-1 switchover and have been proponents helping the GIS department fulfill obligations in this area. The Sheriff realizes the technological benefit NG9-1-1 will provide to emergency situations. Commissioners understand current workload of this office and the need for support. DES sees GIS as a tool for assessing safety and critical infrastructure. All see the need to support the GIS Department to accomplish NG9-1-1 goals and be prepared when the switchover arrives.

If awarded, the grant amount will be added to Beaverhead County's 9-1-1 Budget to give us the authority to spend this money. These funds can then be distributed to our consultant as work progresses and Beaverhead County will submit invoices to MLIA for project reimbursement. With this setup, Beaverhead County's Finance Department will be able to track income and expenditures. However, if MLIA requires different accounting details we can work those into our practices.

SCORING: ORGANIZATIONAL CAPABILITY (0-25 Points) (Reviewer Only)

ORGANIZATIONAL CAPABILITY

The applicant demonstrates the organization's past record of performance with similar projects; the ability to implement the methodology described in the scope work; and the organization's capability to support and sustain the project.

(Reviewer Only)

Organizational Capability (0-25 Points) (Reviewer Only)

Project Management

In this section, the applicant must demonstrate the defined project managers', key personnel's, and funding partners' adequate skills, qualifications, and experience for the defined project. And the following, if applicable, must be demonstrated.

1. Management Plan -- The applicant must demonstrate how the defined project manager—not the hired consultant—will manage the entire project, including meeting the mandatory reporting requirements, communicating with the State Library, fulfilling data requirements, and managing all hired consultants.
2. Financial Management -- Applicant provides a contact and a copy of the official invoice document for their respective organization in a .pdf format. (uploaded below)
3. Past Record of Performance -- The applicant must demonstrate the defined project managers' GIS project management experience, grant management experience, and (if applicable) consultant management experience. The applicant must provide concrete examples of each and explain how the experience gained in those projects relates to the current proposal.
4. Hiring a Consultant (if applicable) -- The applicant must describe the plans to hire a consultant and the procurement process for acquiring these professional services.

Project Management

This is the first grant application for the Beaverhead County GIS Department but we are familiar with grant funding and requirements. Grants through Homeland Security and State 9-1-1 Council have been awarded in the past through Beaverhead County DES and Law Enforcement departments. Beaverhead County GIS has provided assistance on several requirements to support these grants.

Although not formally trained in GIS, the past 25 years as an Electronic Design Engineer has provided vast experience in project management. Details matter and NG9-1-1 requires attention-to-detail at the highest. Organizational skills learned in the past will aid in tracking grant details and milestones. With the recent upgrade of our PSAP CAD system, working knowledge of integrating GIS with 9-1-1 Dispatch has been observed and learned. Location information, spatial intelligence, address geocoding, and database management are all GIS functions used in this office.

Advising consultants must be familiar with the national NENA Working Groups developing the NENA NG9-1-1 Data Model, GIS Stewardship Publications meeting national NG9-1-1 standards, and NENA Working Group best practices transitioning from Enhanced 9-1-1 (E9-1-1) to NG9-1-1. Consultants must provide technical assistance and training while allowing us to contribute our local knowledge. Our ability to ultimately maintain data utilized in our PSAP is paramount so the consultant must partner with us to develop 911 data and methodologies.

We intend to use standardized NENA standards and best practices with commercial off-the-shelf Esri software tools to build a sustainable and affordable system. As we continue to improve spatial accuracy with accurate data attributes, we can become better data stewards that will benefit all including the MSDI Infrastructure Library. We will continue to share our knowledge and experience with other local governments through MAGIP or would be willing to present to the Montana Land Information Advisory Council if this would benefit other local government GIS and DES staff in Montana.

We will submit a copy of final data with associated metadata to MSL which will be created and registered adhering to metadata records format adopted by the MSL standard and the Montana GIS Data List: https://ftpgeoinfo.msl.mt.gov/Documents/Metadata_Tools/DataList/MetadataStandard.html.

SCORING: PROJECT MANAGEMENT (0-75 Points) (Reviewer Only)

Project Management:

- a. The applicant must demonstrate adequate skills, qualifications, and experience for the defined project managers, key personnel, and funding partners.
- b. Financial Management - Applicant provides a contact and a copy of the official invoice document for their respective organization in a .pdf format.
- c. Management Plan -- The applicant demonstrates how the defined project manager—not the hired consultant—will manage the entire project, including meeting the mandatory reporting requirements, communicating with the State Library, fulfilling data requirements, and managing all hired consultants.
- d. Past Record of Performance -- The applicant must demonstrate the defined project managers' GIS project, grant, and, if applicable, consultant management experience. The applicant must provide concrete examples of each and explain how the experience gained in those projects relates to the current proposal.
- e. Hiring a Consultant -- If applicable, the applicant must describe the plans to hire a consultant and procurement process for acquiring professional services. If a consultant has been hired, applicant must identify the consultant, define the amount of time, identify key personnel, and the consultant's procured services and work completed relevant to the proposal.

(Reviewer Only)

Project Management (0-75 Points) (Reviewer Only)

Identified Consultant Information

If the applicant plans has hired and is under contract with a consultant who will perform work on the project, please select "yes" and complete the fields that appear below.

Has the applicant hired a consultant to perform work on the proposed project?

- Yes
 No

Name of consultant company/organization

Geodata Services Inc.

If a consultant has been hired, applicant must identify and define the amount of time, identify key personnel, and the consultant's procured services and work completed relevant to the

proposal

With NG9-1-1 requirements in mind, Beaverhead County has selected Geodata Services Inc. located in Missoula, MT. Ken Wahl is a consultant who has demonstrated experience and has provided assistance to a number of counties. He has projected 665 hours of consulting time at a cost of \$52,067 while Beaverhead County will contribute 148 hours amounting to \$3,848 to accomplish our goals.

Effective communication between Beaverhead County GIS and Geodata Services will be key to keeping this project on course. Goals and Objectives will be regularly monitored and performance measured using Gantt charts produced in Excel. This will offer a visual accountability of task progression and aid in providing support should a task require additional effort. Milestones will be regularly monitored and will provide feedback should Tasks or Objectives need modified.

Invoicing Methodology

In order for the Montana State Library to distribute awarded grant funds for incurred authorized project costs, the MLIA Grant Award Recipient must invoice the Montana State Library for reimbursement. The applicant must provide a sample, in PDF format, of the applicant's official invoice document.

Please attach sample invoicing documents

SampleInvoice

APPLICANT'S FINANCIAL CONTACT

Salutation

Mrs.

Financial Contact Name

Betty Tinsley

Financial Contact Title

Finance Administrator

Financial Contact Organization

Beaverhead County

Financial Contact Email Address

btinsley@beaverheadcounty.org

Financial Contact Phone Number

406-683-3734

Part 06: Project Sustainability

Project Sustainability

Sustainability is one of the key pillars of the Montana Land Information Act's purpose. In this section, the applicant must demonstrate future project sustainability and include a plan for long-term funding and future enhancements. Please explain how the project will be maintained in the long term, including staffing and funding plans and reducing dependencies on MLIA funding. If the grant proposal has identified improving an existing MSDI data layer, please explain how the applicant will coordinate with the Montana State Library to ensure the information will be made available. Explain any projected future enhancements that may require additional third-party funding.

Project Sustainability Narrative

NG9-1-1 will provide the best opportunity in a generation to implement GIS that will improve public safety. To date we have used our own budget to produce and maintain our road centerline, structures points, and jurisdictional boundaries. The additional time to convert 5,000+ structure points and 1,500+ road segments to NG9-1-1 will be enormous for our small department. Once converted, annual transactions and data maintenance is to be accomplished using our normal budget without supplemental grants. With the decision of the Montana 911 Advisory Council to pause grant funding as the contracts to develop statewide NG9-1-1 programs are administered, MLIA grant funding is our only opportunity to procure assistance integrating NG9-1-1 data management with our GIS program.

We are a small department within our county having other duties in addition to GIS and MLIA assistance would provide an invaluable source to accomplish our goals. Working with our consultant using Esri standardized tools will realize an institutional geodatabase and sustainable system to carry forward in our department. Completing the spatial adjustments, rigorous synchronization audits of MSAG and ALI, and layer conversion process required for NENA NG9-1-1 standards directly contributes to our ability to assess, improve and maintain NG9-1-1 data. Our consultant will provide training and consulting on tools and best practices. Assistance with GIS file synchronization against tabular, enhanced 911 data will improve our NG9-1-1 data. Local control will enhance our continued ability to contribute to MSDI. This is a critical step moving toward self-sufficiency and capacity for a sustainable GIS system that will support NG9-1-1 primarily from our portion of the MLIA recordation fee.

SCORING: PROJECT SUSTAINABILITY - 100 TOTAL POINTS

(Reviewer Only)

The applicant must demonstrate future project sustainability. (0 – 100 points)

- a. This must include future enhancements and a plan for long-term staffing for the continued maintenance of the deliverables created with MLIA grant funds.*
- b. The application must explain funding plans and plans for reducing dependencies on MLIA funding.*
- c. If the grant proposal has identified improving an MSDI data layer, the proposal should explain how the applicant will coordinate with the Montana State Library to ensure the integration into the statewide framework layers.*

(Reviewer Only)

Project Sustainability (0-100 Points) (Reviewer Only)

Part 07: Grant Accountability

Renewable Grant Accountability

The applicant must identify all awarded MLIA Grants to their organization. All MLIA grants awarded to the applicant's governmental entity/agency must be accounted for. State government applicants must only report for their respective agency. Performance on previously awarded MLIA grant projects will be taken into consideration in the final prioritization. Please consult the following resources to research previously awarded grants:

– For a detailed listing of the previously awarded MLIA Grants - https://geoinfo.msl.mt.gov/Awarded_MLIA_Grants

Did the applicant receive an MLIA grant in fiscal year 2022?

- Yes
- No

Fiscal Years 2018-2021 MLIA Grant Cycles

Please indicate whether or not the applicant was awarded any MLIA grants during state fiscal years 2018-2021. Please select "yes" for any of the following applicable years. After clicking "yes," you will see a text box appear in which you can enter a written narrative explaining the grant project. In the text box, please provide a written narrative for each grant awarded, outlining the successes and failures of the grant. Explain how tasks, timelines, and deliverables of the project were or were not met. Demonstrate how past project failures will ensure future successes.

Did the applicant receive an MLIA grant in fiscal year 2021?

- Yes
- No

Did the applicant receive an MLIA grant in fiscal year 2020?

- Yes
- No

Did the applicant receive an MLIA grant in fiscal year 2019?

- Yes
- No

Did the applicant receive an MLIA grant in fiscal year 2018?

- Yes
- No

Part 08: Project Scope of Work, Budget Justification, and Application Authorization

This section of the application must be used to attach application forms completed outside of the AmpliFund system. Required templates may be downloaded in each subsection below.

Project Scope of Work and Budget Justification

Please complete the Scope of Work and Budget Justification template provided below and upload your completed document as a Microsoft Word document.

Link to template:

https://docs.msl.mt.gov/MLIAC/FY2023/MLIA_FY2023_ApplicationForms.zip

Please upload your completed Scope of Work and Budget Justification here as a Microsoft Word document.

Beaverhead_MLIA_911_2022_MLIA_ProjectScopeBudgetJustification

Detailed Budget Table

Please complete the Detailed Budget Table template provided below and upload your completed table as both an Excel spreadsheet and as a PDF document.

Link to template:

https://docs.msl.mt.gov/MLIAC/FY2023/MLIA_FY2023_ApplicationForms.zip

Please upload an Excel version of your completed Detailed Budget Table here.

Beaverhead_MLIA_FY2023_DetailedBudgetTable

Please upload a PDF version of your completed Detailed Budget Table here.

Beaverhead_MLIA_FY2023_DetailedBudgetTable

Additional Information for PLSS Grants

MLIA Proposed Survey Control Point Collection Form - https://docs.msl.mt.gov/MLIAC/FY2023/PLSSForm_MLIA_FY2023.zip

Applicants proposing projects for the sole purpose of collecting new survey control data must include a completed MLIA Proposed Survey Control Point Collection form. Please indicate whether or not the proposed project is a PLSS/survey control project. If it is, please attach the required form. After selecting "yes," you will see a field appear where you can upload the form, as well as additional questions related to PLSS grants.

Is the proposed project a PLSS/survey control project?

- Yes
 - No
-

Additional Documents (optional)

Please provide any additional uploads such as maps or other forms that provide information about the project.

Authorization Statement

I have read the application in its entirety, and I certify that the information and all statements in the application are true, complete, and accurate to the best of my knowledge. I further certify that we are committed to funding our share of the project, including both pledged applicant cash and pledged applicant in-kind, as stated in the proposed project budget. I further certify that the proposed project, should it be approved for MLIA funding, will comply with all applicable state, local, and federal laws, regulations, and standards.

I authorize the Montana State Library to publish the contents of this application and to use the contents of this application for training, promotional, or other purposes.

Finally, I certify that I am (by my signature) authorized to enter into a binding agreement with the Montana State Library to obtain a grant if this application receives approval.

Please read the above statement and accept the following terms:

- Acknowledgment that I have read and accept the Terms and Conditions contained in this online application
- Acknowledgment that the applicant understands that the MLIA grant program is funded using State funds and does not involve any federal funding.
- Acknowledgment that the applicant has read the FY 2023 Montana Land Information Plan.

Acknowledgment that the applicant understands that the purchasing of supplies or acquisition of contractual services may be subject to local or state procurement laws, and the applicant agrees to comply with any applicable laws, rules, and regulations governing the procurement of supplies or contractual services for their grant project.

Please type First and Last Name

Tracy Sawyer

Date Signed

2/15/2022

SCORING: SCOPE OF WORK - 100 TOTAL POINTS

Please review the attached Scope of Work document, then come back and complete the following scoring: (Reviewer Only)

Goals and Objectives (0-30 Points) (Reviewer Only)

Tasks or Activities (0-30 Points) (Reviewer Only)

Project Scheduling (0-40 Points) (Reviewer Only)

SCORING: BUDGET JUSTIFICATION & BUDGET TABLES - 100 POINTS TOTAL

Please review the Budget Section, the Detailed Budget Spreadsheet, and the attached Budget Justification Narrative, then come back and complete the following scoring: (Reviewer Only)

Budget Narrative (0-45 Points) (Reviewer Only)

Budget Tables (0-45 Points) (Reviewer Only)

Matching Funds (0-10 Points) (Reviewer Only)

Budget

Proposed Budget Summary

Expense Budget

	Grant Funded	Non-Grant Funded	Total Budgeted
Contractual			
Contractual: Contractor Assessment With MSL Review	\$1,190.00	\$0.00	\$1,190.00
Contractual: Accuracy and Consistency of Attributes and Geometry	\$9,350.00	\$0.00	\$9,350.00
Contractual: Comparison Checks For Duplicates	\$6,450.00	\$0.00	\$6,450.00
Contractual: Data Consistency And Accuracy	\$11,475.00	\$0.00	\$11,475.00
Contractual: Develop Service Boundaries	\$680.00	\$0.00	\$680.00
Contractual: Establish 911 Core Layers	\$8,160.00	\$0.00	\$8,160.00
Contractual: GIS Assessment of E9-1-1 and NG9-1-1	\$5,100.00	\$0.00	\$5,100.00
Contractual: Modify Emergency Service Polygon Layers	\$1,162.00	\$0.00	\$1,162.00
Contractual: Preparation and Software Licensing	\$8,500.00	\$0.00	\$8,500.00
In-Kind: Develop Service Boundaries	\$0.00	\$364.00	\$364.00
In-Kind: GIS Assessment of E9-1-1 and NG9-1-1	\$0.00	\$2,600.00	\$2,600.00
In-Kind: Modify Emergency Service Polygon Layers	\$0.00	\$676.00	\$676.00
In-Kind: Preparation and Software Licensing	\$0.00	\$208.00	\$208.00
Subtotal	\$52,067.00	\$3,848.00	\$55,915.00
Total Proposed Cost	\$52,067.00	\$3,848.00	\$55,915.00

Revenue Budget

	Grant Funded	Non-Grant Funded	Total Budgeted
Grant Funding			
Award Requested	\$52,067.00		\$52,067.00
Subtotal	\$52,067.00		\$52,067.00
Non-Grant Funding			
Cash Match		\$0.00	\$0.00
In-Kind Match		\$3,848.00	\$3,848.00
Subtotal		\$3,848.00	\$3,848.00
Total Proposed Revenue	\$52,067.00	\$3,848.00	\$55,915.00

Proposed Budget Detail

See attached spreadsheet.

Proposed Budget Narrative

Performance Plan

Proposed Performance Plan

Project Deliverables

Goal Name	Goal Type	Goal Details
Establish 911 Core Layers	Milestone	Due Date 07/15/2022
Data Accuracy and Consistency	Milestone	Due Date 10/07/2022
Develop Service Boundaries	Milestone	Due Date 12/31/2022
Assessment of E9-1-1 and NG9-1-1	Milestone	Due Date 03/03/2023
End of Project	Milestone	Due Date 05/31/2023

Proposed Performance Narrative

Project Deliverables

Please clearly explain each deliverable resulting from the proposed project. To add a new deliverable, click on the "Add Goal" link. Each new item added is considered a "goal" in the AmpliFund system, so it is important that each deliverable is labeled carefully. In your description of each deliverable, please explain the specific project task(s) related to the deliverable and include a completion date for the deliverable. The Montana State Library must approve all deliverables prior to releasing final grant reimbursement. Therefore, the project proposal must reflect that all final deliverables be completed no less than 10 business days before June 30, 2023. The Montana State Library considers any product of the project (e.g., code, database, training materials, maps, photos, video, etc.) to be a project deliverable. All deliverables must be provided to the State Library as evidence of project completion and must be made publicly available. Please note that a detailed Scope of Work must be uploaded in the Project Scope of Work, Budget Justification, and Application Authorization section of this application.

Establish 911 Core Layers

Legacy data has been provided and core layers have been created.

Data Accuracy and Consistency

Data has been tested and synchronized and is accurate and consistent.

Develop Service Boundaries

Jurisdictions have been visited. Collaboration and coordination is established and ESPs have been produced.

Assessment of E9-1-1 and NG9-1-1

Daily assessments performed and reviewed on 911 data.

End of Project

Project is complete. Data has been assessed and reviewed with MSL.

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Beaverhead Enhanced 9-1-1 GIS Synchronization And Initial Set Up of Next Generation 9-1-1

Goal 1. Preparation and Software Licensing

- *Goal Completion Date:* 6/17/2022 and on-going

Objective 1.1. Software Setup And Training – Our consultant will provide contracted technical support and training sessions to incorporate our local knowledge.

Task 1.1.1. License And Load ArcGIS Pro – The standard, commercial, off the shelf ArcGIS software from Esri allowing direct edits of GIS Layers using ArcGIS Online.

Task 1.1.2. Technical Support And Training – Anticipate 2 hours per week throughout the grant period.

Goal 2. Establish 911 Core Layers

- *Goal Completion Date:* 7/15/2022

Objective 2.1. Prepare Required GIS Core Layers – Load MSAG, ALI and address databases into GIS tables. Create core GIS feature class layers and attributes for road centerlines (RCL), site/structure address points (SSAP), and service boundaries. Combine E9-1-1 and NG 9-1-1 road name components into the NENA NG9-1-1 GIS data model version 1.

Task 2.1.1. MSAG – Convert MSAG table to a database, summarize all attributes, calculate full road name, and concatenate with ESN and MSAG Community.

Task 2.1.2. ALI – Convert ALI table to a database, summarize all attributes, calculate full address, calculate full road name, and concatenate with Community and ESN.

Task 2.1.3. Road Centerlines (RCL) – Run Esri standardize address. Load data into NG9-1-1 data model feature class. Split road segments at every intersecting road. Parse address components first draft. Review with local addressing authority. Create full road name.

Task 2.1.4. Site/Structures Address Points (SSAP) – Run Esri standardize address. Load data into NG9-1-1 data model feature class. Parse address components first draft using local addressing authority road name decisions and create full road name and full address. Generate Lat/Long for approaches that intersect every county, state or federal road. Generate Lat/Long for every residential, business or other civic address.

Task 2.1.5. Assign MSAG Community To Road Centerlines (RCL) – Join MSAG to RCL. Assign MSAG Community to Legacy attribute for backward compatibility. Edit centerline segments where MSAG Community changes. Create full road name concatenated with MSAG community in the RCL to provide backward compatibility.

Task 2.1.6. Assign Incorporated Municipality And Unincorporated Community To RCL – Assign left-side and right-side community assignments to each road segment. Use incorporated and unincorporated communities to distinguish legitimate duplicates such as 101 Main Street in multiple communities.

Task 2.1.7. Assign MSAG Community To Site/Structures – Overlay structure points on MSAG Community derived polygons. Spatially join and populate MSAG Community for each structure.

Task 2.1.8. Assign Incorporated Municipality And Unincorporated Community To SSAP – Overlay structures on incorporated and unincorporated communities to distinguish legitimate duplicates such as 101 Main Street in multiple communities.

Task 2.1.9. Obtain Emergency Service Zones (ESZ) – Use legacy MSAG ESZ and merge with ESZ put in practice with PSAP upgrade. Obtain Law Enforcement, EMS, Fire, and other organizations unique to each Emergency Service Number (ESN). Summarize ESN list.

Goal 3. Achieve Consistency And Completeness Of Attributes And Geometry And Identify And Eliminate Duplicates.

- *Goal Completion Date:* 10/7/2022

Objective 3.1. Comparison Checks For Completeness – Check for completeness by summarizing attributes of RCL and SSAP looking for blank or null values. Using core 911 tables and GIS layers such as MSAG, ALI/TN, RCL, and SSAP compare numerous combinations of full address and road names. Comparisons may be difficult because MSAG is limited by minimum and maximum address range of road segments within a community or ESZ and ALI/TN does not contain mobile phone locations so can only be used for landline comparison.

Task 3.1.1. Road Name – Compare summarized road names between MSAG, ALI/TN, RCL and SSAP. Identify road names that are missing in one or more of the sources.

Task 3.1.2. Full Address – Compare summarized full address between the RCL, ALI/TN and SSAP.

Task 3.1.3. MSAG Community – Maintain the MSAG Community left-side and right-side attribute to identify legitimate duplicate addresses such as 101 Main Street in multiple communities. Identify null or blank MSAG Community attributes and label with county name.

Task 3.1.4. MSAG Emergency Service Number Assignments – Compare created ESZs and ESNs to MSAG ESN assignments. Identify missing or unassigned ESNs or unmatched road segments ensuring backward compatibility.

Task 3.1.5. NG9-1-1 Incorporated Municipality, Unincorporated Community And Neighborhood Community – Identify “Unincorporated” community address attributes since Beaverhead County is largely rural and left-side and right-side road segments not within a community are unincorporated in NG9-1-1.

Task 3.1.6. Emergency Service Polygons (ESP) – Incorporate existing ESPs so points can be identified by GIS operations.

Task 3.1.7. Other Geography (County, State, Country) – Summarize each left-side and right-side attribute for County, State, and Country. Identify null, blank, and incorrect values.

Task 3.1.8. Validation Attribute – Valid only in RCL and SSAP, this attribute indicates if the address range on the left-side or right-side should be used for civic location validation. Assign values as needed as this attribute controls how the Location Validation Function (LVF) notifies the appropriate emergency service provider when an address does not match within the SSAP but is within a valid range of the RCL.

Objective 3.2. Comparison Checks For Duplicates – Duplicate checks do not involve extensive comparison of separate layers though comparing the MSAG with the RCL segments is required. Most duplicate checks involve summarizing individual layers and looking for duplicate attribute values or duplicate geometry. There are many instances where legitimate duplicates exist and must be separated from erroneous duplicates.

Task 3.2.1. MSAG And RCL Synchronization – Because the MSAG has not been maintained at the same level as GIS data, a bulk update of MSAG road segment address information using the newly created NG9-1-1 data will be required. ESZs and ESNs will not match because the MSAG was not initially created using GIS. This is an important step as further testing requires an updated MSAG.

Task 3.2.2. RCL – Check for duplicate geometry and summarize road segments minimum/maximum address ranges. Identify and correct overlapping address ranges.

Task 3.2.3. Full Address In SSAP – Two duplicate address range checks are required: one for the point geometry and one for the address database attributes. For point geometry, concatenate the latitude/longitude of site/structure address points, summarize the results and examine all duplicate values. Compare with address database sub-addressing – i.e. Floor, Building, Unit, Suite – to determine legitimate duplicates.

Task 3.2.4. Service Areas/Numbers – Compare ESZs and ESNs to MSAG. Identify and correct duplicates.

Objective 3.3. Accuracy And Consistency Of Attributes And Geometry – These comparisons and validity checks include procedures to check geometry and data attributes. Workflows are in place to check data validity between and within data sets.

Task 3.3.1. MSAG – Geocoding minimum and maximum address ranges for each road segment. Examine spatial relationship of the MSAG data and attribute summaries.

Task 3.3.2. Geocode SSAP And ALI/TN Addresses With RCL Locator – Build address locator for geocoding using the local RCL. Use the address locator and geocode ALI/TN and the SSAP for 100% match. Resolve addresses that do not geocode. Create “fishbone” style link-line connectors for the SSAP points to road centerlines. Intersecting fishbone link lines visually provide indication of incorrect address order.

Task 3.3.3. Left/Right Parity Checks Of RCL – Check the RCL segments that have mixed parity and minimize “B” (both even and odd addressing) parity. Check and coordinate with neighboring PSAPs to mixed parity when road segments cross PSAP boundaries. Correctly assign “Z” parity to road segments without exit possibilities such as interstate access ramps and inner area of dual lane roads

Task 3.3.4. SSAPs Outside Or Near A PSAP Boundary – Spatial join SSAP with PSAP boundary to identify structures outside Beaverhead County. Identify points within one mile of the PSAP boundary for GIS confirmation. Coordinate with adjoining PSAPs and update data model validation attribute.

Task 3.3.5. RCL Segments Coincident With Or Crossing A PSAP Boundary – Spatial join road centerline segments with the PSAP boundary. End road centerline segments at the

PSAP boundary. Use MSDI administrative boundaries as the source for PSAP edges. Coordinate with adjacent PSAPs and use MSDI data to minimize road connection issues and parcel misalignment.

Task 3.3.6. NG9-1-1 Street Name Alias Table – Build related tables for alias street names and assure consistency and quality assurance.

Goal 4. Develop Service Boundaries

- *Goal Completion Date:* 12/31/2022

Objective 4.1. Create Public Service Answering Point (PSAP) Boundaries – Legacy 911 call routing is provided by telecommunication companies. In NG9-1-1, GIS will serve the most important role of routing 911 calls to the appropriate PSAP using caller location. Thus the PSAP boundary is critical to correct call routing and must be mutually agreed upon by adjoining PSAP jurisdictions. While county boundaries are legally defined, PSAP boundaries are not and Beaverhead County has several counties in which we provide emergency services.

Task 4.1.1. Adjoining PSAP Address Points – Research SSAPs that are within our PSAP with the nearest addressed road in an adjoining PSAP. Research roads that are coincident with or cross the county boundary.

Task 4.1.2. Adjoining PSAP Staff Meeting – Meet with the Sheriff, 911 Operations Managers, DES Coordinators, 911 Dispatch, and determine where 911 calls should be directed and adjust the PSAP boundary accordingly. Adjoining PSAPs will use identical agreed upon PSAP boundaries which diverge from county lines.

Task 4.1.3. Adjoining PSAP Coordination – Summarize results and collaborate GIS data with neighboring PSAPs.

Objective 4.2. Modify Emergency Service Polygon Layers – Current GIS data in use by our PSAP was created to get the system working. With input from all players, this data will be shared and reviewed with Beaverhead County personnel and adjoining PSAPs.

Task 4.2.1. Coordinate With Emergency Response Officials – Meet with the Sheriff, Fire Wardens, Fire Chiefs, Fire Districts, Ambulance Services, DES coordinators, and 911 Dispatch on current response responsibilities and response areas.

Task 4.2.2. Separate MSAG Based ESZ Map Into Individual Components – Dissolve ESN to create three separate multipart polygon layers depicting Law, Fire, and Emergency Medical Services.

Task 4.2.3. Review Montana DNRC Fire Districts – With DNRC being the steward for fire district administrative GIS boundaries, compare their data with local jurisdiction and resolve differences.

Task 4.2.4. Review Licensed Ambulance Services – Review the licensing records with Montana Department of Health and Human Services and obtain ambulance address and geocode location. Prepare proximity to all structures to realize response drive-time.

Task 4.2.5. RCLs Coincident With Or Crossing An ESP Boundaries – ESPs use many sources to describe boundaries such as water, roads, parcels, PLSS, and administrative features.

Split road centerline and adjust address ranges at ESPs intersections. Handle coincident road centerline and ESPs segments to minimize errors and edits.

Goal 5. GIS Assessment of E9-1-1 and NG9-1-1

- *Goal Completion Date:* 3/3/2023

Objective 5.1. Review Daily Assessments Prepared By Our Contractor – A series of daily assessments, scheduled in off-hours, will be performed by our contractor using PSAP Core NG911 data layers. The assessments must generate reports on what is wrong with the data and what needs to be fixed during the one year term of this grant.

Task 5.1.1. Data Assessment Components – Our contractor must assess the following:

RCL Range Not In MSAG – The RCL Complete Street Name concatenated with MSAG Community exists in the MSAG, but the entries in the *Left From Address, Left To Address, Right From Address, Right To Address* from this RCL segment do not exist in the MSAG.

RCL MaxAddr Not In MSAG – The RCL Complete Street Name concatenated with MSAG Community exists in the RCL, but RCL segment entries in the *Left To Address, or Right To Address* do not or only partially exist in MSAG.

RCL MinAddr Not In MSAG – The RCL Complete Street Name concatenated with MSAG Community exists in the RCL, but RCL segment entries in the *Left From Address, or Right From Address* do not or only partially exist in MSAG.

MSAG Name Not In RCL – The MSAG Complete Street Name concatenated with MSAG Community does not exist in the RCL segment.

MSAG Range Not In RCL – The MSAG Complete Street Name concatenated with MSAG Community exists in the RCL, but MSAG entries in the *Left From Address, Left To Address, Right From Address, Right To Address* do not exist in RCL segments.

MSAG MaxAddr Not In RCL – The Maximum Address Range from a MSAG entry does not exist in RCL segments.

MSAG MinAddr Not In RCL – The Minimum Address Range from a MSAG entry does not exist in RCL segments.

MSAG Parity (Side=E,O,B) – MSAG entries and records differ from RCL segments where an ESN boundary is contiguous with an RCL segment and do not match ESN Left or ESN Right. In addition, the RCL "Side" attribute should match the synchronized MSAG records and RCL and segments not contiguous with an ESN boundary should have Side=B. Those contiguous to an ESN would have Side=O or Side=E and match the MSAG record. This process is dependent on correct MSAGs and requires all RCL/MSAG edits be complete and implemented before assigning the final Side attribute values in the MSAG. The appropriate type of MSAG records needed to depict the ESN assignments on either side of a RCL segment.

RCL/MSAG Community differs – The RCL Complete Street Name concatenated with MSAG Community exists in the RCL segment, but the MSAG Community for the matching Complete Street Name is different.

SSAP To RCL Name Check – The SSAP Complete Street Name concatenated with MSAG Community differs from the RCL Complete Street Name concatenated with the MSAG Community. Indicates geocoding issue in SSAP
FullRoadName_MSAGComm not in RCL.

SSAP To RCL Range Check – The SSAP Complete Address concatenated with MSAG Community exists in the RCL but RCL segment entries in the *Left From Address, Left To Address, Right From Address, Right To Address* do not exist in the SSAP. Indicates geocoding range issue using the RCL only locator.

Access To SSAP And RCL Name Check – An issue when comparing the access address between SSAP and RCL. Some of these are potential candidates for a change of address as the addressed road their driveway appears to access differs from the assigned RCL. Solutions require multi-step research, USPS mail route identification and local decision.

Access To SSAP And RCL Range Check – An issue when comparing the access address between SSAP and RCL. Some of these are potential candidates for a change of address as the addressed road their driveway appears to access differs from the assigned RCL. Solutions require multi-step research, USPS mail route identification and local decision.

ALI To RCL Name Check – The ALI Complete Street Name concatenated with MSAG Community differs from the RCL Complete Street Name concatenated with the MSAG Community.

ALI To RCL Range Check – The ALI Complete Address concatenated with MSAG Community exists in the RCL, but RCL segment entries in the *Left From Address, Left To Address, Right From Address, Right To Address* do not exist in the ALI. Indicates a geocoding range issue using the RCL only locator.

ALI Address not in SSAP – Comparison of the complete legacy street name attributes between the RCL and SSAP. The results of this comparison fail should be edited and corrected prior to geocoding the SSAP with a locator that prioritizes the SSAP/RCL point location as the first choice and the RCL location as the second option if the SSAP+RCL locator fails to achieve 100%. Achieving 100% of the SSAPs to geocode to the SSAP/RCL point location is not always possible since the ALI is controlled by the telecommunication providers, but collaboration with them can address most issues.

RCL Geometry Overlap – Two or more RCL segments contain overlapping geometry or RCL is not split at an intersection.

RCL Range Overlap – Adjacent RCL segments with the same Complete Street Name have overlapping Address Ranges. This can either be an actual overlap in Address Ranges or two adjacent RCL with different digitizing directions.

RCL Flip Digitized Direction – A consistent method to determine left and right side of an RCL. RCL should be digitized in the direction of increasing addresses, which is not necessarily the same as the direction of travel.

Duplicate Sub Address – The Complete Legacy Address concatenated with the MSAG Community and Sub-Address attributes (e.g. Building, Unit, Floor, Room, Seat) and in some instances Address Number Prefix/Suffix attributes are not unique.

RCL Check Parity – RCL segment *Parity Left* and *Parity Right* attribute assignments differ from the RCL *Left From/Left To* and *Right From/Right To* range values or RCLs have erroneous parity values.

RCL vs SSAP Parity differs – RCL segment *Parity Left* and *Parity Right* attribute assignments differ from the SSAP address values.

Objective 5.2. Review Assessments Prepared By Our Contractor.

Task 5.2.1. Contractor Assessment With MSL Review – Our contractor will also be required to assist in preparing standardized data that will meet requirements that the Montana State Library 911 Group will require for mandatory E9-1-1 and NG9-1-1 data layers. Assistance in initial run of the state assessment and aggregation is required if data is complete and available during the one year grant period. Our contractor will assist in interpretation of the State of Montana assessments compared to contractor assessments performed daily.

BUDGET NARRATIVE

At some point conversion from existing GIS address data into the NG9-1-1 format must be accomplished within each PSAP jurisdiction. This project is an attempt to get prepared for the day when NG9-1-1 becomes a reality.

The Detailed Budget Table estimates 813 hours to convert address data into NG9-1-1 compliant data. The steps necessary include:

PREPARATION AND SOFTWARE LICENSING

This goal is the initial step to setup properly licensed ArcGIS Pro and ensure transfer of data between consultant and Beaverhead County. An additional item in this step includes consultant provided training throughout the project.

ESTABLISH 911 CORE LAYERS

This goal prepares NG9-1-1 compliant layers using existing County address data. Data from MSAG and ALI/TN using Beaverhead County's existing partner handling 9-1-1 database services will be blended into these core layers. The result will be NG9-1-1 Core Layers describing the existing picture of 911 services in Beaverhead County.

ACHIEVE CONSISTENCY AND COMPLETENESS OF ATTRIBUTES AND GEOMETRY AND IDENTIFY AND ELIMINATE DUPLICATES

The purpose of this goal is to ensure the NG9-1-1 Core Layers are complete and accurate. The data will be reviewed, exercised, and adjusted to ensure a solid-working GIS system.

DEVELOP SERVICE BOUNDARIES

Meeting and coordinating with adjacent PSAP boundaries will be the objective of this goal. Beaverhead County handles emergency situations with 3 other Montana counties. This step gets all the players on the same page with jurisdictional responsibilities.

GIS ASSESSMENT OF E9-1-1 AND NG9-1-1

The final goal will be live functional testing and assessment of the NG9-1-1 Core Layers performed off-hours. This will further refine location data ultimately providing a system with reduced errors.

The above goals are estimated to occupy 813 hours: Consultant work will require 665 hours and Beaverhead County will provide 148 hours. The vast majority of work is data science related and no equipment will need to be purchased. Some travel, handled by Beaverhead County GIS, will be required to meet with adjacent counties. Other unforeseen expenditures will be handled by Beaverhead County GIS Department.

Our consultant will charge \$65 per hour for services and we have no partner or match funds available. While knowledgeable in NG9-1-1 technology, we are relying on our consultant's technical expertise and experience to more quickly accomplish our goals.

This grant application is for \$52,067 (665 hrs · \$65/hr) and will be used to pay consultant hours performing the work. Beaverhead County estimates \$3,848 (148 hrs · \$26/hr) of in-kind hours provided by our GIS Department to help support the project.

Beaverhead County GIS will implement workflows to accommodate new address requests while maintaining NG9-1-1 data as a normal course of business. Because our GIS data is used in our CAD

center, this data will provide accurate and reliable location information. NG9-1-1 core layers will be maintained and refreshed continuously by our department once data and workflows are positioned.

MLIA GRANT DETAILED BUDGET TABLE

Tasks	Category Type	Funding Source	Hours	Rate	Cost
<i>Goal 1. Preparation and Software Licensing</i>					
<i>Objective 1.1. Software Setup And Training</i>					
Task 1.1.1. License And Load ArcGIS Pro	Equipment	Beaverhead County GIS In	8	\$ 26.00	\$ 208.00
Task 1.1.2. Technical Support And Training	Contractual	MLIA Grant Funds	100	\$ 85.00	\$ 8,500.00
<i>Goal 2. Establish 911 Core Layers</i>					
<i>Objective 2.1. Prepare Required GIS Core Layers</i>					
Task 2.1.1. MSAG	Contractual	MLIA Grant Funds	4	\$ 85.00	\$ 340.00
Task 2.1.2. ALI	Contractual	MLIA Grant Funds	4	\$ 85.00	\$ 340.00
Task 2.1.3. Road Centerlines (RCL)	Contractual	MLIA Grant Funds	4	\$ 85.00	\$ 340.00
Task 2.1.4. Site/Structures Address Points	Contractual	MLIA Grant Funds	4	\$ 85.00	\$ 340.00
Task 2.1.5. Assign MSAG Community To Road Centerlines (RCL)	Contractual	MLIA Grant Funds	10	\$ 85.00	\$ 850.00
Task 2.1.6. Assign Incorporated Municipality And Unincorporated Community To RCL	Contractual	MLIA Grant Funds	10	\$ 85.00	\$ 850.00
Task 2.1.7. Assign MSAG Community To Site/Structures	Contractual	MLIA Grant Funds	20	\$ 85.00	\$ 1,700.00
Task 2.1.8. Assign Incorporated Municipality And Unincorporated Community To SSAP	Contractual	MLIA Grant Funds	20	\$ 85.00	\$ 1,700.00
Task 2.1.9. Obtain Emergency Service Zones (ESZ)	Contractual	MLIA Grant Funds	20	\$ 85.00	\$ 1,700.00
<i>Goal 3. Achieve Consistency And Completeness Of Attributes And Geometry And Identify And Eliminate Duplicates.</i>					
<i>Objective 3.1. Comparison Checks For Completeness</i>					
Task 3.1.1. Road Name	Contractual	MLIA Grant Funds	50	\$ 85.00	\$ 4,250.00
Task 3.1.2. Full Address	Contractual	MLIA Grant Funds	50	\$ 85.00	\$ 4,250.00
Task 3.1.3. MSAG Community	Contractual	MLIA Grant Funds	5	\$ 85.00	\$ 425.00
Task 3.1.4. MSAG Emergency Service Number Assignments	Contractual	MLIA Grant Funds	5	\$ 85.00	\$ 425.00
Task 3.1.5. NG9-1-1 Incorporated Municipality, Unincorporated Community And Neighborhood Community	Contractual	MLIA Grant Funds	5	\$ 85.00	\$ 425.00
Task 3.1.6. Emergency Service Polygons (ESP)	Contractual	MLIA Grant Funds	5	\$ 85.00	\$ 425.00
Task 3.1.7. Other Geography (County, State, Country)	Contractual	MLIA Grant Funds	5	\$ 85.00	\$ 425.00
Task 3.1.8. Validation Attribute	Contractual	MLIA Grant Funds	10	\$ 85.00	\$ 850.00
<i>Objective 3.2. Comparison Checks For Duplicates</i>					
Task 3.2.1. MSAG And RCL Synchronization	Contractual	MLIA Grant Funds	40	\$ 85.00	\$ 3,400.00
Task 3.2.2. RCL	Contractual	MLIA Grant Funds	50	\$ 85.00	\$ 500.00
Task 3.2.3. Full Address In SSAP	Contractual	MLIA Grant Funds	15	\$ 85.00	\$ 1,275.00
Task 3.2.4. Service Areas/Numbers	Contractual	MLIA Grant Funds	15	\$ 85.00	\$ 1,275.00
<i>Objective 3.3. Accuracy And Consistency Of Attributes And Geometry</i>					
Task 3.3.1. MSAG	Contractual	MLIA Grant Funds	50	\$ 85.00	\$ 4,250.00
Task 3.3.2. Geocode SSAP And ALI/TN Addresses With RCL Locator	Contractual	MLIA Grant Funds	20	\$ 85.00	\$ 1,700.00
Task 3.3.3. Left/Right Parity Checks Of RCL	Contractual	MLIA Grant Funds	20	\$ 85.00	\$ 1,700.00
Task 3.3.4. SSAPs Outside Or Near A PSAP Boundary	Contractual	MLIA Grant Funds	4	\$ 85.00	\$ 340.00
Task 3.3.5. RCL Segments Coincident With Or Crossing A PSAP Boundary	Contractual	MLIA Grant Funds	6	\$ 85.00	\$ 510.00
Task 3.3.6. NG9-1-1 Street Name Alias Table	Contractual	MLIA Grant Funds	10	\$ 85.00	\$ 850.00
<i>Goal 4. Develop Service Boundaries</i>					
<i>Objective 4.1. Create Public Service Answering Point (PSAP) Boundaries</i>					
Task 4.1.1. Adjoining PSAP Address Points	Contractual	MLIA Grant Funds	8	\$ 85.00	\$ 680.00
Task 4.1.2. Adjoining PSAP Staff Meeting	Personnel (incl. fringe benefits)	Beaverhead County GIS In	8	\$ 26.00	\$ 208.00
Task 4.1.4. Adjoining PSAP Coordination	Personnel (incl. fringe benefits)	Beaverhead County GIS In	6	\$ 26.00	\$ 156.00
<i>Objective 4.2. Modify Emergency Service Polygon Layers</i>					
Task 4.2.1. Coordinate With Emergency Response Officials	Personnel (incl. fringe benefits)	Beaverhead County GIS In	16	\$ 26.00	\$ 416.00
Task 4.2.1. Coordinate With Emergency Response Officials	Contractual	MLIA Grant Funds	12	\$ 26.00	\$ 312.00
Task 4.2.2. Separate MSAG Based ESZ Map Into Individual Components	Contractual	MLIA Grant Funds	5	\$ 85.00	\$ 425.00
Task 4.2.4. Review Montana DNRC Fire Districts	Personnel (incl. fringe benefits)	Beaverhead County GIS In	5	\$ 26.00	\$ 130.00
Task 4.2.4. Review Licensed Ambulance Services	Personnel (incl. fringe benefits)	Beaverhead County GIS In	5	\$ 26.00	\$ 130.00
Task 4.2.5. RCLs Coincident With Or Crossing An ESP Boundaries	Contractual	MLIA Grant Funds	5	\$ 85.00	\$ 425.00

<i>Goal 5. GIS Assessment of E9-1-1 and NG9-1-1</i>					
<i>Objective 5.1. Review Daily Assessments Prepared By Our Contractor</i>					
Task 5.1.1. Data Assessment Components	Personnel (incl. fringe benefits)	Beaverhead County GIS In	100	\$ 26.00	\$ 2,600.00
Task 5.1.1. Data Assessment Components	Contractual	MLIA Grant Funds	60	\$ 85.00	\$ 5,100.00
<i>Objective 5.2. Review Assessments Prepared By Our Contractor</i>					
Task 5.2.1. Contractor Assessment With MSL Review	Contractual	MLIA Grant Funds	14	\$ 85.00	\$ 1,190.00
			Totals:	813	\$ 55,915.00

Beaverhead In-Kind	148	\$ 3,848.00
Consultant	665	\$ 52,067.00

