



Application

93274 - FY2021 Montana Land Information Act Grant Application - Final Application

93601 - FY2021 Big Horn County MLIA Grant
MSL Montana Land Information Act Grant

Status:	Submitted	Original Submitted Date:	02/18/2020 6:15 PM	Submitted By:	Brian Paul Mischel
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Applicant Information

Primary Contact:

Name:*	Mr.	Brian	Paul	Mischel
	Salutation	First Name	Middle Name	Last Name
Title:				
Email:*	bmischel@bighorncountymt.gov			
Alternate Email	brian.mischel@icloud.com			
Address:*	PO Box 908			

*	Hardin	Montana	59034
	City	State/Province	Postal Code/Zip
Phone:*	406-665-1731		
	Phone		Ext.
	###-###-####		
Alternate Phone	406-679-0487		
Fax:			
Comments:			

Organization Information

Name:*	Big Horn County
Organization Type:	County Government
Organization Website:	
Address:*	PO Box 908

*	Hardin	Montana	59034
	City	State/Province	Postal Code/Zip
Phone:*	406-665-1174		
Ext.			
Alternate Phone			
Fax:			
Email address			
Alternate Email			
Comments:			

Applicant Organization and Contact Information

Type of Governmental Entity:* Any city, county, or other division of local government

Name of Agency/Entity:* Big Horn County

Department:* Disaster and Emergency Services

Division/Section (if applicable):

Mailing Address:* P.O. Box 908

City:* Hardin

County:* Big Horn

Zip Code:* 59034

Organization's Main Phone Number:* 406-665-1731

Organization's Fax Number:

Primary Point of Contact

Salutation:* Mr.

Contact Name:* Brian Mischel

Contact Title:* Disaster and Emergency Services Coordinator

What is the contact's defined role in the proposed project:* Grant Manager
Max 250 characters

Before completing the MLIA Grant application, the designated point of contact must read and understand the fiscal year 2021 Montana Land Information Act Grant Packet in its entirety.

Has the primary point of contact read the fiscal year 2021 Montana Land Information Act Grant Packet in its entirety?* Yes

Authorization Letter

Please attached signed authorization letter here as a PDF document:* MLIA_2021_BigHornCounty_AuthLetter.pdf

Proposal Information

The applicant must identify one grant priority that the proposed project will address.

Identified Grant Priority:* 1.1. Develop GIS Information to Support Next Generation 9-1-1

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:* No

Please list the person(s) who prepared this grant application.

Proposal Prepared By:* Janelle Luppen, Brian Mischel

Executive Summary:*

Please provide an executive summary of the proposed project.

There is a 3,000-character limit for the executive summary.

Big Horn County and Yellowstone County will collaborate to examine, edit, document and distribute the mutual Public Safety Answering Point (PSAP) boundary where they are contiguous. This will enable calls to 911 to be routed to the correct PSAP when Next Generation 9-1-1 (NG911) is enabled.

The two counties will complete the same process for Law, Fire, and Ambulance boundaries and any other emergency service boundaries that are mutually desired by both county PSAPS to enable notification to emergency service agencies by the Core Services of NG9-1-1, or by the PSAP computer-aided dispatch (CAD) systems.

The two counties will also collaborate on the geometry and data attributes of Montana Spatial Data Infrastructure (MSDI) layers in the vicinity of or crossing the PSAP boundary between Big Horn and Yellowstone Counties and that are part the

NENA NG9-1-1 data model and best practices. At a minimum, these include the Structures/Addresses, Transportation, Administrative Boundaries, and Cadastral Framework datasets maintained by the Montana State Library (MSL).

In-person meetings and web-enabled conference calls will allow for review and work sharing with the counties, responder agencies and PSAPs. GIS data models and schemas maintained by the Montana State Library and recommended by NENA will serve as templates for the authoritative source data of required NG 9-1-1 layers as specified above, with metadata to document methods and processes. Throughout, project players will prepare polygon areas of interest with narrative summaries for the recommended and optional NG9-1-1 layers and MSDI layers that are part of our collaborative discussions and analysis.

After consultation with emergency responder groups and PSAPs, an agreed-on boundary will be determined to represent the best division of public safety services between Big Horn and Yellowstone Counties, and the Crow Tribe/BIA. The resulting GIS data layer will be distributed as the official PSAP boundary, a key task in NG911 data development.

Relevance

Relevance to the FY2021 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 FY2021 Montana Land Information Plan Priority.

There is a 3,000-character limit for the relevance narrative.

The primary Land Plan priority this proposal meets is in Tier 1, 1.1 **Develop GIS Information to Support Next Generation 9-1-1 (NG9-1-1)**. Emergency calls to 911 are changing and GIS will serve a new and crucial core function in routing the call to the correct PSAP. Currently for legacy 911 calls, telecommunications companies route the calls to the PSAP through 911 selective routers. Call location is based on cell tower sectors and/or fixed land line telephone locations geocoded using the Master Street Address Guide, a tabular database of roads with address ranges attributes for left and right side of the road. NG9-1-1 will use an X,Y, Z coordinate location intersected with a PSAP polygon. The location coordinates will be typically derived from a site/structure location, a mobile wireless tower sector, or any number of other methods including sensors on a vehicle equipped with Automated Vehicle Location responders. This is a major conceptual change for PSAP managers where GIS data will be the fundamental method to route the call to the correct PSAP. Each PSAP GIS boundary will be used to clip the NG9-1-1 required layers, which will require each PSAP neighbor reconcile their mutual PSAP boundaries to be identical.

Required Emergency Service Boundaries (ESB) include Law, Fire and Emergency Medical Services, and optionally others defined by a PSAP. They are polygon GIS structures, identical in structure, attribute and almost all functions to PSAP boundaries. They differ functionally because they are not used to route the call to the correct PSAP. They are used within the PSAP to notify emergency service response agencies or organizations. Each PSAP must collaborate with each neighboring PSAP to ensure their mutual ESB boundaries are identical.

Both counties participating in this project have adopted the NG9-1-1 GIS Data Model NENA-STA-006.1 and NG9-1-1 GIS best practices. With Legacy 911 each PSAP can function as a virtual island. The underlying architecture for NG9-1-1 following the standard in NENA-STA-010.2_i3 makes all PSAPs interoperable. This requires polygon segments of the PSAP and ESB boundaries that are coincident and shared between neighbors must all be mutually agreed upon and identical.

This is a pilot project for one mutually agreed PSAP boundary segment between two Montana counties and involving two Tribal Nations to demonstrate how these data models and MSDI layers, can provide a standardized, sustainable method to collect and maintain Montana NG9-1-1 best practices building collaboratively derived and mutually identical PSAP and ESB boundaries with procedures to disseminate the results statewide. The project represents complicated boundary situations with PSAP boundaries mutually agreed to diverge from County and Reservation boundaries and ESB service providers desired to respond by mutual agreement to adjoining County and Tribal jurisdictions.

Public Benefit

Public Benefit:*

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

1.) Benefit a specific MSDI theme;

2.) Enhance the land information needs of multiple agencies or jurisdictions; and

3.) Benefit the citizens of Montana.

There is a 3,000-character limit for the public benefit narrative.

NG 9-1-1 dependence on GIS is a challenge for rural areas. We have learned from other states, further along than Montana, that PSAP and ESB jurisdictional collaboration and agreement are among the most difficult challenges we will face in the process. This project will foster a relationship with neighboring PSAPs, Counties, Tribal Nations and emergency service providers for future coordination, mutual notification and reviews. It is particularly useful in that it involves tribal participation. Challenges increase where Tribal Nation and local governments interface.

In many Montana counties routing the call to the correct PSAP involves almost all of a county. In a small percentage of structures locations the boundary of the PSAP mutually agreed to receive the routed call must extend into the other county. These situations occur where a site/structure is located in one county and the access route and point location where the access route (typically a long driveway or unaddressed US Forest Service, BLM or tribal road) meets an addressed road are located in the other county. This requires the PSAP boundary to diverge from the county line to include all three components, the access route, site-structure and access point on the addressed road. The PSAPs, with input from the service providers collaboratively determine which county the PSAP boundary adjustment is assigned. This will ensure the call is routed to the PSAP that is mutually agreed upon. To ensure interoperability, all site/structure and road centerline data is clipped to the PSAP boundary, and contiguous PSAP boundaries must exactly match. The NENA data model requires no unintentional gaps or overlaps, and this procedure is required in these situations. They are relatively small in number, but take a lot of time and collaborative mapping and discussion. These situations occur in at least three general areas along the Yellowstone/Big Horn boundary segment.

In this project, in an emergency service zone on the southwestern side of Big Horn County, Yellowstone County responds to locations in Big Horn County for all required emergency services because the service providers are much closer by road to Yellowstone services than Big Horn services. It includes an entire small town, Pryor, on the Crow Reservation. With the change to NG9-1-1, the PSAPs will have to determine if the calls in all or part of the emergency service area should be routed to Yellowstone and make the PSAP boundary adjustments.

PSAP boundary reconciliation will help ensure that no farm or ranch is left in an unintentional emergency service provider gap or overlap when E911 systems transitions to NG9-1-1. Thorough documentation of the collaborative processes by the county GIS and DES staff and their consultant will provide guidance to other Montana counties through data/document sharing, presentations and workshops to MAGIP, MACO, and other local government conferences.

Primary Project Manager Contact Information

Salutation:* Mr.
Name:* Brian Mischel
Title:* DES Coordinator
Email Address:* bmischel@bighorncountymt.gov
Phone Number:* 406-665-1731

Secondary Project Manager Contact Information

Salutation:* Ms.
Name:* Janelle Luppen
Title:* Yellowstone County GIS Manager
Email Address:* jluppen@co.yellowstone.mt.gov
Phone Number:* 406-869-3553

Organizational Capability

Organizational Capability:*

There is a 4,000-character limit for the organizational capability narrative.

Brian Mischel (Applicant/Project Manager)

Brian Mischel has served as DES Coordinator for Big Horn County for the past year. Brian will serve as administrator of this grant proposal. He has working relationships with EMS staff, county Sheriffs, and Fire Departments in Big Horn County. Brian has grant management experience through the 9-1-1 Advisory Council's NextGen 9-1-1 Grant and with Montana DES Emergency Management Performance Grant. Both of these grants require quarterly reports and claims for reimbursement. Brian is the facilitator for Enhanced 911 and will be responsible for implementing Next Generation 911 for the Big Horn County PSAP. Brian is chair of the Big Horn County Local Emergency Planning Committee (LEPC) and is responsible for organizing bi-monthly meetings relating to public safety such as law, EMS, fire, GIS, dispatch, and community safety issues.

Yellowstone County GIS Manager and GIS Project Coordinator (Key Personnel/Funding Partners)

Yellowstone County encompasses the largest urban area in Montana, Billings. The GIS Department Manager, Janelle Luppen and GIS Project Coordinator, Mike Powell, have overseen both GPS and GIS projects including GPS data collection and data acquisition/standardization for specific data models (Orion, NG911, MSDI). Projects they have managed that are related to this grant proposal have involved the re-assignment of zoning areas and codes; a drive-time analysis for a proposed county-wide ambulance district; and disaster response during Yellowstone River flooding and during an oil spill by a local refinery. Both Luppen and Powell have decades of GIS experience and are keenly familiar with the mission and data/mapping needs of various public sectors beyond mere infrastructure. Yellowstone County GIS works on an ArcGIS Desktop 10.5.1 system, with Networking extension.

Geodata Services, Inc.

Geodata Services specializes in GIS services for local, state and federal governments, natural resource management, regional and community planning, and demographic and socioeconomic analysis. For 25 years Geodata Services has provided training and services in GIS including spatial analysis, image analysis, database development, collaborative GIS, suitability modeling, and 3D scenario visualizations. Geodata Services has been an Esri business partner for 22 years, and has more than 60 years of combined experience with GIS. Geodata Services has worked with many previous successful MLIA projects, including two NG 9-1-1 MLIA projects in the 2017 fiscal year with Carbon and Teton counties. Geodata Services has presented testimony on behalf of the Montana State Library at interim legislative sessions demonstrating the effectiveness of the grant program and has presented at past MACO conferences on the success of the MLIA program. Geodata is currently working with 7 rural Montana PSAPs on 911 Advisory Council Grants assisting them in Next Generation 9-1-1 GIS preparation and assessment.

Project Management

Project Management:*

There is a 10,000-character limit for the project management narrative.

Management Plan

The project manager is identified as Brian Mischel, DES Coordinator for Big Horn County. The managerial tasks include quarterly reporting and claims, logging of hours and travel, coordinating meetings with key players in emergency services, and data management. Hours and travel will be logged according to specific task requirements. These logs will then be shared with Montana State Library. Invoicing will be done on a quarterly basis. A list of key players in this grant with contact information will be created and maintained. Data maintenance and collection will be in collaboration with a consultant. All task completions will be logged. Any setbacks will be communicated with Montana State Library.

Past Record of Performance

Big Horn County is currently in a two year project funded by the Montana Department of Administration's 9-1-1 Grant Program. This grant involves consultation services with GIS professionals in updating, developing, and maintaining GIS layers related to NextGen 9-1-1. Grant maintenance includes quarterly reporting and claims. The current proposed project for MLIA grant funds is a pilot project with the overall goal of developing concrete PSAP boundaries with contiguous PSAP jurisdictions. This works in conjunction with the 9-1-1 Grant Program in developing GIS layers.

Consultant

Big Horn County has an ongoing contract with GeoData Services through the 9-1-1 Grant Program. We would extend the contract with GeoData Services given that the MLIA application is approved. Consultations would be ongoing throughout the fiscal year. Services and work provided included GIS data analysis, consulting with key players, and GIS layer maintenance.

Contractual Services

Does the applicant intend to hire a consultant to perform work on the proposed project?* Yes

Name of consultant company/organization: Geodata Services, Inc

Primary contact at company/organization: Kenneth Wall, President

Invoicing Methodology

Please Attach Sample Invoicing Documents:* Sample.Invoice.pdf

Scope of Work

Scope of Work:*

Please observe the following requirements and guidelines for completing the scope of work narrative:

Formatting, Writing, and Mandatory Form Requirements for this Section:

1. Refer to all hired or potential consultants/contractors as "consultant." Do not use individual or company names, e.g., Raster & Vector GIS Firm.
2. The following format is required for labeling goals, objectives, and tasks:
 - a. All goals must be numbered, e.g.: Goal 1: Improve GIS for County XYZ.
 - b. All objectives must be numbered in order and include their overarching goal, e.g., Objective 1.1: Complete an MLIA Grant Application.
 - c. All tasks must be numbered in order and include their overarching goal and objective, e.g., Task 1.1.1: Create a Web Grants User Profile.
3. Collecting Survey Control – Applicant must submit the "MLIA Proposed Survey Control Point Collection" form, provided in the MLIA Grant Application Packet, to identify the proposed collection.
4. The applicant is required to submit the "MLIA Grant Project Timeline." Please use the template provided below to complete the timeline.

Goals and Objectives – List the project goal or goals and objectives. Goals are separate and distinct from objectives. Project goals should be broad and provide a general statement of the project purpose. Each goal should have at least one measurable objective. Each objective should describe a specific outcome of the project and when this outcome will be achieved.

Tasks – Tasks must be described in chronological order necessary to accomplish the work under each objective. This description must provide sufficient detail to show that the tasks are achievable and will accomplish the objectives stated in the application. The description also should provide detail concerning the specific results of each task.

1. All equipment purchases must be listed as separate tasks. Each equipment purchase must be clearly described and include specific justification how the purchase will help achieve the applicant's goals and objectives.
 - a. Equipment purchases must comply with section 90-1-411 (1), MCA: "Money in the account may be used only for the purposes of this part, including purchasing technology to assist in collecting, maintaining, or disseminating land information and funding the budget required under 90-1-410."
2. Please refer to the MLIA Grant Compliance Section of the MLIA Grant Application Packet for GIS Project Planning Grants eligible expenditures and activities.
3. Please refer to Appendix B of the Montana Land Information Act Grant Packet for requirements for collecting survey control.

There is a 15,000-character limit for the scope of work narrative.

GOAL 1. Ensure Public Safety Answering Point (PSAP) boundaries are identical where Big Horn and Yellowstone County PSAPs are contiguous enabling 911 calls to be routed to correct PSAP.

Objective 1.1 Determine if Yellowstone PSAP should directly receive calls, or whether calls are routed to the Big Horn County PSAP in the southwest emergency service area of Big Horn County where service providers are closer in Yellowstone County. Based on this decision, collaboratively create identical PSAP boundaries between Big Horn and Yellowstone County to enable 911 calls to be routed to the correct PSAP in NG9-1-1 during the beginning of the second quarter.

Task 1.1.1 Prepare a list of jurisdictions and individuals desired to participate in the project, and their contact information, from both counties and the Crow Tribe. These will include DES coordinators, PSAP managers and PSAP staff, law, fire and emergency service providers.

Task 1.1.2 Each county identifies the site/structure locations in their county that have, or appear to have, access addresses in the other county. An access address is the point where the unaddressed access ways providing ingress/egress to the structure location meets the addressed road in the NG9-1-1 road centerline layer. The most common examples in Montana are driveways, private roads, tribal nation roads or BLM roads.

Task 1.1.3 Each county creates or completes GIS lines of unnamed access ways (driveways) connecting structures with their access point and assigning the site/structure NENA ID to the access way feature and the access point. For those site/structures near the county border segment between the two counties that they suspect may span the two counties.

Task 1.1.4 Each county determines and validates all site/structure point locations, addressed road centerlines, and unaddressed access ways, including field data collection and verification where there are uncertainties.

Task 1.1.5 In a collaborative web session between the GIS staff of both counties and the contractor, draft PSAP boundary lines are drawn, using MSDI framework layer sources when possible. Share these draft boundaries with project partners via a AGO web map application and paper maps in PDF form and receive review comments, incorporate the comments and prepare final draft PSAP boundaries.

Task 1.1.6. Populate the NENA NG9-1-1 PSAP boundary layer geometry in each county, starting with the MSDI county boundary layer converted to polyline feature to allow feature level metadata to be captured for each segment and following PLSS and cadastral line features when possible. Establish "snap points" as vertices on the MSDI county line at every location where the PSAP boundary diverges from the county line, in order to facilitate the PSAP boundary participate in the Esri fabric parcel data adjustments. When the PSAP boundary is complete and QA/QC is complete we will convert the polyline segments back into a polygon geometry and populate NG9-1-1 data model attributes. Add metadata to the PSAP boundary layer.

Task 1.1.7. The PSAP boundary will be developed in NAD 1983 HARN StatePlane Montana FIPS 2500, using the NAD_1983_To_HARN_Montana_Idaho transformation to project from State Plane to HARN for delivery to MSL to fulfill MLIA requirements. When initial testing or provisioning of NG9-1-1 core services is performed in the future, GIS data will be reprojected into geographic coordinates in WGS84 to meet NENA NG9-1-1 standards, but it is not necessary for this project.

Goal 2. Create Emergency Services Boundaries (ESB) for law, fire and emergency medical services and other mutually agreed on emergency provider services along the PSAP boundary where Big Horn and Yellowstone County PSAPs are contiguous.

Objective 2.1 Collaboratively create emergency service zone boundaries between Big Horn and Yellowstone County with no unintentional gaps or overlaps, to enable the PSAPs to route calls and notifications to the correct emergency responders in NG911 starting in the second quarter and ending in the fourth quarter of this project.

Task 2.1.1 The two counties collaboratively agree on areas where the law, fire or emergency medical service, or other emergency service defined by one or both PSAP(s) dispatches to the adjoining PSAP; this information will come from collaboration with Responders and illustrated in comparative mapping.

Task 2.1.2 The two counties collaboratively draw draft emergency service polygons reflecting the agreement on areas defined in the previous task. These boundaries will follow the NENA best practices and informational documents, and data model for NG9-1-1 along with GIS best practices, and be based on MSDI layers when possible.

Task 2.1.3. The draft ESBs for both counties will be reviewed by first responders representing both counties and the Crow Tribe. In some circumstances, drive-time analysis between responder locations and address points may be conducted to assist in the first responders' review. The final boundary assignments, based on first responders preference and agreement on response boundaries will be digitized in final form, converted to polyline feature to allow feature level metadata to be captured for each segment and using topology rules and snapping to MSDI layers participating in the CadNSDIV2_Montana PLSS or MSDI layers based on this PLSS whenever possible. When complete and QA/QC is complete the polyline segments will be converted back to polygon geometry. Additional ESB's

will be discussed between the PSAPS and a conference call and web session will be arranged with the Montana Highway Patrol GIS staff to discuss their NG9-1-1 plans and interface with local government law enforcement.

Task 2.1.4. All ESB boundaries will be developed in NAD 1983 HARN StatePlane Montana FIPS 2500, using the NAD_1983_To_HARN_Montana_Idaho transformation to project from State Plane to HARN for delivery to MSL to fulfill MLIA requirements. When initial testing or provisioning of NG9-1-1 core services is performed in the future, GIS data will be reprojected into geographic coordinates in WGS84 to meet NENA NG9-1-1 standards, but it is not necessary for this project.

GOAL 3. Share geometry, standardized data attribution, and ongoing maintenance workflows for required NENA NG9-1-1 and MSDI GIS layers in the vicinity of, or crossing, contiguous NG9-1-1 boundaries between Big Horn and Yellowstone County's.

Objective 3.1 Share geometry, and data attributes for required NENA NG9-1-1 and MSDI GIS layers in the vicinity of, or crossing, contiguous NG9-1-1 boundaries between Big Horn and Yellowstone Counties to improve consistency between PSAPS and establish workflows to maintain NENA compliance into the future. This objective will be completed in the fourth quarter of the project.

Task 3.1.1. Addressed roads that are contiguous with or cross the PSAP boundary will be examined and the counties will share road names and alias names as agreed on.

Task 3.1.2. Parity on either side of the PSAP boundary will be examined (which side of the road is even, odd or both) and potential fixes discussed.

Task 3.1.3. Cell tower locations near the border and sectors serving adjoining PSAPS and any road centerline segments that either county is planning to assign Validation left or right attributes ="N". This attribute is assigned "Y" or assumed "Y" by default. An assignment of "N" forces the Location Validation Function and Emergency Call Routing Function to not use the road centerline to geocode and always use the site/structure X,Y location or the cell tower sector X,Y location in NG9-1-1.

Project Schedule and Timeline

Project Timeline:* MLIA_2021_BigHornCounty_Timeline.pdf

Proposed PLSS Collection

Is the proposed project for the sole purpose of collecting new survey control data? No

Project Deliverables

Deliverable:	Deliverable Type:	Explanation:	Related Project Task:	Completion Date:
PSAP Boundary polygon layer	Spatial Data	NENA NG9-1-1 compliant PSAP boundary polygon layer resulting from collaborative work for Big Horn County that meets MSDI standards. This will only have PSAP adjustments for the mutual Yellowstone/Big Horn County border segment and the remainder of the boundary will follow the MSDI county layer.	1.1.6	03/17/2021
Emergency Services Boundary polygon layers	Spatial Data	NENA NG9-1-1 compliant Emergency Service boundary polygon layers for Law, Fire and Emergency Medical Services resulting from collaborative work for Big Horn County that meets MSDI standards. This will only have EMERGENCY Service Boundary adjustments for the mutual Yellowstone/Big Horn County border segment and the remainder of the boundary will follow the MSDI county layer.	2.1.4	11/30/2020

Budget Narrative

Budget Justification Narrative:*

Budget Narrative -- Applicant must clearly state the assumptions used to develop the proposed budget, including all sources of contracted and subcontracted cost estimates. If the applicant's share is to be considered in-kind funds, the source of those in-kind funds must be documented. Matching in-kind funds must be specific to the project and be fully justified. They may be monetary or in other forms such as staffing, infrastructure, or technology support. All funding sources listed in the subsequent budget forms must be fully explained. If grant funds are to be distributed to multiple funding recipients through contractual agreements or other means, those must be explained in the narrative.

Funding Partners and Required Statements of Support -- All funding partners, funding sources/recipients, must be identified. Statements of support are required for each identified funding partner. Any funds pledged to this proposal must be reflected in the statements of support. Statements of support must be provided in the Funding Partners form of the application.

Matching Funds -- Matching funds—either cash or in-kind—are not required by the MLIA Grant Program. However, matching funds from the applicant and any funding partners do demonstrate the applicant's commitment to the proposed project. Therefore, applicants proposing higher levels of matching funds will be scored more highly than applicants pledging little or no matching funds.

There is an 8,000-character limit for the budget narrative.

Budget Narrative

Personnel costs were determined by amount per hour. Big Horn County's hourly personnel cost is \$25.00 per hour. Yellowstone County's hourly personnel costs will be \$35.00 per hour. These hourly rates include fringe benefits. These will be in-kind funds with their source being from their own jurisdiction. Hours will be reported through a time sheet describing how many hours were worked and what the specific task was.

Travel costs were calculated by multiplying potential miles by the state vehicle reimbursement rate of \$0.575 a mile. Potential miles were determined by round-trip mileages from Hardin, MT to Billings, MT and from Hardin, MT to Pryor, MT. It was taken into account that multiple trips would have to be made to both of these destinations along with address/structure verification through landowner interaction along the Yellowstone and Big Horn County boundary. Travel will be recorded through a vehicle log describing miles travelled and the specific task.

Contractual costs were calculated hourly as well. The consultant's rate is \$85.00 per hour. Contractual hours were determined by the consultant's estimate of hours for each task.

The second consultant's rate is \$35.00 per hour including fringe benefits. This consultant is a member of the Crow Tribe and will accompany any field work done within tribal boundaries. Hours were determined based on specific tasks.

Budget Tables

Is the proposed project for a GIS Project Planning Grant?* No

MLIA Grant Budget Summary Table (Required for All Applicants)

Please attach the completed "MLIA Grant Budget Summary" table as a PDF document in the field below.

MLIA Grant Budget Summary Table:* MLIA_2021_BigHornCounty_BudgetSummary.pdf

MLIA Grant Detailed Budget (Required for All Applicants Except GIS Project Planning Grant Applicants)

Please attach an "MLIA Grant Detailed Budget" table as a PDF document.

MLIA Grant Detailed Budget: MLIA_2021_BigHornCounty_DetailedBudget.pdf

MLIA Funding Request Summary

Category	Requested MLIA Funds
Personnel (including fringe benefits)	\$10,260.00
Travel	\$402.50
Equipment	\$0.00
Supplies & Materials	\$0.00
Contractual	\$13,030.00
Other	\$0.00
Totals	\$23,692.50

Funding Partners

Name of Contact:	Name of Agency:	Street Address:	City:	County:	Zip Code:	Contact Email Address:	Contact Phone Number:	Funding Partner Pledged Cash Amount:	Funding Partner Pledged In-Kind Amount:	Statement of Support:
Janelle Luppen, GIS Manager	Yellowstone County	217 N 27th St	Billings	Yellowstone	59101	jluppen@co.yellowstone.mt.gov	406-869-3553	\$0.00	\$5,985.00	YC_LetterOfSupport.pdf

Project Sustainability

Project Sustainability Narrative:*

There is a 3,000-character limit for the sustainability narrative.

Maintaining relationships with neighboring PSAPs is the key to ensuring PSAP boundaries are as efficient and streamlined as possible. This project will open up initial lines of communications with key players. Coordinating meetings throughout the year will bring everyone to the table to make sure that the PSAP boundaries benefit any member of the community requesting emergency services.

Information sharing between GIS departments through ArcGIS Online will ensure sustainability of the project outcomes. Any future proposals to change the PSAP boundary can be represented on ArcGIS Online and discussed during meetings throughout the year. Future developments of web applications using ArcGIS Online will open portals for community feedback involving address changes or new structures.

This is a very crucial role for GIS and NextGen 9-1-1. The project is a very specific and small component of the overall workflow for preparing NextGen 9-1-1, dealing only with one boundary of two neighboring PSAPs.

Sustainability of the program is enhanced by our current 9-1-1 Advisory Council's 9-1-1 Grant project total \$50,848. This grant is to do the validation, training and capacity building for the GIS conversion to NextGen 9-1-1.

Renewable Grant Accountability

Fiscal Year 2020 MLIA Grant Cycle

Please indicate whether or not the applicant was awarded an MLIA grant for state fiscal year 2020. If the applicant did receive a grant for fiscal year 2020, please provide a written narrative of the grant project. After clicking "yes," you will see a text box appear in which you can enter the written narrative.

Did the applicant receive an MLIA grant in fiscal year 2020?* No

Fiscal Years 2016-2019 MLIA Grant Cycles

Please indicate whether or not the applicant was awarded any MLIA grants during state fiscal years 2016-2019. 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 2019?* No

Did the applicant receive an MLIA grant in fiscal year 2018?* No

Did the applicant receive an MLIA grant in fiscal year 2017?* No

Did the applicant receive an MLIA grant in fiscal year 2016?* No

**BOARD OF COMMISSIONERS
BIG HORN COUNTY
P.O. BOX 908
HARDIN, MT 59034**

Fax (406) 665-9706

(406) 665-9700

E-mail to: cwells@bighorncountymt.gov

February 13, 2020

Montana State Library
Erin Fashoway, State GIS Coordinator
P.O. Box 201800
Helena, MT 59620-1800

Dear Ms. Fashoway:

This letter serves as authorization of the FY2021 MLIA grant application submitted by Brian Mischel on behalf of Big Horn County. We gave 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. We further certify that Big Horn County is committed to funding its share of the project, including both pledged applicant cash and pledged applicant in-kind, as stated in the proposed project budget and we 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.

Big Horn County authorizes 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, we certify that Big Horn County is authorized to enter into a binding agreement with the Montana State Library to obtain a grant if this application receives approval.

Sincerely,

BOARD OF COMMISSIONERS
BIG HORN COUNTY, MONTANA



George Real Bird III
Chairman



Sidney Fitzpatrick
Member



Larry Vandersloot
Member

MLIA Grant Project Timeline

Grant Project Title: Developent of NENA-compliant, NG911 PSAP boundary on Cro
 Applicant Organization: Big Horn County DES
 Project Manager: Brian Mischel
 Date: 2/18/20

Goal, Objective, Task Number	Goal, Objective, Task Title/Short Description	State Date	Completion Date	DURATION (day)	Quarter 1															Quarter 2															Quarter 3															Quarter 4														
					July					August					September					October					November					December					January					February					March					April					May					June				
					1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5					
GOAL 1: Ensure Public Safety Answering Point (PSAP) boundaries are identical where Big Horn and Yellowstone County PSAPs are contiguous enabling 9-1-1 calls to be routed to correct PSAP																																																																
Objective 1.1	Collaboratively create identical PSAP boundaries	7/1/20	10/31/20	120	[Active]																																																											
Task 1.1.1	Define study area	8/1/20	8/10/20	9																																																												
Task 1.1.2	Identify structures in one county with RCL access address in another	8/1/20	8/10/20	9																																																												
Task 1.1.3	Connect access way between structure and addressed RCL	8/24/20	8/31/20	7																																																												
Task 1.1.4	Finalize list of structures in one county with RCL access in another	8/24/20	8/31/20	7																																																												
Task 1.1.6	Digitize final topology for PSAP boundaries and metadata	10/19/20	10/23/20	4																																																												
Task 1.1.7	Spatial coordinate projections for MSDI and NENA NG9-1-1	10/26/20	10/30/20	4																																																												
GOAL 2: Create Emergency Service Zones (ESZs) and standardized attribution where Big Horn and Yellowstone County PSAPs are contiguous to dispatch emergency responders																																																																
Objective 2.1	Collaboratively create Emergency Service Boundary polygons for PSAPs	9/1/20	3/30/21	209																[Active]																																												
Task 2.1.1	Agree on service provider dispatches to the adjoining PSAP	9/1/20	9/22/20	21																																																												
Task 2.1.2	Draft mapping of agreed service provider ESBs	10/1/2020 11/08/2020	10/7/2020 11/14/2020	14																																																												
Task 2.1.3	Solicit comments and map mark-up of draft ESBs directly from service providers	10/8/2020 11/15/2020	10/15/2020 11/21/2020	14																																																												
Task 2.1.4	Prepare final boundaries using MSDI layer sources whenever possible	10/15/2020 11/22/2020	10/22/2020 11/30/2020	15																																																												
Task 2.1.5	ESB spatial coordinate projections for MSDI and NENA NG 9-1-1	11/22/20	11/30/20	8																																																												
GOAL 3: Share geometry, data attributes, and ongoing maintenance workflows for required NENA NG911 and MSDI GIS layers I the vicinity of or crossing contiguous NG911 PSAP boundary between Big Horn and Yellowstone County's.																																																																
Objective 3.1	Share geometry, attributes crossing contiguous boundaries	4/1/21	6/30/21	89																																														[Active]														
Task 3.1.1	Addressed roads attribute and alias name review	4/1/21	4/8/21	7																																																												
Task 3.1.2	Parity review	4/1/21	4/8/21	7																																																												
Task 3.1.3	Review cell towers near the border and validation attribute assignments	4/8/21	4/15/21	7																																																												
Task 3.1.4	Prepare polygon areas for each discussion area and documentation	6/1/21	6/30/21	29																																														[Active]														

MLIA GRANT BUDGET SUMMARY

Category	MLIA Summary	Applicant Summary			Funding Source Summary				Total:
	MLIA Share	Big Horn County Cash	Big Horn County In-Kind	Big Horn County Subtotal	Yellowstone County In-Kind	Funding Partner 2	Funding Partner 3	Partner Subtotal	
a. Personnel			\$2,907.00	\$2,907.00	\$4,070.00			\$4,070.00	\$6,977.00
a.1. Fringe Benefits			\$1,368.00	\$1,368.00	\$1,915.00			\$1,915.00	\$3,283.00
b. Travel	\$402.50			\$0.00				\$0.00	\$402.50
c. Equipment				\$0.00				\$0.00	\$0.00
d. Supplies				\$0.00				\$0.00	\$0.00
e. Contractual	\$13,030.00			\$0.00				\$0.00	\$13,030.00
f. Other				\$0.00				\$0.00	\$0.00
Total:	\$13,432.50	\$0.00	\$4,275.00	\$4,275.00	\$5,985.00	\$0.00	\$0.00	\$5,985.00	\$23,692.50

Instructions:

- 1 All applicants must complete and submit one MLIA Grant Budget Summary table.
- 2 **Do Not Make Changes** to the Category column: do not rename nor add new categories.
- 3 Add or remove the Funding Partners column(s) as needed to define a clear budget. And update calculations.
- 4 Rename the Funding Partner columns appropriately to reflect identified partners.
- 5 Check that the amounts entered are consistent throughout all grant application materials, e.g., Detailed Budget Table & Budget Narrative.
- 6 The Total column must equal the sum of the MLIA Share, Applicant Summary Subtotal and Partner SubTotal columns.
- 7 Check the math.
- 8 Export the table only as a PDF and upload it into WebGrants Budget Tables Section.
- 9 Please use the following naming convention for this file: MLIA_2021_ORGNAMEHERE_BudgetSummary.pdf

MLIA GRANT DETAILED BUDGET

Tasks	Category Type	Funding Source	Hours	Rate	Cost
Task 1.1.1 Define study area	Personnel (incl. fringe benefits)	In-Kind	20	25	\$ 500.00
Task 1.1.1 Define study area	Contractual	MLIA Grant Funds	16	85	\$ 1,360.00
Task 1.1.1 Yellowstone County - define study area	Personnel (incl. fringe benefits)	In-Kind	20	35	\$ 700.00
Task 1.1.2 Identify structures in one county with RCL access address in another	Personnel (incl. fringe benefits)	In-Kind	10	25	\$ 250.00
Task 1.1.2 Identify structures in one county with RCL access address in another	Contractual	MLIA Grant Funds	4	85	\$ 340.00
Task 1.1.2 Yellowstone County - Identify structures in one county with RCL access address in another	Personnel (incl. fringe benefits)	In-Kind	10	35	\$ 350.00
Task 1.1.3 Connect access way between strucutre and addressed RCL	Personnel (incl. fringe benefits)	In-Kind	2	25	\$ 50.00
Task 1.1.3 Connect access way between strucutre and addressed RCL	Contractual	MLIA Grant Funds	2	85	\$ 170.00
Task 1.1.3 Yellowstone County - Connect access way between strucutre and addressed RCL	Personnel (incl. fringe benefits)	In-Kind	2	35	\$ 70.00
Task 1.1.4 Finalize list of structures in one county with RCL access in another	Personnel (incl. fringe benefits)	In-Kind	20	25	\$ 500.00
Task 1.1.4 Crow Tribal DES - Finalize list of structures in one county with RCL access in another	Contractual	MLIA Grant Funds	8	35	\$ 280.00
Task 1.1.4 Finalize list of structures in one county with RCL access in another	Travel	MLIA Grant Funds	500 miles	0.575	\$ 287.50
Task 1.1.4 Yellowstone County - Finalize list of structures in one county with RCL access in another	Personnel (incl. fringe benefits)	In-Kind	20	35	\$ 700.00
Task 1.1.5 Prepare final draft PSAP boundaries	Personnel (incl. fringe benefits)	In-Kind	18	25	\$ 450.00
Task 1.1.5 Prepare final draft PSAP boundaries	Contractual	MLIA Grant Funds	14	85	\$ 1,190.00
Task 1.1.5 Yellowstone County - Prepare final draft PSAP boundaries	Personnel (incl. fringe benefits)	In-Kind	18	35	\$ 630.00
Task 1.1.6. Digitize final topology for PSAP boundaries and metadata	Personnel (incl. fringe benefits)	In-Kind	6	25	\$ 150.00
Task 1.1.6. Digitize final topology for PSAP boundaries and metadata	Contractual	MLIA Grant Funds	6	85	\$ 510.00
Task 1.1.6. Yellowstone County - Digitize final topology for PSAP boundaries and metadata	Personnel (incl. fringe benefits)	In-Kind	6	35	\$ 210.00
Task 1.1.7. Spatial coordinate projections for MSDI and NENA NG9-1-1	Personnel (incl. fringe benefits)	In-Kind	2	25	\$ 50.00
Task 1.1.7. Spatial coordinate projections for MSDI and NENA NG9-1-2	Contractual	MLIA Grant Funds	2	85	\$ 170.00
Task 1.1.7. Yellowstone County - Spatial coordinate projections for MSDI and NENA NG9-1-3	Personnel (incl. fringe benefits)	In-Kind	2	35	\$ 70.00
Task 2.1.1 Agree on service provider dispatches to the adjoining PSAP	Personnel (incl. fringe benefits)	In-Kind	12	25	\$ 300.00
Task 2.1.1 Agree on service provider dispatches to the adjoining PSAP	Travel	MLIA Grant Funds	200 miles	0.575	\$ 115.00
Task 2.1.1 Agree on service provider dispatches to the adjoining PSAP	Contractual	MLIA Grant Funds	2	85	\$ 170.00
Task 2.1.1 Yellowstone County - Agree on service provider dispatches to the adjoining PSAP	Personnel (incl. fringe benefits)	In-Kind	12	35	\$ 420.00

Yellowstone County



COMMISSIONERS
(406) 256-2701
(406) 256-2777 (FAX)

P.O. Box 35000
Billings, MT 59107-5000
commission@co.yellowstone.mt.gov

February 18, 2020

Attn: MLIA Grant Funding Committee

This letter serves as agreement by the Yellowstone County Commissioners to support this application for MLIA funding with in-kind contributions of GIS staff time, GIS software and AGOL licensing, printing supplies, use of GPS equipment and a vehicle for field data-collection.

It is understood that the MLIA Grant application focuses on collaboration with Big Horn County DES Coordinator, Brian Mischel and two consultants, Ken Wall of GeoData Systems Inc (Missoula) and Vernon Hill, Crow Tribe DES Coordinator. The grant project participants will review and develop the shared Public Safety Answering Point (PSAP) boundary between Big Horn and Yellowstone County to determine exactly which jurisdiction and responder agency will be dispatched for addresses that fall within 5 miles of the legal county boundary.

GIS data produced by this effort will follow the guidelines and standards set by the Montana State Library for GIS data in the Montana Spatial Data Infrastructure (MSDI) and the National Emergency Number Association (NENA). The underlying goal is to proceed with data development necessary for NextGen911, the future "phase" of a national emergency response system.

If the MLIA Committee decides to fund this project, we certify by signature that we are willing to participate and provide in-kind contribution.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
YELLOWSTONE COUNTY, MONTANA

A blue ink signature of Denis Pitman, written in a cursive style.

Denis Pitman, Chairman

A blue ink signature of Donald W. Jones, written in a cursive style.

Donald W. Jones, Member

A blue ink signature of John Ostlund, written in a cursive style.

John Ostlund, Member

BOCC/emw