



Madison County, Montana PLSS CadNSDI Enhancement

TOMMY LUKSHA

MONTANA LAND INFORMATION GRANT APPLICATION

STATE FISCAL YEAR 2019

MADISON COUNTY PLSS CADNSDI ENHANCEMENT

APPLICATION FOR MLIA GRANT FUNDING

SECTION 1 – APPLICANT, PARTNER, AND PROPOSAL INFORMATION

Primary Applicant Contact Information <i>(Please fill this section out in it entirety)</i>	
Name of Agency/Entity:	Madison County
Department:	Geographic Information Systems (GIS)
Division/Section:	
Street:	100 W Wallace St
City:	Virginia City
County:	Madison
State:	Montana
Zip Code:	59755
<i>Project Manager Contact Information:</i>	
Name:	Tommy Luksha
Title:	GIS Tech/Analyst
Email Address:	TLuksha@MadisonCountyMT.gov
Phone Number:	(406) 843-4242
Fax Number:	(406) 843-4237
<i>Secondary Contact Information:</i>	
Name:	Jani Flinn
Title:	Grant Administrator
Email Address:	JFlinn@MadisonCountyMT.gov
Phone Number:	(406) 843-4203
MLIA Grant Funding Request & Match:	
Total Requested MLIA Funds:	\$26,000.00
Total Matched Funds:	\$9,416.08

Proposal Information	
Date Submitted:	02/06/2018
Identified Grant Priority:	High
Annual or Multi-Year Proposal:	<i>One Time Proposal</i>
Proposal Prepared By:	Tommy Luksha
Short Title of Proposal:	Madison County PLSS CadNSDI Enhancement
<p>Executive Summary:</p> <p style="text-align: center;"><u>This proposal seeks funding for PLSS adjustment.</u></p> <p>The Madison County PLSS CadNSDI Enhancement project proposes to hire a licensed surveyor to obtain section corner and quarter section corner mapping control points (50 total) for the following town sites.</p> <ul style="list-style-type: none"> ➤ Pony (12 control points). ➤ Laurin (10 control points). ➤ Alder (15 control points). ➤ Harrison (14 control points). <p>This project will be complete within five months of the grant award beginning July 1st and ending before December 1st.</p> <p>The project is to improve the Montana Spatial Data Infrastructure (MSDI) and Public Land Survey System (PLSS) standardized data for the Cadastral National Spatial Data Infrastructure (PLSS CadNSDI) to increase spatial accuracy for the area in and around the town sites in the cadastral layer.</p> <p>Collaboration efforts are in place between Madison County GIS, Montana State Library (MSL), and local consulting surveyors to ensure efficient, consistent collection, and dissemination of mapping control points and associated information.</p> <p>Mapping control data will be collected by a licensed surveyor, reviewed by Madison County GIS, and submitted to the MSDI theme steward for the cadastral layer.</p>	
List All Past Awarded MLIA Grants:	
None.	

Funding Partners: <i>(required for each partner, copy box as needed)</i>	
Name of Contact:	Not applicable
Name of Agency:	-
Street:	-
City:	-
County:	-
State:	-
Zip Code:	-
Contact Email Address:	-
Contact Phone Number:	-

SECTION 2 – RELEVANCE

This proposal meets multiple purposes and goals of the Montana Land Information Act (MLIA).

Goal #1 - Data Management

- Collaboration is in place with Montana State Library (MSL) staff to establish consistent and accurate benefit from all Mapping Control points collected.

Goal #2 – Digital Land Information

- Increased efficiency and accuracy will be a result for related MSDI themes. This will effect Administrative boundaries, Mapping Controls, Orthoimagery, Structures and Addresses, and Transportation themes.
- Spatial accuracy of the Cadastral layer will be improved in the selected areas.
- Land records and associated workflows will improve for offices, agencies, and organizations that refer to or utilize parcel data. Time and money will be saved.

Goal #3 – Business Processes.

- This project will reduce the manual labor required by decreasing the visual validation and manual data connection and correction currently required in the affected areas.
- Next Generation 9-1-1 will benefit locally by allowing the connection of parcel ownership to structures quickly with the use of automation tools. This will not only help dispatch but also law enforcement officers in research and response duties.
- GIS technologies require the accurate data that this project will enhance regarding parcels, ownership, roads, and structures. This enhancement will allow multiple government offices to produce data and reports quickly and swiftly.

The purpose of developing a standardized, sustainable method to collect, maintain, and disseminate information relies on accurate information. This project will enhance the cadastral theme for the selected areas. This project will significantly improve the accuracy and reliability of the information presented and drastically improve tasks associated with the cadastral data. This will be completed via collecting mapping control points and submitting them to the theme steward for the cadastral layer. This project is related to areas of significant concern and misrepresentation.

SECTION 3 – PUBLIC BENEFIT

Improved digital representation and spatial accuracy of cadastral would expedite workflows for county offices such as dispatch, planning, sanitarian, GIS, etc. as well as State agencies such as Department of Revenue and the Montana State Library. Federal agencies such as the Census bureau and FEMA will also receive benefit. Efficiency in these offices will benefit the public in both financial and time savings. Other organizations that rely on accurate Cadastral data will also benefit. This will not only improve statistical results when analyzing data but also decrease confusion for the public in their usage of cadastral.

Accurate spatial connection of structures to parcels improves workflows for all involved.

This is of vast benefit to not only the GIS community, title companies, and realtors, but also those interested in buying or selling homes or land as well. This benefit will help hunters and anglers by allowing them to contact correct parcel owners to seek permission and use lands.

The benefits to the public also includes improved emergency response times and more accurate notifications during crisis. Law enforcement can spend less time trying to evaluate who owns what piece of property; this would ensure that they contact the correct owner when an event occurs on a parcel. This greatly reduces legal liability and undue concern by citizens.

Complications related to not repairing these areas include continued confusion for all Cadastral users. Denial of this project would maintain lengthy work times due to the inaccuracy currently displayed and the manual labor associated with data handling. Currently there is a relative inability to tie structures to ownership for 911 usage. This concern tied with law enforcement and emergency notifications increase legal liabilities.

Benefits are vast for all that use parcel data in the towns and surrounding areas of Pony, Laurin, Alder, and Harrison.

SECTION 4 – PROJECT MANAGEMENT AND ORGANIZATIONAL CAPABILITY

Project management will be overseen by Tommy Luksha -GIS Tech/Analyst with support from other Madison County staff. County support for this project will include Jani Flinn (county grant administrator), Vicki Tilstra (Director of Finance), Charity Fechter (Planning Director), and Kathleen Mumme (Clerk and Recorder).

Tommy Luksha (GIS Tech/Analyst – Project Manager)

Tommy has a strong background in emergency services as a paramedic, has overseen community outreach projects successfully, and has strong support behind him for this project. Tommy was new to the GIS community one and one half years ago and has rapidly moved his mapping and land navigation experience into GIS management. He has continued to work towards improving workflows, data accuracy, and projected growth within the GIS department. He continues to seek improvement and public benefit that can be produced from within his department. Tommy is dedicated to the success of Madison County and the benefit of it's residents.

Jani Flinn (Grant Administrator)

Has maintained responsibility for the administration of grants in Madison County for three years.

Vicki Tilstra (Director of Finance)

Having been employed with Madison County for 28 years, Vicki started her county employment in the Clerk and Records office. Vicki's vast experience with the finance office since 1995 (23 years) has included accounting and financial management of multiple grants.

Charity Fechter (Planning Director)

Holds a BS in Earth Sciences (geographical planning option) from Montana State University; MS in Geography (physical/regional geography and planning emphasis) from Oregon State University; and a Masters in Aeronautical Science (emphasis on airport management, land use around airports) from Embry Riddle Aeronautical University. She has been involved with GIS and GIS projects for her entire 40+ year career, from establishing data criteria, prioritizing data collection, overseeing GIS projects and using GIS at the state, local and regional levels.

While with Madison County, Ms. Fechter successfully wrote and managed several grants (CDBG, Living with Wildlife) to support the growth policy update. A major component of the project was creating updated and updatable GIS maps. The project included complete documentation on sources and contacts used, and a staff training manual to make it possible for the County to update the maps as necessary despite limited resources. The Montana Department of Commerce has used our project as an example for other counties.

Kathleen Mumme (Clerk and Recorder)

Employed by the Clerk and Recorder's office since April of 1993 and having served as Clerk and Recorder since January 2016, Kathleen has basic knowledge of surveys necessary to the function of the office and the recording of documents pertinent to it. Kathleen has also been involved in the mapping of voting districts and their descriptions and is very familiar with the geography of the county, its towns, villages and roads.

Effort will be placed on utilizing a surveyor that has experience with grant funded projects and administration in order to further maintain the accountability and success of the project.

Madison County will contract with a Consultant according to established policies, rules, and laws.

Selection criteria will include but not be limited to:

- Budget viability.
- Familiarity with MLIA grant funded projects.
- Knowledge of the project areas.
- Positive reputation within the community.

Tommy Luksha will maintain email and phone communication with the State Library to provide all reports including quarterly, final, and metadata reports. Journaling will facilitate this task. Data requirements will be confirmed before submittal. Tommy will manage the consultant responsibilities. Tommy will utilize consultation from other, more experienced department heads if and when needed. A collaborative effort will ensure success.

SECTION 5 – SCOPE OF WORK

Project Goal: Attain a less than 20-foot variance of parcel data in the towns of Pony, Laurin, Alder, and Harrison.

Project Objective: Collect 12 control points for the town of Pony, 24 control points for the towns of Laurin and Alder, as well as 14 control points for the town of Harrison.

Step numbers listed in parentheses are for each of the steps, and correlate to Tables 1 and 2.

Starting July 1, 2018 tasks include:

Prepare scope of work for Consultant and advertise for RFP (1) Start July 1. Some of this work is already complete from other offices efforts and pursuits.

Complete before the end of Tuesday July 3, 2018.

Research and Compile recorded documents by obtaining copies of corner records, plats, and survey data for points within the survey areas (2). Incorporate found data (3) into the reference map for project usage (4) as well as future projects and growth.

Complete steps one through four before July 17, 2018.

Starting July 14, 2018 tasks include:

Prepare general purpose maps and documents for project consultation (5), select consultant and authorize contract initiation with the Board of County Commissioners (6).

Complete steps five through six before July 24, 2018.

Initiate contract with a licensed surveyor who: has knowledge of the project areas, familiarity with MLIA grant funded projects, positive reputation within the community, and budget viability.

Complete a contract with consultant and receive Board of Commissioner approval on or before July 31, 2018 (7).

Starting July 21, 2018 tasks include:

Finalize collection plan (8) in collaboration with consultant. Finalize, print, and send letters to parcel owners (9, 10). Produce site-specific field maps for regions and print (11).

Complete steps eight through eleven before July 31, 2018.

Starting July 28, 2018 tasks include:

The contracted consultant performs necessary fieldwork (12) to collect the following data:

Point Data: Point ID, GCDB Point ID, Observation Date, Y or Latitude, X or Longitude, Horizontal Accuracy, Horizontal Accuracy Units, Z or Elevation, Vertical Accuracy, Vertical Accuracy Units, Collection Method, Collection Notes, Township, Range, Section, Corner Category, Point Type, Control Point Type Note, Monument Category, Monument Type, Monument or Access Note, Reference Documents, Reference Document URL,

Monument Photo, Context Photo, Alternative Y or Latitude, Alternative X or Longitude, Alternative Horizontal Units, Alternative Coordinate System, Alternative Horizontal Accuracy, Alternative Horizontal Accuracy Units, and Alternative Coordinate Comments.

Project Data: Project Name, Reported Date, Reported Coordinate Format, Horizontal Datum, Projection, Vertical Datum, Vertical Units, Vertical Basis, and Project Notes or Comments.

Surveyor Data: First Name, Last Name, License Number, Phone, Agency or Business Name, and Email.

Complete step twelve before October 30, 2018.

Starting September 25, 2018 tasks include:

Produce quarterly report including summary, deliverables, timeline, budget, and concerns that arose (13). Complete and submit step 13 before October 1, 2018.

Starting October 1, 2018 tasks include:

Review data submitted to Madison County GIS (MC-GIS) to ensure conformity to the MSDI standards. This step will begin as soon as data is transferred from the consultant to Madison County GIS (14).

Complete step fourteen by November 1, 2018.

Starting November 1, 2018 tasks include:

MC-GIS will submit Survey Mapping Control data to the MSDI theme steward (15) after verifying completeness and compliance. MC-GIS will record corner records with the Clerk and Recorders office (16) and enter records into local Corner record database/map (17). MC-GIS will submit a quarterly report including summary, deliverables, timeline, budget, and concerns that arose (18). Complete steps fifteen through eighteen by November 13, 2018.

Starting November 1, 2018 tasks include:

Project conclusion: Metadata report and final report to be produced and submitted by MC-GIS (19, 20). The final report will include a financial status report and incorporate the following parts: summary of project, financial status report, description of methods for data creation and collection, data and its associated metadata, proof of publishing to the data list, map(s) of the project, media describing the grant with a release statement for use of the all media for all reasonable purposes.

Steps nineteen and twenty will be completed as soon as possible but no later than December 11, 2019.

Disclaimer: In the event that unforeseen events such as weather, natural hazards, illness, death, etc. occur, Madison County GIS will contact MSL to confront, adjust, or request extension of the project as deemed appropriate.

Fiscal Year 2019 Montana Land Information Act Grant Application Package

Outlined in Table 1 are the Steps, tasks, responsible party, start and end dates to achieve the project goal. A timeline graphic is displayed in Table 2.

Table 1.

Step	Description:	Department Responsible	Start:	Complete
1	Prepare - consultant scope of work for and advertise.	(GIS - 15 hours)	7/1/18	7/3/18
2	Research - surveys, plats, and corner records.	(GIS - 20 hours)	7/1/18	7/10/18
3	Organize recorded documents for reference.	(GIS - 10 hours)	7/1/18	7/17/18
4	Create digital reference map of survey data obtained.	(GIS - 10 hours)	7/1/18	7/17/18
5	Prepare map and documents for consultation.	(GIS - 5 hours)	7/14/18	7/24/18
6	Select consultant. Authorize contract.	(GIS/Consultant – 4 hours)	7/14/18	7/24/18
7	Establish and complete contract for Consultant.	(GIS/Consultant - 15 hours)	7/14/18	7/31/18
8	Finalize data collection plan.	(GIS/Consultant – 2 hours)	7/21/18	7/31/18
9	Finalize "Letter of Notice" for Surveying Section Corners.	(GIS/Consultant – 2 hours)	7/21/18	7/31/18
10	Send letters.	(GIS/Consultant - 11 hours)	7/21/18	7/31/18
11	Produce Field Maps.	(GIS – 10 hours)	7/21/18	7/31/18
12	<i>Collect Survey Mapping Control data.</i>	<i>(Consultant – < 3 Months)</i>	7/28/18	10/30/18
13	First Quarter Report.	(GIS – 2 hours)	9/25/18	10/1/18
14	Review data.	(GIS/Consultant - 20 hours)	10/1/18	11/1/18
15	Submit Survey Mapping Control data to MSDI Steward.	(GIS – 1 hours)	11/1/18	11/13/18
16	Record corner records with the Clerk and Recorder.	(GIS – 10 hours)	11/1/18	11/13/18
17	Insert new records into digital corner reference map.	(GIS - 1 hours)	11/1/18	11/13/18
18	Second Quarter Report.	(GIS – 2 hours)	11/1/18	11/13/18
19	Metadata report.	(GIS - 5 hours)	11/1/18	12/11/18
20	Final Report	(GIS – 10 hours)	11/1/18	12/11/18
			Total GIS hours:	145
<i>Italics with Blue Color: Consultant Duties</i>			GIS Cost per hour:	\$ 27.14
			Total Time Expense:	\$ 3,935.03

Table 2.

Month:	July					August				September					October				November				December				
Sundays	1	8	15	22	29	5	12	19	26	2	9	16	23	30	7	12	21	28	4	11	18	25	2	9	16	23	30
Grant Week:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Step																											
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3-4	█	█	█																								
5-7			█	█	█																						
8-11				█	█																						
12-14						█	█	█	█	█	█	█	█	█	█	█	█	█									
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20-21																					█	█					

SECTION 6 – BUDGET JUSTIFICATION AND BUDGET TABLE

Personnel - Applicant in-kind contribution total of \$3,935.03

GIS work hours estimated at a total expense to the County per hour of: \$27.14 (hourly wage plus employer costs). The GIS hours expected to complete this project total 145 hours. The hourly sum equates to \$3,935.03 total for the project.

Total GIS hours:	145
GIS Cost per hour:	\$ 27.14
Total Time Expense:	\$ 3,935.03

Fringe benefits - None associated with this project.

Travel expenses - Applicant contribution total of \$100.00

Applicant will assume any variance that may result from project complications.

Equipment - None associated with this project.

Supplies and Materials - Applicant contribution total of \$1,131.05

Postage fees estimated at \$463.25 and will be an applicant cash contribution.

- Certified mail fee with electronic delivery confirmation receipt.

USPS Postage & Special Services	New 2018 Rates	
Certified Mail Fee	\$3.45	\$3.45
Electronic Delivery Confirmation Receipt	\$0.80	\$0.80
	Total	\$4.25
	Total Letters to Send:	109
	Total Postage Cost:	\$463.25

Advertising fees are estimated at \$96.00 and will be an applicant cash contribution.

- Local newspaper space based on historic figures.

Weekly cost:	\$32.00
Number of weeks:	3
Total:	\$96.00

Printing fees estimated at \$571.80

- Letter printing for the 109 parcels within 10 meters of a given point.
- One large format map and two small maps per point with 50 points total.

	Number of Maps:	50
Large Format Map	\$ 10.00	\$ 11.00
Two Small maps per point:	\$ 1.00	
Map Printing Cost Total:		\$ 550.00
	Number of Letters:	109
Estimated Printing Cost per Letter:	\$ 0.20	
Total Letter Printing Cost:		\$ 21.80
Total Printing Costs:		\$ 571.80

Contractual

MLIA grant funds contribution total will be \$26,000.00 and Applicant contribution in this area will be \$4,250.00. This estimate refers to a cost of \$550.00 per point with a 10% buffer included. The cost with buffer equates to \$605.00 per point.

Four estimates were requested with only two being received. Totals for project completion: \$35,000.00 and \$27,500.00. Two surveyors have not returned an estimate.

Other

None associated with this project.

Key Points

The total contribution distribution is 73% MLIA funds and 27% Applicant funds.

The 50 mapping control points recommended by Montana State Library calculate at \$605.00 per point and sum to \$30,250.00.

There are 109 parcels within the 10 meters of each recommended point.

Long term funding for this project is not expected. With its continuing commitment to data accuracy, Madison County GIS will allocate resources to address updates for county maintained GIS layers as required by improved cadastral adjustment. This includes continued work towards establishing complete corner records in a GIS layer for improved referencing and future use.

No other funding partners exist for this project.

MLIA GRANT BUDGET SUMMARY TABLE

MLIA GRANT BUDGET SUMMARY					
	MLIA Summary	Applicant Summary			Total:
Category	MLIA Share	Applicant Cash	Applicant In-kind	Applicant Subtotal	<i>MLIA Share, Applicant Subtotal, Partner Subtotal</i>
a. Personnel	\$ -		\$ 3,935.03	\$ 3,935.03	\$ 3,935.03
a. 1. Fringe Benefits	\$ -			\$ -	\$ -
b. Travel	\$ -	\$ -	\$ 100.00	\$ 100.00	\$ 100.00
c. Equipment	\$ -	\$ -	\$ -	\$ -	\$ -
d. Supplies & Materials	\$ -	\$ 559.25	\$ 571.80	\$ 1,131.05	\$ 1,131.05
e. Contractual	\$ 26,000.00	\$ 4,250.00		\$ 4,250.00	\$ 30,250.00
f. Other				\$ -	\$ -
Total	\$ 26,000.00	\$ 4,809.25	\$ 4,606.83	\$ 9,416.08	\$ 35,416.08

SECTION 7 – RENEWABLE GRANT ACCOUNTABILITY

The Madison County GIS department has not previously applied for or attained any grants.

SECTION 8 – AUTHORIZING STATEMENT

Authorizing Statement

I hereby certify that I have read the application and the information and all statements in this application are true, complete and accurate to the best of my knowledge and that the project or activity complies with all applicable state, local and federal laws and regulations.

I further certify that this project will comply with applicable statutory and regulatory standards.

I further 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.

Ronald E. Nye

Name (print or type)

Board.

Chairman

Title (print or type)

Ronald E. Nye

Signature and Title of Authorized Representative(s) of Public Entity Applicant

2/6/2018

Date

SECTION 9 – CHECKLIST – SIGNATURES REQUIRED

Applicant's Project Manager, defined Section 1, must initial in ink or mark 'n/a' if a section is not applicable.

Initial or mark n/a	Completed Required Task
n/a	Proposal Prepared by an outside party – I have read this document in its entirety. <i>(if applicable)</i>
TF	Section 1 – Applicant, Partner, and Proposal Information
TF	Primary Applicant Information
N/A	Funding Partner <i>(if applicable)</i>
TF	Proposal Information
N/A	List All Past Awarded MLIA Grants
TF	Section 2 – Relevance <i>(300 max word limit)</i>
TF	Section 3 – Public Benefit
TF	Section 4 – Project Management
TF	Section 5 – Scope of Work Narrative <i>(4-page limit)</i>
TF	Section 6 – Budget Justification Narrative and Table <i>(3-page limit)</i>
TF	Budget Justification Narrative
TF	Complete Budget Table
N/A	Section 7 – Funding Partner Statements of Support <i>(if applicable)</i>
N/A	Section 8 – Renewable Grant Accountability Narrative <i>(if applicable)</i>
N/A	FY2018 Grantee Report <i>(if applicable)</i>
N/A	Past MLIA Grant Project Narrative <i>(if applicable)</i>
TF	Section 9 – A Signed Authorizing Statement