

MONTANA LAND  
INFORMATION GRANT  
APPLICATION  
CITY OF DEER LODGE

STATE FISCAL YEAR 2018

## APPLICATION MLIA GRANT FUNDING

### SECTION 1 – APPLICANT, PARTNER, AND PROPOSAL INFORMATION

<b>Primary Applicant:</b>	
Name of principle individual:	Brian Bender, City Administrative Officer
Name of agency/entity:	City of Deer Lodge
Street:	300 Main Street
City:	Deer Lodge
County:	Powell
State:	Montana
Zip Code:	59722
Contact email address:	bbender.deerlodge@gmail.com
Contact fax address:	406.846.3925
Contact phone:	406.846.2238
Department:	City Administration
Division:	

<b>Funding Partners:</b> <i>(required for each partner, copy box as needed)</i>	
Name of contact:	
Name of Agency:	
Street:	
City:	
County:	
State:	
Zip Code:	

Fiscal Year 2018 Montana Land Information Act Grant Application for City of Deer Lodge

Contact email address:	
Contact phone:	

<b>Project Partners:</b> <i>(required for each partner, copy box as needed)</i>	
Name of contact:	Dan Stahly, P.L.S.
Name of Agency:	Stahly Engineering & Associates
Street:	851 Bridger Drive, Ste. 1
City:	Bozeman
County:	Gallatin
State:	Montana
Zip Code:	59715
Contact email address:	dstahly@seaeng.com
Contact phone:	406.522.8594
<b>Project Partners:</b> <i>(required for each partner, copy box as needed)</i>	
Name of contact:	Jenny Chambers
Name of Agency:	Montana Department of Environmental Quality
Street:	P O Box 200901
City:	Helena
County:	Lewis and Clark
State:	Montana
Zip Code:	59620-0901
Contact email address:	jchambers@mt.gov
Contact phone:	406.444.6383
<b>Project Partners:</b> <i>(required for each partner, copy box as needed)</i>	
Name of contact:	Jacqueline Lavell
Name of Agency:	Grant Kohrs Ranch National Historic Site

Fiscal Year 2018 Montana Land Information Act Grant Application for City of Deer Lodge

Street:	266 Warren Lane
City:	Deer Lodge
County:	Powell
State:	Montana
Zip Code:	59722
Contact email address:	jacque_lavelle@nps.gov
Contact phone:	406.846.2070 ext. 221
<b>Project Partners:</b> <i>(required for each partner, copy box as needed)</i>	
Name of contact:	Alan Erickson
Name of Agency:	Morrison Maierle, Inc.
Street:	P O Box 1647
City:	Helena
County:	Lewis and Clark
State:	Montana
Zip Code:	59604
Contact email address:	
Contact phone:	406.442.3050

<b>Proposal Information</b>	
Date Submitted:	
Date Received by State:	
Short Title of Proposal: City of Deer Lodge GIS Solution for Local Infrastructure Management & Planning	

Executive Summary (*required – 200 maximum word count*):

The City of Deer Lodge will utilize MLIA grant funds and City budgeted funds to purchase computer software and hardware to create GIS solutions that will assist the local government by improving the efficiency of operations of their Public Works and other City Departments. Through a multi-phased plan, the City will utilize GIS to map existing infrastructure including streets, water mains, and sewer and storm water collection systems. Recordation of building permits is also planned for the new system.

The City's GIS will leverage a multi-jurisdictional approach as they work with project partners such as the Grant Kohrs Ranch National Historic Site and Montanan Department of Environmental Quality to share information that will benefit the citizens of Deer Lodge. This includes managing ongoing coordination of projects for water and sewer infrastructure improvements, fire and police protection, multi-use trail construction, and road maintenance.

**List All Past Awarded MLIA Grants:**

**None**

## SECTION 2 – RELEVANCE

The City of Deer Lodge is planning inception of a GIS system to develop a sustainable, efficient method to collect and maintain attributes of its public infrastructure data including water, sewer, and storm water systems within the City. The City recognizes the need to map streets, water mains, and sewer and storm water collection systems, adding detail that will also include lighting, traffic signage, air release valves, curb stops, fire hydrants, sewer manholes, storm inlets, storm manholes, and water valves as the system is initiated. In addition, Building Permits will be tracked in the system to maintain a record of property improvements.

To date, Deer Lodge has not utilized GIS to map its existing infrastructure or maintain records of attributes or maintenance. Two in-office personal computers, two hand-held data collectors, ArcGIS software and licenses, a plotter, and training will all be required to support the efforts to begin creating a local GIS.

This proposed project will meet grant category priority **A. Local and Tribal GIS**, in which an emphasis is placed on localized GIS solutions that demonstrate the value of GIS in improving the quality of life for Montana citizens and building grass roots support for location based services. Utilizing information shared among its project partners, the project will also leverage a multi-jurisdictional approach to problem solving using GIS.

### Section 3 – Public Benefit

The City has recognized the need for a GIS database in order to keep an accurate inventory of public infrastructure and utilize the database for long-term planning of future projects. Having geographic coordinates tied to each feature will help to streamline maintenance for public works staff, assist the City in planning, and will generally improve the functionality of the infrastructure in the City. Implementing a GIS database will lead to time efficiencies, ultimately saving taxpayer dollars.

Deer Lodge struggles with inadequate and insufficient housing opportunities for its residents. Providing ongoing tracking of building projects utilizing GIS within the City will provide history over the course of projects and maintain Building Department records. This will streamline record keeping and response to property owners as they seek to improve living conditions and provide additional housing within the City.

The GIS will improve planning and budgeting efforts for the City Council as well as other departments including Public Works. The exchange of information with Powell County, the Montana Department of Environmental Quality (MDEQ), and the Grant Kohrs

---

*As a unit of the National Park System with approximately 1600 acres, we maintain a GIS data library. The City and GRKO share areas where providing data would be beneficial.*

*From letter of support – Grant Kohrs Ranch Historic Site*

---

Ranch National Historic Site will enhance overall coordination between these agencies. With connecting infrastructure including bridges maintained by the County, water and sewer systems and roadways utilized by the Grant Kohrs Ranch, and ongoing Federal and State Superfund clean-up projects conducted by MDEQ, sharing GIS information will be invaluable to the efficiency and safety of each of these entities and the individuals they serve. In the long-run, this will improve the quality of life for citizens of Deer Lodge as it provides new and better information regarding locations and features of public infrastructure.

## **SECTION 4 – SCOPE OF WORK**

**Goal: Create GIS to include streets, water, sewer, and storm features. The subject of this grant application is Phase I. Phase I will include purchase of all hardware and software required to build a sustainable GIS. It will establish positional data within the GIS and begin the process of scanning historical records into the system. Phase I will involve the City's first priority to collect data and upload attributes associated with the City's street system which in total is approximately 31 miles of roadway and includes 113 fire hydrants, 365 manholes, 353 water valves, 30 storm drain inlets, and 1,536 curb stop boxes within the City's right-of-way. Digitizing building footprints into the GIS will provide for the ability of the Building Department to keep records of Building Permits.**

**Future phases are planned to for additional data collection and to upload attributes associated with the City's water, sewer, and storm features.**

**Objective 1: Purchase personal computers, hardware, and software for GIS coordination staff. All procurement of equipment and software will comply with section 90-1-411 (1) of MCA.**

**Task:**

1. Purchase two personal computers capable of efficiently running ArcGIS software for in-office staff and install ArcGIS for Desktop Basic including ArcGIS Online Subscription (or approved equal) by June 30, 2017 to create a map and working database. Staff will consist of City Administrative Officer (CAO) and Public Works Superintendent.
2. Purchase plotter/scanner to accommodate printing 36" wide documents.

**Objective 2: Purchase GIS-grade hand held GPS, ArcGIS Desktop software**

**Task:**

1. Purchase two Panasonic Tough Tablets with ArcCollector (or approved equal) installed by June 30, 2017 in order to collect all points necessary to map the streets, water, sewer, and storm features.

**Objective 3: Collect Feature Coordinate Data**

**Task:**

1. Stahly Engineering will collect survey grade positional data on all features as required by the City. This will occur by July 31, 2017. Stahly Engineering & Associates has recently been selected as the Deer Lodge on-call engineer/surveyor through a procurement process following 18-8-201, MCA which defines the process for selection of a consultant for architectural, engineering, or surveying services.



**Objective 4: Train assigned City staff**

**Task:**

1. Stahly Engineering will complete a day of training on basic functions of ArcGIS by August 15, 2017 and will provide support on an as-needed basis to County staff.
2. Stahly Engineering will complete a day of GPS field training with City staff by August 15, 2017

**Objective 5: Complete 2017 goal of collecting street/infrastructure data and upload into ArcGIS**

**Task:**

1. Brian Bender (CAO) and Trent Freeman (Public Works Superintendent) will assign attributes to uploaded street/infrastructure data including surface type, condition, road speed, and type of route by May 30, 2018.
2. Public Works staff, under the supervision of the Deer Lodge CAO and Public Works Superintendent, will collect street/infrastructure feature attribute data and upload into ArcGIS by March 30, 2018. The features anticipated include 113 fire hydrants, 365 manholes, 353 water valves, 30 storm drain inlets, 1,536 curb stop boxes, 3 wells, 2 storage tanks, and 2 water meter vaults.
3. Brian and Trent will also be inputting data layers available to the City from existing records such as planning and zoning decisions and information from project partners.
4. The City of Deer Lodge intends to hire an intern to scan as-built and other historic, infrastructure record information into the GIS.

**Objective 6: Allow access to system for City of Deer Lodge Building Inspector to collect and upload data into ArcGIS**

**Task:**

1. The intern will digitize building footprints using current aerial imagery into the GIS for use by the Building Inspector.
2. City of Deer Lodge Building Inspector (Dan Green), under the supervision of the Deer Lodge CAO and Public Works Superintendent, will process and catalog Building Permits and inspection data and upload the information into ArcGIS as needed throughout the project timeline.

**Project Schedule (Activity and Completion Date):**

**Fiscal Year 2018 Montana Land Information Act Grant Application for City of Deer Lodge**

Purchase hardware and software for office and field staff: (dependent on acquisition of MLIAC grant)	June 30, 2017
Collect Feature Coordinate Data	July 30, 2017
Train City staff: (dependent on acquisition of all equipment and software)	August 15, 2017
Collect street/infrastructure data and upload into ArcGIS: (dependent on training schedule being satisfied)	March 30, 2018
Assign attributes to features: (dependent on data availability)	May 30, 2018
Allow access to new system to Building Inspector:	July 30, 2017-May 30, 2018

---

## **SECTION 5 – PROJECT MANAGEMENT AND ORGANIZATIONAL CAPABILITY**

Brian Bender will serve as the project manager. Brian is the City of Deer Lodge Administrative Officer. Brian served on the Deer Lodge City Council and worked for Powell County as their Planning Director and Floodplain Administrator prior to taking his current position. At Powell County, Brian oversaw the County's GIS / E-911 Addressing Program after its integration into the Planning Department resulting in annual cost-savings of \$25K, and improved mapping products to County's Dispatch, emergency services, and the public. During Mr. Bender's tenure as the Director of Clinton County's (Indiana) Area Plan Commission, Brian was a member of the County's Geographic Information System Task Force. The Task Force formulated a strategy among the different city and county agencies to implement an all-inclusive GIS package. The pursued all-inclusive strategy created a seamless GIS network enabling the exchange of data between city and county departments.

Mr. Bender has over seventeen years of planning experience in both rural and urban settings. He has a Bachelor of Arts in Geography from Plattsburgh State University, with a minor in Mapping Sciences. Brian also holds a Master of Science in Geography with a concentration in coastal geomorphology from Western Washington University and a Master of Regional Planning from the University at Albany with a specialization in rural and small town planning.

Field data maintenance and collection will be performed partially by Trent Freeman, City of Deer Lodge Public Works Superintendent. Trent was recently hired by the City for this newly created position that is responsible for all Public Works related projects for the City. Between 2008 and 2012 Mr. Freeman held a position of a Project Manager / Estimator for a road construction and paving company in Rapid City, South Dakota. In 2012, Trent accepted a position as a Superintendent, as the company recognized he had an ideal combination of field and management experiences. Mr. Freeman, with his exceptional skills set, is ideally suited to manage the crews as they proceed to collect field data, and assist with the project's overall administration.

Feature attribute collection will be performed by Stewart Jewell and Mark Eisenbiel. Both are members of the Public Works staff. An intern will be hired (from local high school or through an intern program at MSU or U or M) to assist with building the base GIS system and scanning in historical documents. Dan Green is the City's Building Inspector and has requested access to the GIS system to track Building Permits.

All staff will undergo training by Dan Stahly, P.L.S. and Max Shchemelinin from Stahly Engineering & Associates. Max is an experienced GIS technician. He has assisted a number of Montana communities, including Hardin, Lewistown, Manhattan, Belgrade, Three Forks, and West Yellowstone with data collection. Collection included infrastructure data for water, sewer and storm water both in the field and digitized from as-built records including water valves, manholes, hydrants, air boxes, curb stops etc. Data was collected using a ruggedized tablet along with Arc Collector in conjunction with ArcGIS Online. Max has also been assisting Sander

**Fiscal Year 2018 Montana Land Information Act Grant Application for City of Deer Lodge**

County with creation of an Electronic Plat Book. The book is created by linking scanned COS's and plats to a Cadastral parcel shapefile. The County will manage the plat book as an ArcGIS Online web mapping application.

Dan Stahly, P.L.S., with more than 25 years of experience in survey and as the Stahly Engineering Survey Department Manager, will oversee all training of field staff. He will also be highly involved in the initial set up of the office system and teaching office staff to input, operate, and retrieve data as needed.

Project Manager: Brian Bender, City of Deer Lodge Administrative Officer

Key Personnel: Trent Freeman, City of Deer Lodge Public Works Superintendent  
Field Staff – Stewart Jewell and Mark Eisenbiel  
Dan Green – City of Deer Lodge Building Inspector

Subcontractors: Dan Stahly, P.L.S. and Max Shchemelinin, Stahly Engineering & Associates

## SECTION 6 – BUDGET JUSTIFICATION AND BUDGET TABLE

This phase of the project is expected to cost \$66,587.60. The City of Deer Lodge will be contributing \$39,787.16 in personnel costs, local personnel travel, supplies, and the cost of the survey consultant as in kind match funding for this phase. The City requests \$26,800 in MLIA funding for the remaining costs associated with the first phase of the project.

The long-term plan for the subsequent phases of the project is to be financially sustained by the City using a combination of MLIA funds and as budgeted items for the Public Works Department; not excluding the possibility of reapplying for MLIAC grant funding in the future. The personnel tasked with collecting data and attributes will be City permanent employees and a locally hired intern as needed. The maintenance of the database will be conducted by Brian Bender and Trent Freeman. Stahly Engineering will continue to be available to provide training and support to the City on an as-needed basis as a part of their term engineering contract.

### 1. Personnel

City of Deer Lodge staff will conduct field data collection and perform all of the research related to road right-of-way and ownership information.

Field data collection will be supervised by Trent Freeman and performed by Mr. Freeman along with the assistance of other permanent City of Deer Lodge Public Works personnel. City staff is expected to work 20 hours per week at an average rate of \$17.50 per hour for 16 weeks. Trent is expected to commit 8 hours per week at a rate of \$22 per hour for 12 weeks, assisting and supervising the staff.

Brian Bender and Trent Freeman will provide research and be responsible for uploading data to the GIS system in the office. Combined, the pair is expected to spend 15 hours per week for 16 weeks throughout the grant period at an average \$26 per hour.

The City of Deer Lodge will hire an intern at minimum wage for approximately 105 hours. Duties will include digitizing building locations for the Building Department and scanning and uploading historical data. Depending on the extent of this work, an intern may be utilized in subsequent years for uploading data.

A fringe benefit factor is added to the cost per hour in the estimated amount of 12%, which totals \$2,438.40 for all personnel.

Stahly Engineering, serving as the City's on-call engineer, will collect survey grade positional data on all features as required by the City. Professional survey services are anticipated at a cost of \$15,000. The two-person survey crew with all necessary equipment is expecting to complete this part of the project in approximately six days.

Stahly Engineering will also contribute up to 40 hours in training with both the GPS unit and ArcGIS software at a contractually negotiated rate of \$80 per hour, with a travel budget set at \$1,200 which will include mileage, room and board during staff training and per diem allowance. Their involvement in this project makes sense because they have recently been chosen as the City's term engineer. In that role, the firm will work closely with the

## Fiscal Year 2018 Montana Land Information Act Grant Application for City of Deer Lodge

Public Works department to manage the City's infrastructure. The City's Comprehensive Capital Improvements Plan was developed and written by Stahly Engineering in cooperation with City leaders and employees.

### 2. Travel

According to the City of Deer Lodge's 2017 Comprehensive Capital Improvements Plan, the City is responsible for the maintenance of 37.1 miles of roads and streets. Accounting for travel back and forth to the City shop, along with travel between streets, the City is anticipating an average of 15 miles per day. Based on the standard mileage rate for 2017 of \$0.535/mile the total mileage will be \$642 for 16 weeks of data collection.

### 3. Equipment

Personal computers, compatible with ArcOnline software are expected to cost approximately \$3,000 each. ArcOnline software licenses for up to three people will be \$8,600. A 36" plotter, compatible with the chosen in-office hardware and including scanning capabilities is estimated at \$5,000. Panasonic Toughtablets (or approved equal), with software installed are estimated at \$2,000 each and will be necessary for City staff to accurately collect the point data for City streets.

Fiscal Year 2018 Montana Land Information Act Grant Application for City of Deer Lodge

a. 1. Fringe Benefits				\$2,533.41	\$2,533.41				
b. Travel				\$642.00	\$642.00				
c. Equipment	\$23,600.00				\$23,600.00				
d. Supplies				\$500.00	\$500.00				
e. Contractual	\$3,200.00			\$15,000.00	\$18,200.00				
f. Other					\$0.00				
<b>Total</b>	\$26,800.00			\$39,787.16	\$66,587.16				

*\*See Page MLIA Grant Compliance section for the definition of a project partner.*

## SECTION 7 – STATEMENTS OF SUPPORT

The City of Deer Lodge does not anticipate any funding partners for this project. However, as shown in the list of project partners, the City does anticipate sharing data and resources with the following entities that have been contacted to provide support:

**Grant Kohrs (GRKO) Ranch National Historic Site** – believes that they share three primary areas with the City where data sharing would be beneficial:

1. Sewer line information where it runs through the GRKO property to the wastewater treatment plant.
2. Police and Fire Department coordination of shared data including fire hydrants, stand pipes, and building alarms.
3. Identifying continuous routes for the public and operational and maintenance activities on shared roads, trails, parking, and bridges.

**Montana Department of Environmental Quality** – supports the project as it relates to their ongoing cleanup at the Milwaukee Roundhouse Comprehensive Environmental Cleanup and Responsibility Act Facility in Deer Lodge. DEQ believes that the “benefit to the citizens of Deer Lodge would be in the City’s capacity to actively manage its own spatial data and contribute to the ongoing cleanup work.... DEQ is working with the City to develop a permit system on properties within the Clark Fork Superfund boundary so that after the remedy is executed within the City the citizens will be protected if there is any mine waste found in the future.”

**Morrison Maierle, Inc.** – will provide information gathered during planning and construction of the City’s new wastewater treatment plant.



## **SECTION 8 – RENEWABLE GRANT ACCOUNTABILITY**

*\*In this section, applicants awarded a FY2017 MLIA Grant for the same project or purpose, must submit a report on the progress made toward meeting the requirements of that grant: the report must include the status of all tasks or deliverables outlined in the grant.*

**N/A**

## SECTION 8 – Sign the Application

### Authorizing Statement

I hereby certify that 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.

Brian P. Bender

Name (print or type)

City Administrator

Title (print or type)



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

02.14.17

Date

## SECTION 9 – CHECKLIST – SIGNATURES REQUIRED

Initial or mark n/a	Completed Required Task
	<b>Section 1 – Applicant, Partner, and Proposal Information</b>
BPB	Primary Applicant Information
N/A	Funding Partner <i>(if applicable)</i>
BPB	Project Partner <i>(if applicable)</i>
BPB	Proposal Information
N/A	List All Past Awarded MLIA Grants
BPB	<b>Section 2 – Relevance</b> <i>(300 max word limit)</i>
BPB	<b>Section 3 – Public Benefit</b>
BPB	<b>Section 4 – Scope of Work Narrative</b> <i>(4-page limit)</i>
BPB	<b>Section 5 – Project Management and Organizational Capability Narrative</b>
BPB	<b>Section 6 – Budget Justification Narrative and Table</b>
BPB	Budget Justification Narrative
BPB	Complete Budget Table
BPB	<b>Section 7 – Statements of Support</b> <i>(if applicable)</i>
N/A	<b>Section 8 – Renewable Grant Accountability Narrative</b> <i>(if applicable)</i>