TOWN OF MANHATTAN

MONTANA LAND INFORMATION GRANT APPLICATION

STATE FISCAL YEAR 2018

APPLICATION MLIA GRANT FUNDING

SECTION 1 – APPLICANT, PARTNER, AND PROPOSAL INFORMATION

Primary Applicant: Town of Manhattan, Montana	
Name of principle individual:	Brian Carey
Name of agency/entity:	Town of Manhattan
Street:	120 West Main Street, P.O. Box 96
City:	Manhattan
County:	Gallatin
State:	Montana
Zip Code:	59741
Contact email address:	carey.cbrian@gmail.com
Contact fax address:	406-284-2090
Contact phone:	406-539-5055
Department:	Public Works
Division:	Public Works

Funding Partner: TD&H Engineering	
Name of contact:	Kyle Scarr, Bozeman Regional Manager / Vice President
Name of Agency:	TD&H Engineering
Street:	234 East Babcock Street, Suite 3
City:	Bozeman
County:	Gallatin
State:	Montana

Zip Code:	59715
Contact email address:	Kyle.scarr@tdhengineering.com
Contact phone:	406-586-0277

Funding Partner: TD&H Engineering	
Name of contact:	Curt Swets, GIS/CADD Specialist
Name of Agency:	TD&H Engineering
Street:	1800 River Drive North
City:	Great Falls
County:	Cascade
State:	Montana
Zip Code:	59401
Contact email address:	Curt.swets@tdhengineering.com
Contact phone:	406-761-3010

Proposal Information	
Date Submitted:	February 14, 2017
Date Received by State:	
Short Title of Proposal: Town of Manhattan GIS Implementation Project.	
Executive Summary (*required – 200 maximum word count*): The Town of Manhattan realizes the need for GIS capabilities to more efficiently operate Town assets and better disseminate geographic information. The benefit of quality GIS data to the Town and public extends beyond basic mapping. The benefit extends to communication, management, life safety, emergency response, and planning. We believe	

implementing GIS to the Town of Manhattan can truly increase the quality of life in and around the Town.

List All Past Awarded MLIA Grants:
The Town of Manhattan has not received past MLIA Grant funding.

SECTION 2 – RELEVANCE

The Town of Manhattan intends to implement the use of GIS within the Town to increase efficiency, planning, and digital documentation of the Town's infrastructure and the associated attributes. This proposed project will meet grant category A, Development of Local and Tribal GIS, which specifies an emphasis to encourage 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. This project will provide the Town of Manhattan the equipment and training necessary to create a GIS and standardize the collection and maintenance of data. This data will be used for multiple purposes including land planning, public infrastructure asset management, Town review of land development projects, and to improve communication as it relates to geographic features in the Town.

In addition, the Town seeks to use GIS to centralize and standardize the available infrastructure records. Currently, the Town's infrastructure records are scattered in many different formats including outdated as-built records and files. Much of the information lies with the former public works supervisor. As such, Town staff has recognized the need for a GIS and seeks to upgrade to a more efficient system to streamline infrastructure maintenance and allow the Town to more easily share information with surrounding municipalities and Gallatin County.

This project will include creating a GIS with water, sewer, and storm drainage features. This project is the first step in the Town's efforts to make a much larger comprehensive GIS. Utilizing the equipment purchased and training received with this project, the Town will gradually expand the GIS to include a comprehensive database with zoning, road centerlines, and other useful data.

SECTION 3 – PUBLIC BENEFIT

The Town of Manhattan is on the verge of considerable growth in the ever-changing Gallatin Valley. For years the Town has relied on outdated mapping techniques and the personal knowledge of its employees to manage its infrastructure, planning, and mapping needs. This results in inefficient, slow, incorrect, and often times lost information being used as the basis for decision making. An up to date and adaptable system for collecting, adjusting, and disseminating data is the most efficient and economical way to properly plan, execute, and make decisions in the best interest of the public based on the most accurate and up-to-date information available. While the public benefit and use of a GIS is limitless, the following examples highlight just a few aspects the Town is excited to implement that directly benefits the public.

- Mapping of water, sewer, and storm drainage infrastructure and the ability to easily locate this infrastructure. Recently the Town had an unexpected exposure to toxic hydrogen sulfide gas in its sewer system. The Town immediately took action and attempted to open manhole lids to vent gas to the atmosphere instead of the confined building spaces. The time it took for Town personnel to locate these sewer manholes, which are often covered in gravel road surfacing, could have been the difference in someone getting seriously harmed. A similar case can be made for locating water valves during emergencies such as a broken main.
- Asset management including installation dates, upgrade dates, conditions, and material types for roads, sidewalks, signs, and water/sewer/storm infrastructure.
- Mapping of zoning districts, growth policy boundaries, land use areas, and other land planning attributes.
- Mapping of flood plains or other critical areas.
- Visuals aids for better communication during Council meetings or other Town gatherings.

SECTION 4 – SCOPE OF WORK

Goal: Create a GIS from new data and data previously collected to include water, sewer, and storm features.

Objective 1: Purchase hardware and software

Tasks:

1. Purchase one Nexus 10, 32GB tablet (or similar) and load with Arc Collector Application by July 28, 2017. This will be crucial in allowing public works staff to update and collect new features and attribute information in the field as well as to update existing records.
2. Purchase ArcGIS for Desktop Basic by July 28, 2017 in order to create a map and master database of previously collected and new features.
3. Purchase ArcGIS Online subscription by July 28, 2017 in order to host and create online maps and utilize Arc Collector Application.
4. Purchase Trimble R-1 GPS receiver and ancillary hardware to include a GPS pole and Bracket by July 28, 2017 to facilitate location of features and collection and update of additional features. In order to be a useful tool for the Town, mapping quality GPS receivers are recommended to provide a precision of approximately three feet.
5. Purchase two magnetic locators by July 28, 2017 to facilitate field-locating of features.

Objective 2: Create new GIS database

Tasks:

1. Utilizing existing features previously collected for the Town in 2015, TD&H Engineering (Funding Partner) will create a new GIS database and launch Manhattan's in house GIS by September 1, 2017.

Objective 3: Train assigned Town staff on software and hardware

Tasks:

1. Town staff will be trained to use the tablets and ArcGIS software by a TD&H Engineering GIS Specialist. This training will include collection of any new features installed since the 2015 survey. Brian Carey and Pam Humphrey will be trained by September 29, 2017.
2. Training of additional Manhattan employees will be performed by Brian and Pam on an as needed bases.

Objective 4: Update attributes for previously collected features

Tasks:

1. Using paper as-built records, Town staff to assign attributes to previously collected features to be completed by March 30, 2018. This objective may require considerable research and employee interviews and therefore a conservative amount of time is being allotted.

Project Schedule:

Objective 1 (4 weeks)	7/3/17 – 7/28/17
Objective 2 (5 weeks)	7/31/17 – 9/1/17
Objective 3 (4 weeks)	9/4/17 – 9/29/17
Objective 4 (6 months)	10/2/17 – 3/30/18

SECTION 5 – PROJECT MANAGEMENT AND ORGANIZATIONAL CAPABILITY

The project manager will be current Public Works Supervisor, Brian Carey. Brian oversees the maintenance of 13 miles of sewer distribution pipe, 10.5 miles of water distribution pipe, 4.5 miles of water transmission pipe, and nearly 20 miles of paved and graveled roads. Prior to his position with Manhattan, Brian was employed with the City of Bozeman Water/Sewer Division where he worked daily with the City's GIS data.

Pam Humphrey, Town Clerk, will be assisting with completing the attribute data for the features previously collected and will be looking up data in Town records such as as-built drawings. Pam will also prepare post-award reporting information such as quarterly reports, requests for funds, invoice reports and documentation, and close-out documents. Pam has performed similar duties for several Town grant projects utilizing TSEP (MT Dept. of Commerce), RRGL (MT Dept. of Natural Resources and Conservation), and SRF (MT Dept. of Environmental Quality) funding sources. Pam is experienced and qualified to administer grants for the Town.

An example project that will display the ability of the Town to successfully complete a large project is the Manhattan Water Tower project. This project has been successfully completed and is operational. The tower project, which was needed to address capacity issues for the Town of Manhattan's water system, is a large and complex project for a town which serves 1,700 people. The Manhattan team has been involved in the management of this project from start to finish including the securing of funding and selection of the final design. Since the beginning of this project, the public works department and Town Clerk has played an integral role in partnering with contractors to ensure the proper construction and quality of service for the Town's residents while meeting their grant obligations.

Kyle Scarr will be the project manager and local contact for the Town's funding partner, TD&H Engineering. Kyle will coordinate purchasing of equipment and provide general project oversight ensuring objectives, schedules, and deadlines are met. Kyle has managed several large scale grant, design, and construction projects and will work closely with the Town and TD&H Engineering's GIS Specialist, Curt Swets, to provide seamless communication throughout the project.

Curt Swets is a GIS/CAD Specialist with TD&H Engineering and has a B.S. in Earth Science GIS/Planning option from Montana State University. He will create and launch the GIS database and provide training to Town staff on using the tablets, ArcGIS software, ArcGIS online and the Collector Application. He will also be available for on-call support for this project as the Town needs.

TD&H Engineering is the contracted Town Engineer for the Town of Manhattan. The procurement of TD&H was done in accordance with Montana Law. The proposed work for this project will be completed under this existing contract between the Town of Manhattan and TD&H Engineering.

Project Manager:	Brian Carey, Public Works Supervisor
Key Personnel:	Pam Humphrey, Town Clerk
	Kyle Scarr, TD&H Engineering Project Manager (Funding Partner)
	Curt Swets, TD&H Engineering GIS Specialist (Funding Partner)

SECTION 6 – BUDGET JUSTIFICATION AND BUDGET TABLE

This project is expected to cost $19,290. **The Town requests $8,620 in MLIA funding.** MLIA funding will be used to purchase software and equipment necessary to create and update the Town's GIS ($7,820). MLIA funding will also be used for consultant field training on use of the GPS receiver and tablet ($800). All remaining $10,670 of project costs have already been or will be borne by the Town. This includes consulting software training, implementation of the GIS database, magnetic locators, and in-kind Town costs.

The use and updating of the Town's GIS will be inserted into the Town's operations. Yearly fees will be included in department budgeting and staff will be required to utilize, maintain, and update the GIS as data becomes available or as infrastructure is built. The costs of these items and staff time will be included in department budgets (primarily the Public Works Department). The Town of Manhattan has a Capital Improvements Plan and updates it periodically. Replacement costs and equipment upgrades can be included in the Town's Capital Improvements Plan to allow for long-term budging and ensure financial feasibility of the Town's GIS and GPS equipment. Maintenance of the database will be the responsibility of Brian Carey and Pam Humphrey. TD&H Engineering will continue to be available to provide training and support to the Town on an as-needed basis.

1. **Personnel**

   Town of Manhattan field staff, under the direction of Brian Carey, will update attributes as they complete projects and tasks for the Public Works Department, adding new features as necessary, taking approximately 2-5 hours per week.

   The feature attribute data to be updated from the previous data collection project will be entered by Brian Carey with assistance from Pam Humphrey, for which 2-5 hours per week will be dedicated for approximately 25 weeks for a total of 50-125 hours.

   Estimated in-kind personnel costs total $3,000. An estimated fringe benefit factor is added to the cost of wages in the amount of 19% which totals $570 for all anticipated City personnel planned to work on the project.

   TD&H Engineering will contribute approximately 50 hours in GIS database setup and training with the tablet, Arc Collector, Arc Online, and ArcGIS Desktop software at a rate of $85 per hour (estimated $4,000). In addition, TD&H will provide a day of one-on-one field training with the equipment at a rate of $85 per hour (estimated $800). In 2015, the Town previously contracted with Stahly Engineering to perform a Town wide water, sewer, and storm drain survey. This contract was for $1,900.

2. Equipment

One Tablet (Nexus 10 or similar) will be purchased and will be loaded with the Collector Application for a total cost of $270. Concurrently, a GPS pole and the requisite bracket will be purchased ($550) to allow the tablet to be rod mounted to facilitate consistent and accurate data collection.

ESRI ArcGIS Basic single license with annual maintenance ($2,000) will be purchased along with an Arc Online subscription ($2,500) to allow Town staff to maintain a master database as well as an Arc Online map to be used with collector to allow editing of attributes and adding of features in the field

One Trimble R-1 GPS receiver ($2,500) will be purchased for consistent and accurate data collection to within three feet.

Two Chicago Steeltape Magnitech magnetic locators will be purchased for locating buried features to assist with adding these points into the GIS database with the Arc Collector App at a total cost of $1,200. These will also be used in conjunction with the Arc Collector App to locate previously collected features.

MANHATTAN MLIA GRANT BUDGET SUMMARY										
	Applicant Summary					***Project Partner* Summary***				
Category	MLIA Share	Applicant Cash	Other Cash	In-kind	Applicant Subtotal	Partner 1	Partner 2	Partner 3	Partner Subtotal	**Total**
a. Personnel				3,000	3,000					3,000
a. 1. Fringe Benefits				570	570					570
b. Travel					0					0
c. Equipment	7,820	1,200			9,020					9,020
d. Supplies					0					0
e. Contractual	800	5,900			6,700					6,700
f. Other					0					0
Total	8,620	7,100	0	3,570	19,290					19,290

SECTION 7 – STATEMENTS OF SUPPORT

234 East Babcock Street
Suite 3
Bozeman, MT 59715

TD&H Engineering

406.556.0277
tdhengineering.com

February 14, 2017

Brian Carey
Town of Manhattan
PO Box 96
Manhattan, MT 59741

RE: TOWN OF MANHATTAN GIS IMPLEMENTATION PROJECT

Dear Brian,

TD&H Engineering is in full support of the Town of Manhattan's desire to implement a Town GIS. As an engineering firm in the area, we see numerous benefits a GIS can bring to a Town and the community. We have intimate knowledge with and use a similar GIS database for the City of Bozeman on almost a daily basis. We are excited to see Manhattan take the first steps towards the goal of creating a comprehensive Town GIS. We feel your project objectives are consistent with the intent of the MLIA Grant Program and hope this important funding source allows you to pursue a Town GIS.

Sincerely,

Kyle Scarr *PE*
Regional Manager
TD&H ENGINEERING

SECTION 8 – RENEWABLE GRANT ACCOUNTABILITY

NA, this is not the continuation of a previously funded project.

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.

DAVID ROWELL

Name (print or type)

MAYOR - TOWN OF MANHATTAN

Title (print or type

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

2/15/17

Date

SECTION 9 – CHECKLIST – SIGNATURES REQUIRED

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

234 East Babcock Street
Suite 3
Bozeman, MT 59715

406.586.0277
tdhengineering.com

February 14, 2017

Brian Carey
Town of Manhattan
PO Box 96
Manhattan, MT 59741

RE: TOWN OF MANHATTAN GIS IMPLEMENTATION PROJECT

Dear Brian,

TD&H Engineering is in full support of the Town of Manhattan's desire to implement a Town GIS. As an engineering firm in the area, we see numerous benefits a GIS can bring to a Town and the community. We have intimate knowledge with and use a similar GIS database for the City of Bozeman on almost a daily basis. We are excited to see Manhattan take the first steps towards the goal of creating a comprehensive Town GIS. We feel your project objectives are consistent with the intent of the MLIA Grant Program and hope this important funding source allows you to pursue a Town GIS.

Sincerely,

Kyle Scarr *PE*
Regional Manager
TD&H ENGINEERING

J:\2004\B04-012\B04-012-060 GIS Grant\2.14.17 Letter of Support.DOC