

APPLICATION FOR GRANT FUNDING

STEP 1 – Applicant and Partner Information

Primary Applicant (Required):

Name of principle individual: Carol Arkell
Name of agency/entity: Stillwater County
Street: PO Box 1287 Physical address: 400 E 3rd Ave N
City: Columbus
County: Stillwater
State: Montana
Zip Code: 59019
Contact email address: carkell@montana.net
Contact fax address: (406) 322-8070
Contact phone: (406) 322-8060

Organizational Unit (if applicable)

Department: GIS
Division: Coordinator

Other Project Partners – complete for each partner (copy box as needed):

Name of contact: Calvin Clark
Name of Agency: Stillwater County, Road and Bridge Department
Street: PO Box 715 Physical Address: 865 Hwy 10 W
City: Columbus
County: Stillwater
State: Montana
Zip Code: 59019

Date Submitted (Required):

Date Received by State:

Descriptive Title of Applicant's Project (Required):

Stillwater County Traffic Control Project

STEP 2 – Relevance and Public Benefit

Geographic information is important for all agencies and constituents that rely upon the County for routine operations. Geographic information drives long term planning including land use planning, subdivision review, permitting, tax assessment, design, roads and utility maintenance/repairs/upgrades, event reporting, and most imperative emergency dispatching.

Stillwater County GIS and Road and Bridge Department are collaborating (**MLIA priority B2: “Investments that leverage local, regional, state and tribal matching funds and in kind time and talent that builds toward a strong Montana GIS federated enterprise.”**) to gather, sort, and disseminate GIS data relative to all public roadways in Stillwater County by utilizing PubWorks Software and ESRI Arc Map and Arc Reader software systems. PubWorks is a means for the Road and Bridge Department to collaborate with the GIS Department to gather infrastructure asset data to be utilized at full capacity and integrated into a systematic approach to infrastructure maintenance, repairs, and upgrades.

Developing this detailed database increases the capacity and efficiency of the Road and Bridge Department while simultaneously collecting data that is compatible with the ESRI Arc Map and Arc Reader programs utilized by the GIS Department for endless applications. The data will also be published in various relevant maps and books. This information is a key role in immediate and long term planning and emergency operations efforts.

Stillwater County residents and taxpayers are safeguarded in a community where updating a basic GIS system evolves into essential documents. These documents facilitate more efficient emergency response, disaster mediation, and on a discrete level, provide for more consistent benefits from confident and documented cost reporting on all public works. The aforementioned activity and project focus parallels the **Montana Land Information Plan priority B2.2 “localized GIS solutions that demonstrate the value of GIS in improving the quality of life for Montana citizens and build grass roots support for location based services.”**

The PubWorks software system integrates all facets of our GIS and Road and Bridge Departments. The software facilitates proactive not reactive work. The Federal Highway Administration Program under the Manual on Uniform Traffic Control Devices requires that by the end of 2012 all public entities are in compliance with new retro-reflectivity standards. These standards require that a system for evaluation and / or replacement of sign inventory be in place. The PubWorks software meets those compliance requirements. Using PubWorks and ESRI Arc Map and Arc Reader Software to meet imperative compliance measures, in concert with collecting all other assets in the County, enables efficient management. This also parallels the **MLIA priority B2: “Investments that leverage local, regional, state and tribal matching funds and in kind time and talent that builds toward a strong Montana GIS federated enterprise.”**

STEP 3 – Scope of Work Narrative

Stillwater County has taken a proactive role in the creation of GIS data bases for a variety of uses including emergency services, districts (Commissioner, herd, school, voting, weed, etc.), roads (including bus routes), cell towers, addressing, streams and rivers, subdivisions, and pipelines. The creation of these databases has been performed through the GIS department in cooperation with various agencies. The ability to utilize the data further to perform specific County services, especially those focusing on the roads is the target of this project. While we have the ability to create maps, creating specific underlying layers with multiple functions is essential to efficiently serving the constituents of Stillwater County.

The primary goal of the project will be to gather all data into one database containing over one thousand miles of road, 250 cattle guards, roughly 1300 culverts, approximately 30 bridges, and thousands of signs within Stillwater County.

Goal 1: Develop a geodatabase framework including domain lists, to limit attribute entry options, and ensure data integrity.

Objective A: Conduct project planning meetings with the Road and Bridge Department and GIS Coordinator. The initial meeting will be held July 2012 and meetings will continue throughout the project.

Objective B: Collect Field Data on the following assets and asset features:

- Roads
 - Location, length, width, road surface type (gravel, dirt, etc.), condition (excellent, good, fair, poor), ownership
- Bridges
 - Location, length, width, type of structure (wood, metal, concrete), condition (excellent, good, fair, poor), approach alignment, bridge markings
- Culverts/Stock Passes
 - Location, length, diameter, condition (excellent, good, fair, poor), type (metal, poly,)
 - Determine type of stock pass (metal, wood, concrete)
- Cattle Guards
 - Location, length, width, condition (excellent, good, fair, poor), type (pipe, iron, new manufacture style), type of sills, load rating, markings
- Signs
 - Location, type, condition, dimensions, reflectivity rating, type of post it's mounted on, date of installation, meets installation standards. This also includes mapping of speed limits throughout Stillwater County.

Goal 2: Develop a GPS data dictionary to record data.

Objective A: Collect data for roads, bridges, culverts, cattle guards, and signs using the Tremble Juno SB and a NiteStart distance measuring instrument (DMI) for all features.

Objective B: The GIS Coordinator will participate in a portion of the *field data collection process*, assist in the geodatabase set-up and maintenance, collect GPS data, download to PubWorks Program and the geodatabase, map production, update the MSDI Framework Layer quarterly and update the Map Book every other year. The GIS Coordinator will provide consultation and technical support for maintenance and updates to the Road & Bridge Infrastructure Geodatabase.

Objective C: The GIS Coordinator will utilize all GPS points, specifically road asset points, to update road files that exist on the geodatabase. This information simultaneously will be updated to the Emergency 911 database.

Goal 3: Integrate all components of the program into accessible forms.

Objective A: Provide final maps of all roads and road features to Emergency Responders and the 911 Center to increase response time and safety of the community.

Objective B: Utilize field data collection for multiple infrastructure facets

- Upload will consist of the field data being brought back to the office to be uploaded and synchronized to the main PubWorks and ESRI programs.
- Data Entry will consist of creating and entering these assets with identifiable names and/or numbers in the system and correcting any data that was not synchronized correctly during field data collection.
- Data Output will consist of various reporting and Job Costing, Work Orders, Service Requests, Etc.
- Exporting will consist of exporting all data to the GIS Map Viewer for GIS mapping and analysis.

Goal 4: Develop maintenance and replacement work plans for the Road and Bridge Department.

Objective A: Arc Map and PubWorks Map Viewer will be utilized at a dedicated workstation in the Road and Bridge Department to provide visual displays of the road infrastructure. This will be tasked to the GIS Coordinator and Road and Bridge Staff in a cooperative, integrated manner.

Objective B: The Road & Bridge Administrative Assistant will participate in the *field data collection process, upload/data entry/data output/exporting, coordinating* all needed information to the *GIS Coordinator*, as well as provide supervision and adequate training to the Temporary Staff. Upon successful training, the Temporary Staff will participate in the *field data collection process and upload/data entry/data output/exporting*.

PROJECT SCHEDULE

<i>Date</i>	<i>Activity</i>
May 2012	Anticipated Award Notification
June 2012	Purchase Equipment
July 2012	Project Planning Meeting (Road and Bridge and GIS Department)
July/August 2012	Software Setup and PubWorks Training
September 2012	Asset Data Collection, upload and entry (Columbus South Zone)
October 2012	Asset Data Collection, upload and entry (Absarokee Zone)
November 2012-March 2013	Update and verify data (office work only: winter weather conditions make data assets difficult or impossible to locate.
April 2013	Asset Data Collection, upload and entry (Park City Zone)
May 2013	Asset Data Collection, upload and entry (Columbus North Area)
June 2013	Asset Data Collection, upload and entry (Rapelje Zone)
July 2013	Asset Data Collection, upload and entry (Reed Point Zone)
August 2013	Asset Data Collection, upload and entry (Molt Zone)

STEP 4 – Project Management and Organizational Capability Narrative

Stillwater County GIS Department in cooperation with the Stillwater County Road and Bridge Department are developing and managing this project. The Road and Bridge Personnel will facilitate and perform data collection and entry into the PubWorks system. The data points collected will be shared to the GIS department for integration into the overall Stillwater County GIS system.

Calvin Clark: Stillwater County Road and Bridge Department, Road Superintendent Mr. Clark, a LTAP Road Scholar, maintains 15 years of experience working in the Road and Bridge Department. He has worked with the PubWorks program to input data from the roads, bridges, culverts, etc.

Randy Werdahl: Stillwater county Road and Bridge Department, Road Foreman. Mr. Werdahl, also a LTAP Association Road Scholar, maintains over 17 years with Stillwater and Sweetgrass County Road Departments.

Calvin and Randy have significant project management experience in their current and previous positions. Both are responsible for management and updates to the Capital Improvements Plan, Traffic Program, and Bridge Program. They administer and manage the TSEP (Treasure State Endowment Program) grants, Forest Highways Grant (newly awarded), Federal Highways grant, and a significant FEMA grant program in 2011.

Lisa Davis: Stillwater County Road and Bridge Department, Administrative Assistant and County Junk Vehicle Program Director. Lisa holds a Bachelors degree in Business Administration. She has been trained in the PubWorks software initial components and has extensive experience in data collection and entry for the specific software system. She has Arc view experience and the capability to create maps with limited data layers for departmental use. Lisa provides administrative support to all programs, including grant projects, for the Road and Bridge Department.

Sally Nielson: Stillwater County Road and Bridge Department Temporary Employee. Sally was originally employed by the department to conduct research and data entry for the FEMA grant in 2011. She was then integrated into the implementation phases of the first three components of PubWorks Software. Sally has experience in the data collection and entry methods for the PubWorks Software data system. Through this project the department plans to utilize her skills for additional data collection and entry.

Carol Arkell: Stillwater County GIS Coordinator. Carol has over five years of GIS experience with mapping and addressing and three years as the GIS Coordinator for the county. Utilizing ArcGIS, she creates decision support maps for fires and maps that show school areas, voting districts, fire districts, commission's

precincts, and other as requested using a variety of resources and data layers to develop maps and databases of information for addresses including project boundaries and ownership for addressing. Carol has conducted GIS fundamentals training using Arc View for the Road & Bridge Department and also uses a Trimble Juno SB GPS unit to collect GPS points for 911 addressing. She generates metadata in ArcGIS, desktop, software, ESRI, GIS, Census, and remote sensing data software, and digital cartographic through ESRI courses.

The GIS Department plays a vital and integral role in this project. The Road and Bridge Department will conduct the field data collection and entry utilizing GPS and the PubWorks Software. The data will then be integrated into the ESRI Arc Map and Arc Reader Program to be disseminated and utilized in various facets of County business. This includes the sharing of the data to the MSDI Steward. The information is then utilized by Department of Transportation for determining gas tax funding for the County. The collaborative effort of the Road and Bridge and GIS departments is imperative to the successful implementation, usage, and basic integrity of the data collected through this of this project. Each department employs significant expertise in the respective components of this project and provides a comprehensive approach to enhancing the GIS function in Stillwater County.

STEP 5 – Budget Justification Narrative and Tables

The Stillwater County project cost is **\$61,732** of which Stillwater County will be contributing **\$34,919** in personnel expenses as in kind match funding. The County requests **\$26,813** in MLIA funding for the remaining project expenses.

a. Personnel

Stillwater County Road and Bridge Department staff will be conducting all field data collection as well as office data entry and verification. The Department has designated a team for this project in order to gain efficient use of time while collecting the data as well as maintain control of the project, ultimately ensuring the integrity of the data entered into the system. The individuals on the team will pair up to collect field data. This will be timelier, ensure safety (a person dedicated to driving the vehicle and a person dedicated to the technological equipment, and provide for instant data verification. (the Road and Bridge Department's normal working schedule entails four 10 hour days. The hours contributed at normal individual wage per hour rates are considered in-kind contribution for Stillwater County. The hours below are an estimated approach to a breakdown of their work week in coordination with other daily required tasks outside of this project. Sally Nielson's (temporary staff) time will be entirely dedicated to this project. Wages and benefits for this position are requested through MLIA.

- Calvin Clark -Stillwater County R&B Department Superintendent.
 - 260 hours/year field data collection
 - 5 hrs/week x 52 weeks totaling: **\$10,485.**
- Randy Werdahl- Stillwater County R&B Department Road Foreman
 - 260 hours/year field data collection
 - 5 hrs/week x 52 weeks totaling: **\$9,055.**
- Lisa Davis – Stillwater County R&B Administrative Assistant
 - 390 hours/year field data collection: 7.5 hrs/week x 52 weeks
 - 210 hours/year Office work: data update and downloads
 - 80 hours/year or 1.5 hours/week on download operations and updating, verifying data
 - 130 hours/year or 2.5 hours/week upload/data entry/data output/exporting
 - Total contribution = **\$11,676**
- Carol Arkell, Stillwater County GIS Coordinator
 - 40 hours/ year GIS program consultation
 - 100 hours/year to data collection support.
 - Total contribution: **\$3,703**
- Sally Nielson – Stillwater County R&B Temporary Project Assistant

- 390 hours/year field data collection: 7.5 hours/week
- 360 hours/year office data entry and data updates:~7 hours/week
- Total requested: **\$8,527.**

b. Travel

The travel expenses for field data collection are based on FEMA rates for a vehicle without an operator. The operator expenses are contributed through the County employee time indicated in personnel. The operator costs are a day rate of \$44. (\$5.50/hr). 1300 personnel hours dedicated to data collection with two people collecting data together. (1400/2=700 hours @ \$5.50 =**\$3,850**).

c. Equipment

The PubWorks program is a very large database program that necessitates a dedicated computer. The computer will be purchased through the Stillwater County Technology utilizing their vendors and process. That current process quotes a Dell Precision T3500, Windows 7 Professional 64 bit, Quad core Xeon 3.0 GH processor, 6 GB RAM, 1 GB video card capable of dual monitors, 500 GB hard drive @ \$1,778.23.

The vehicles utilized for data collection must be equipped with distance measuring instruments (DMI). The specific unit being a NiteStar 60 DMI with an electronic interface sensor and cable kit. The purchase price of this instrument is \$812.19

Total Equipment: \$2,590.

d. Supplies

The components of PubWorks Software include:

- Service Requests= \$1750
- Work Orders= \$1750
- Map Viewer= \$3500

A 20% discount is currently offered to the County bringing the software total (9000x20%=7200) An initial annual support and maintenance plan = \$1,296. This is necessary to maintain access to PubWorks professionals through the learning curves of this program. Future support and maintenance plans, if deemed necessary, will be included in the Road and Bridge Department annual budget. **Total Supplies: \$8,496.**

e. Contractual

PubWorks Software is a very complex and comprehensive system. Training on each component, the underlying design and principles, proper installation and set up of the program, and integration of the various components is key to utilizing this system to full potential by each staff member. PubWorks professional trainers provide extensive training; initially performed on site then offering distance technical support.

- Training/Installation/Set Up: \$1950
- PubWorks Trainer Travel Expenses: \$1400
- **Total: \$3,350**

Applicant budget summary

Category	Hours	MLIA Share (Dollars)	Applicant Share (Dollars)	Total (Dollars)
a. Personnel Salaries and Wages				
Calvin Clark (permanent staff)	260		6,983	6,983
Randy Werdal (permanent staff)	260		6,011	6,011
Lisa Davis (permanent staff)	600		7,452	7,452
Carol Arkell (permanent staff)	140		2,508	2,508
Sally Nielson (temporary staff)	750	6,712		6,712
TOTAL SALARIES AND WAGES			22,954	29,666
a.1 Fringe Benefits				
Permanent Staff				
Calvin Clark (13.47/hr)	260		3,502	3,502
Randy Werdahl (11.71/hr)	260		3,044	3,044
Lisa Davis (7.04/hr)	600		4,224	4,224
Carol Arkell (8.54/hr)	140		1,195	1,195
Temporary Staff				
Sally Nielson (2.42/hr)	750	1,815		1,815
TOTAL FRINGE BENEFITS		1,815	11,965	13,780
a. TOTAL PERSONNEL		8,527	34,919	43,446
b. Travel	700	3850		3,850
c. Equipment				
Computer		1,778		1,778
Distance Measuring Instrument		812		812
TOTAL EQUIPMENT		2,590		2,590
d. Supplies				
PubWorks Software & Support Pkg		8,496		8,496
e. Contractual				
PubWorks Training		3,350		3,350
f. Other				
TOTALS		26,813	34,919	61,732

STEP 6 – Statements of Support

Joshua Dorris, Transportation Framework Theme Coordinator,
State of Montana Department of Administration

STEP 7 – Renewable Grant Accountability Narrative

NOT APPLICABLE

STEP 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.

BOARD OF COMMISSIONERS, STILLWATER COUNTY

Dennis Shupak, Chair

Gerald W. Dell

Maureen Davey

Date _____