FY17 Vermont Better Roads Grant Application

Please complete this page ONCE and return with your Grant Category Application(s)

Town/Organization: Brattleboro Contact Person(s): Hannah O'Connell

Address: 211 Fairground Road, Brattleboro, VT 05301
Street Address *Town* *Zip*

Email: hoconnell@brattleboro.org Phone: (802) 254425 - 5301

DUNS #: 73995169 Fiscal Year End Month (MM): 6

Accounting System: ☒ Automated ☐ Manual ☐ Combination

Please use the suggested documentation checklist below to ensure that all of the relevant items regarding your application have been included.

- ☒ Grant application cover sheet (Only submit one)
- ☒ Grant application form (One per category/project)
- ☐ Itemized Cost estimate for labor, equipment, and materials (see enclosed Cost Estimate Worksheet). If applicable, please break down funding by source (i.e. different grant sources)
- ☐ Project Location Map (please show location of affected water)
- ☐ Sketch of proposed erosion control measures or other management practices, including distances in feet
  Also show approximate location of town/other right-of-way and/or property lines
- ☐ Photo(s) of the project area
- ☒ Letters of Support (RPC, VTrans District Technical Staff, ANR Rivers and Streams Engineers, etc.)
- ☐ If Category C River/Road Conflict or Category D River/Stream Structure or Culvert, you must attach ANR/ACOE consultation

Vermont Better Roads Grant Program Application

CATEGORY A: ROAD INVENTORY AND CAPITAL BUDGET PLANNING PROJECT

Town/Organization: Town of Brattleboro

Project Name: Pavement Planning Project

Inventory Type: ☑ Town wide ☐ Watershed (please list): _____

Describe how the grant funds will be spent and attach a project budget:
These grant funds will supplement municipal funding to hire a consultant to perform a town wide pavement condition inventory that will be used to develop a long term capital plan and pavement management program. Please see attached price quote/proposal.

How do you plan to meet the required 20% match on this grant?:
We will meet the 20% match with Town Staff time in assisting the consultant with data collection and entry.

Requested Grant Amount ($8,000 max): $ 8,000.00

Estimated Total Project Cost (including 20% local match): $ 33,500.00

Estimated Completion Date: May 2017

☐ Please check this box if you would like to contract your project through your RPC

REQUIRED ATTACHMENTS: a) Project budget b) Appropriate supporting documents.

By signing this application I certify that all the information provided is accurate to the best of my knowledge. We will comply with all the requirements of the grant including making our books available for audit if required.

SIGNATURE OF APPLICANT: (Must be Town Administrator/Manager or Select Board Chair)

Name: Peter B Elwell Title: Town Manager

WINDHAM
REGIONAL
COMMISSION

April 10, 2016

Hannah O'Connell
Town of Brattleboro, Public Works
Water and Highway Supervisor
211 Fairground Road
Brattleboro, Vt. 05301

Dear Hannah:
I am pleased to provide a letter of support for the Town of Brattleboro's application submission for a Category A and C Better Roads grant. Category A will provide an opportunity to assess the pavement condition on the town highways and develop a Capital Improvement Plan for long-term transportation infrastructure budgeting. For Category C, to lessen the impact on Bonnyvale Road, a key retaining wall needs to be rebuilt. This application conforms to the policies found in the Windham Regional Plan (September 2014):

> *1. Maintain and restore the chemical, biological, and physical quality of the region's surface water per the objective in State water regulations.*
>
> *2. Improve existing roads and design culverts and bridges to carry a 50-year flood event without damage.*

Please contact me if you have any questions.

Sincerely,

Matt Mann

Matt Mann
Senior Transportation Planner

ENGINEERING SUCCESS TOGETHER

February 29, 2016

Stephen Barrett
Director of Public Works
Town of Brattleboro
211 Fairground Road
Brattleboro, VT 05301

Re: Brattleboro – Pavement Management Program

Dear Mr. Barrett:

BETA Group, Inc. (BETA) is pleased to submit this proposal to provide pavement management services to the Town of Brattleboro. It is our understanding that the Town is seeking to build a pavement management program and develop a web-based Asset Management Program capable of managing multiple roadway assets. The program we are proposing is hosted by PeopleGIS, a vendor the Brattleboro currently utilizes in other Town departments. BETA has worked with PeopleGIS over the past 3 years to develop a user friendly web application to manage not only pavement conditions, but additional assets such as signs, ramps and sidewalks. The Asset Management Program will provide the framework for data analysis, prioritization, and capital improvement planning for roadway projects. To complete this project, we have developed a 3-step process as presented below:

SCOPE OF WORK

Task 1 – Kick-Off Meeting & Database Design

1.1 Kick-Off Meeting

The first step in the process is to conduct a project kick-off meeting with the Town, to discuss all facets of the project, agree to the format of final deliverables, and establish a schedule for the project, which shall include:

- Review of available information
- System set-up and design
- Field data collection protocols
- Schedule and deliverables
- System deployment

This forum will also provide the opportunity for decision makers and staff ultimately responsible for maintaining the database to provide input to BETA. It is also envisioned that the kick-off meeting will include a discussion of required database components, system architecture, end-user reports, GIS mapping capabilities and system maintenance requirements.

1.2 Database Design

Per our meeting with the Town, we understand that the Town maintains approximately **65 centerline miles of roadway**. BETA will use the VTrans centerline file to establish the database and mapping. As part of this

task, BETA will work with the Town to evaluate the inventory of Town-owned roads, paper streets, private streets, etc.

The roadway configuration and street review will also include the following:

- The roadway database will be segment-based (intersection to intersection) to facilitate reporting and analysis. The master database will reflect to/from streets along with each segment's associated length.
- BETA will compile a draft street report for Town review.
- BETA will amend the draft report based on feedback and input from the Town, and will provide the Town with a final road list.

Task 2 - Field Inspection Program

2.1 Pavement Inspections

As previously mentioned, it is assumed that BETA will inspect up to **65 centerline miles of Town Maintained Roadways** as part of this project. The required field inspections will be performed by an experienced BETA Field Team. Each roadway segment (typically intersection to intersection) will follow industry standards for pavement inspection methods.

Attribute and inspection related data will include the following:

Data that seldom changes:

- Street Name
- Street Segment Description (From/To)
- Pavement Material (Bituminous Concrete, Gravel, Chip Seal, Other)
- Length/Area of Segment (Feet, Miles, Square Yards)
- Width of Segment (Measured on foot using wheel)

Pavement Distress Data (Extent & Severity):

- Alligator Cracking
- Linear Cracking (Longitudinal/Transverse)
- Edge Cracking
- Patching
- Potholes
- Roughness
- Rutting

Additional Roadway Features:

- Curbing (Location, Material, Average Reveal)
- Sidewalks (Location, Material)
- Presence of Line Striping (Double Yellow, Edgeline)

The pavement distress data will be identified by severity (High, Moderate, Low) and extent (0%-100%) for each paved roadway segment to allow for a Road Surface Rating (RSR) to be calculated. RSR values will range from 0-100 (worst to best). As part of this process, BETA will also identify curb type, average reveal and roadway segments that have sidewalks. Sidewalk material type and location will be coded to each

respective roadway segment. Finally, a representative photo log will be created, capturing varying degrees of pavement conditions across representative locations throughout the Town.

Task 3 – Data Analysis & Capital Improvement Planning

3.1 Data Analysis & Reporting

The pavement management process is conducted with the intent to keep the roadway system in the best possible condition with the most efficient use of available funds. There are distinct advantages to managing the network's pavement condition and significant cost savings that can take place with preventative maintenance or rehabilitation measures rather than waiting until a road is in need of reconstruction.

Through the RSR, each roadway will be placed into a "repair category" which is designed to, in general, show the type of repair which should be performed on the roadway. An estimated unit cost will be associated with each repair category allowing for a network backlog of work to be calculated. This initial backlog figure will act as the Town's benchmark for progress moving forward and will be classified into the following categories:

- No Maintenance Required
- Routine Maintenance (Crack Seal, Fog Seal)
- Preventative Maintenance (Microsurfacing, Chip Seal, Thin Asphalt Overlay)
- Rehabilitation (Mill and Overlay, Hot-In-Place Recycling, Cold-In-Place Recycling)
- Reconstruction (Full-Depth Reclamation, Reconstruction)

BETA will also act as a resource to the Town with respect to the selection of specific repair methods, design standards and associated unit costs for consideration in the capital planning process. This will facilitate the establishment of a series of specific repair strategies, as mentioned above, to streamline the repair assignment and budgeting process. The Town will have the ability to refine these repair strategies annually by updating the roadway database as improvements are made. This will prove helpful to track the success rate of each repair type and associated unit costs at the segment level.

This task will include the following Deliverables:

- Existing Conditions Report
- Corresponding GIS Roadway Maps

3.2 Prioritization & Capital Improvement Planning

Analysis reports such as Cost Benefit Value (CBV) will be generated and will serve as a tool for prioritizing potential projects for inclusion in the Roadway Improvement Plan. Additional work to be completed as part of this task includes:

- Evaluation of the Town's current roadway budget as it relates to the computed network backlog and associated costs. This includes generating a 3-year Forecast Model that will analyze how the network-level RSR will fluctuate over time as different funding scenarios are applied.
- BETA will conduct a capital planning workshop to discuss prioritization of roadway repairs in preparation for the development of a 3-year plan.
- Work with the Town to develop a 3-year plan that will schedule roadway improvement projects based budgetary allowances (i.e. Local funds, State Grants, Bond Referendum, etc.)

- Upon completion of these analyses, BETA will submit a Final Pavement Management Report in bound paper format and a series of stand-alone GIS maps that depict the Plan in graphic form for review and comment. A power point presentation will also be included upon completion.

System Deployment & Support Program

As part of this proposal, we will deploy PeopleGIS's "Complete Streets" Asset Management module for the Town to access and update the database. BETA has worked with PeopleGIS to create a user-friendly comprehensive tool for DPW staff to maintain their roadway data. The "Complete Streets" module allows for roadway data such as pavement, signs, ramps and sidewalks to be accessed and maintained from anywhere at any time.

Through our experience, we have found that the training portion of the project is vital to the eventual success of the project. We recommend that each user level should participate in training upon the deployment of our Asset Management Program. In our experience, we have found that the communities that implemented the strongest training programs also experienced the greatest rates of return on their investments in our services.

Given this understanding, we propose one onsite training session lasting up to 4 hours. Experienced BETA staff will provide training on the Pavement Management Program with focus being maintenance, analysis and reporting protocols.

Following the deployment of "Complete Streets" BETA will provide system support for a period of 6 months under the base cost presented. This support may include periodic site visits as well as phone or email correspondence.

FEE PROPOSAL

The preceding Scope of Work will be completed for a **lump sum amount of $33,500,** and is broken down as follows:

Task 1 – Kick-Off Meeting & Database Design	$4,500
Task 2 – Field Inspection Program	$17,500
Task 3 – Data Analysis & Capital Improvement Planning	$6,500
BETA Sub Total	**$28,500**
PeopleGIS "Complete Streets" Module	$5,000*
Project Total	**$33,500**

* Please note, this project includes the first year user fees for PeopleGIS's "Complete Streets" module. Following the first year of service, a yearly user fee of $2,000 will be added to the Town's existing PeopleGIS service fees for the continued use of the "Complete Streets" module.

Thank you for the opportunity to assist the Town of Brattleboro with its Asset Management Program. If you have any questions or require additional information on this proposal, please feel free to contact me at (617) 833-5050.

Sincerely,

BETA GROUP, INC.

Conrad Leger
Asset Management Coordinator