



May 2, 2019

Mr. James F. McKay, Director  
Millis Department of Public works  
900 Main Street  
Millis, MA 02054

RE: Proposal for Engineering Services  
Stormwater Alternatives Analysis for  
Village St. & Birch St. Drainage System

Dear Mr. McKay:

Following our site visit on March 7, 2019, and observation of the existing drainage system at the Village St. & Birch St. intersection, Kleinfelder has developed this proposal for engineering services for development of a stormwater alternatives analysis. This proposal will evaluate the existing drainage system and present alternatives and recommendations to improvements to the existing subsurface infiltration drainage system at this location. The project objective is to reduce the extent of flooding to occur under a 10-year, 24-hour design storm.

## **SCOPE OF SERVICES**

Kleinfelder will provide the following scope of services in support of the project objectives:

### **Task 1: Topographic Survey & Data Gathering**

1. Updated Topographic Survey & Mapping
  - a. Review Town existing 2009 survey documentation of Village Street.
  - b. Provide on-the-ground survey and mapping information to supplement the existing survey documentation to aid in the evaluation and alternatives analysis.
  - c. Perform up to one (1) site visit to confirm supplemental survey information.
2. Evaluate groundwater elevation in the area of concern. Review available groundwater documentation provided by the Town.
3. Evaluate saturated hydraulic conductivity values for soils in the area of concern (if none, utilize Rawls Chart for hydrologic soils at the site).

### **Deliverables:**

- At the completion of survey work, provide updated survey mapping to Town.

## **Task 2: Evaluate Existing Stormwater Drainage System**

1. Evaluation of existing drainage conditions. Determine contributing stormwater flows utilizing HydroCAD Stormwater Modeling software. The project objective is to evaluate flow under the 10-year, 24-hour storm event in four (4) specific stormwater collection locations, which include:
  - a. Catch basin in front of 27 Birch Street,
  - b. Catch basin (at the intersection of Village St. & Birch St.) located at 69 Village Street.
  - c. Catch basin (at the intersection of Village St. & Birch St.) located at 63 Village Street.
  - d. Catch basin at 88 Village Street. This catch basin is discharging to the Town's drainage easement located between 88 & 84 Village Street.

Under the existing conditions drainage evaluation, the watershed is divided into two drainage areas, 1) Village Street and 2) Birch Street. The Village Street drainage area is anticipated to be approximately 21-acres in size. The western boundary of the Village Street drainage area extends approximately 250-ft southwest of Forest Street, which drains northeast toward the Village & Birch Street intersection. The eastern boundary of the Village Street drainage area extends to Heritage Path, which drains southwest toward the Village & Birch Street intersection. The Birch Street drainage area is anticipated to be approximately 2-acres.

## **Task 3: Stormwater Alternative Analysis**

1. Develop drainage alternatives analysis to evaluate two (2) alternative drainage improvements for each of the Village Street drainage area and Birch Street drainage areas (total of four alternatives). Those alternatives include the following:
  - a. Village Street - Alternative Drainage improvements
    - i. *Alternative 1 – Village St. (New Drainage) Improvements:* Incorporate additional catch basins and infiltration units on Village Street.
    - ii. *Alternative 2 – Village St. (Modify Existing Drainage) Improvements:* Improve the existing drainage collection at catch basin located in front of 88 Village Street, in an effort to re-direct stormwater flow off Village Street to the existing Town drainage easement, between 84 & 88 Village Street.
  - b. Birch Road - Alternative Drainage improvements
    - i. *Alternative 3 – Birch St. (New Drainage) Improvements in Town Right-of-Way:* Replace existing catch basin & infiltration structure in Birch Road with new catch basin and infiltration located under the roadway, within the Birch Street right-of-way.

- ii. *Alternative 4 – Birch St. (New Drainage) Improvements in Town Easement:*  
Construct a new detention/infiltration structure under Town easement located in the Driveway of #27 Birch Street.
2. Prepare a technical memorandum to present the findings, conclusions, and recommendations of the stormwater alternative analysis. Also, the technical memorandum will include:
  - a. Identification of possible permitting requirements (if any).
  - b. Preparation of an Opinion of Probable Costs for the four (4) proposed drainage alternatives analyzed.
  - c. Summarize alternatives, advantages and disadvantages, and conceptual costs.

**Deliverables:**

- Technical Memorandum

**Task 4: Project Management and QA/QC**

1. Provide project management and project control through all phases indicated.
2. Provide QA/QC technical review before completing Technical Memorandum.

**FEE ESTIMATE**

Kleinfelder proposes to execute the services associated with the tasks above for an estimated fee of **\$38,550.00 USD**, including reasonable expenses directly connected with the services.

**CLARIFICATIONS AND ASSUMPTIONS**

The fee for Kleinfelder's scope of services excludes permitting, and any other service not specified above. Services not specified may be added by written Change Order. Kleinfelder's fee was based upon the assessment of existing conditions described above. Assessment of additional areas can be added to the scope of services via a change order if desired.

**SCHEDULE**

Kleinfelder proposes to complete all tasks within 90 days of receiving the signed Agreement and Notice to Proceed.

We appreciate the opportunity to develop this proposal. Please contact me if you would like to discuss any revisions to the scope. We look forward to having the opportunity to work on this project with you.

Respectfully Yours,

**KLEINFELDER**

A handwritten signature in black ink, reading "Betsy C. Frederick". The signature is fluid and cursive, with the first name "Betsy" being more prominent than the last name "Frederick".

Betsy Frederick  
Project Manager

cc: Andrew Goldberg - Kleinfelder  
Rob Kenneally, P.E. - Kleinfelder  
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