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TECHNICAL NOTE

Project name	**Resilient NY – Chittenango Creek**
Project no.	**1940101594**
Client	**New York State Office of General Services / NYS Department of Environmental Conservation**
Technical Note no.	**01**
Version	**1**
To	**Mr. Tom Snow, PE, NYSDEC**
From	**Shaun Gannon P.E., D.WRE, P.H., CFM, PMP**
Copy to	**Mr. Eric Baurle, NYSOGS**
Prepared by	**Kadir Goz**
Checked by	**Deborah Coffin, Thomas Snow (NYSDEC)**
Approved by	**Shaun B. Gannon P.E.**

Date August 3, 2022

Ramboll
101 First Street
4th Floor
Utica, NY 13501
USA

T 315-956-6950
F 315-790-5434
https://ramboll.com

1 Addenda to Resilient NY Flood Mitigation Initiative, Chittenango Creek Final Report dated June 7, 2022

Ramboll Americas Engineering Solutions, Inc. (Ramboll) and the New York State Department of Environmental Conservation (NYSDEC) conducted a conference call with the Village of Chittenango on June 8, 2022, to discuss the alternatives presented in the Resilient NY Flood Mitigation Initiative, Chittenango Creek final report dated June 7, 2022. In attendance were:

- Shaun B Gannon, P.E. – Ramboll Technical Manager
- Kadir Goz – Ramboll – Scientist
- Thomas Snow, P.E. – NYSDEC
- Mayor Elizabeth Bough Martin – Village of Chittenango
- Village Administrator Paul Gregory – Village of Chittenango

The conference call was conducted to allow for further discussion regarding the alternatives, included in the report, for the Village of Chittenango. As a result, the NYSDEC has agreed to issue this Addenda to the final report adding the following project alternatives.

Alternative # 3-9: Reconnection of the Feeder Canal to the Erie Canal

When the historic Erie Canal was constructed, a dam was placed across Chittenango Creek allowing for flow to be diverted into an adjacent feeder canal, suppling the Erie Canal (Figure 1). Currently this diversion is not in operation. Further investigation, including detailed hydraulic modeling, should be performed to assess potential impacts on upstream flooding.

Figure 1. Location map of dam and feeder canal to the Erie Canal along Chittenango Creek.

Alternative # 3-10: Evaluate Berm Removal and Reconfiguration

On the right bank of the creek between Tuscarora Road and Russell Street is a historic berm that is not recognized by FEMA on the effective FIRM as providing flood protection (Figure 2). However, during higher frequency events the berm restricts flow into the overbank potentially backing water up pass Russell St. The Village has recently experience repetitive flooding at the Grand Rehabilitation Center. Further investigation and detailed hydraulic modeling should be performed to understand what impacts the historic berm may have on flood stages and backwater.

Figure 2. Location map of historic berm along Chittenango Creek downstream Russell Street.

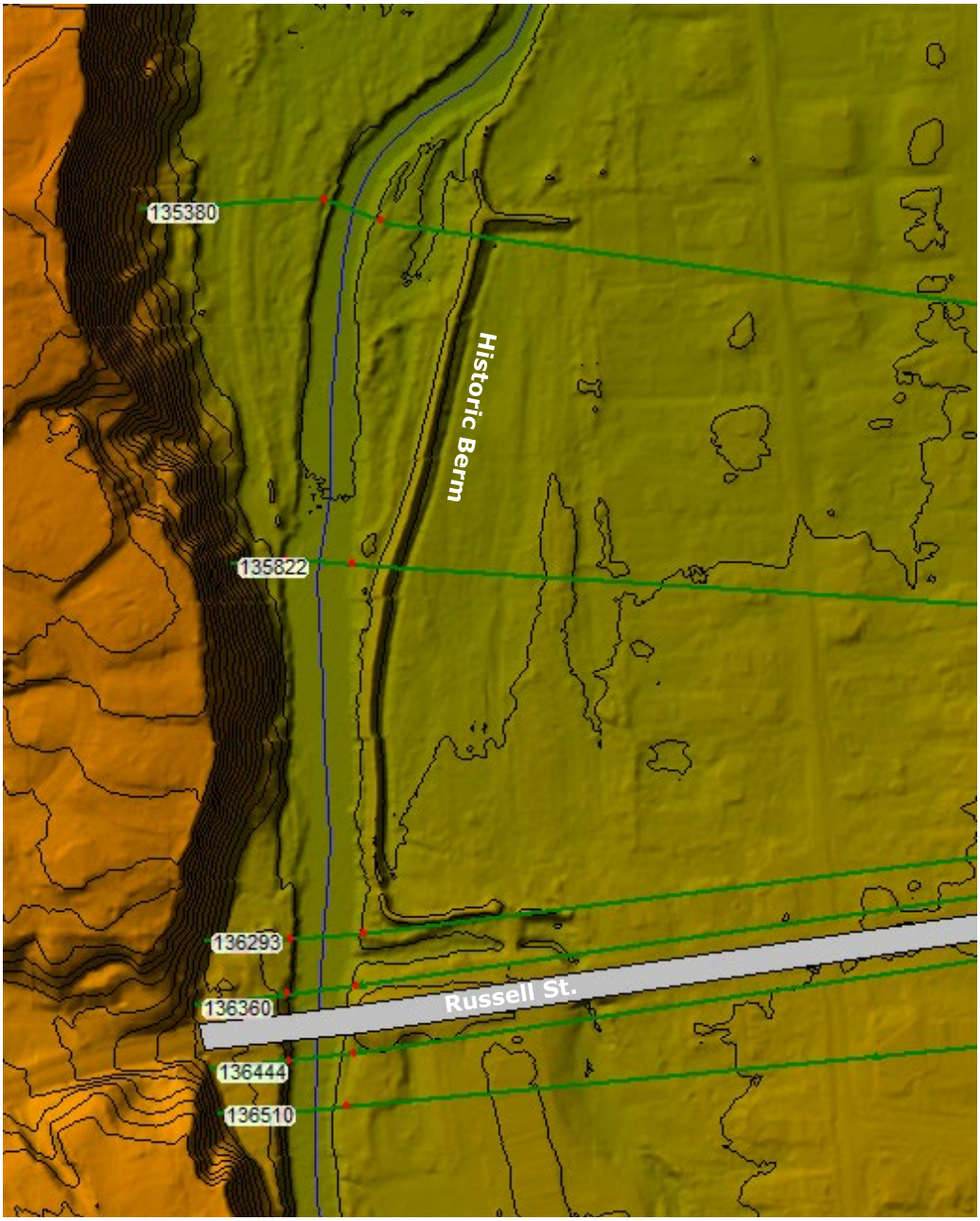

Figure 3. 1-meter digital elevation model (DEM) image of historic berm.

Alternative # 3-11: Perform a Snagging and Shoaling Study

Chittenango Creek, in the Village of Chittenango, experiences ice jam related flooding during spring freshet (i.e., spring thaw of ice and snow melt). Ice jams form as a result of slower velocities and shallower flows due to overhanging branches, downed trees and the presence of shoals within the creek. A snagging and shoaling study should be conducted, in cooperation with NYSDEC and the USACE, to determine if routine maintenance would help reduce the frequency of ice jams and corresponding ice jam related floods.

Alternative # 3-12: Study the Impacts of Diverting Flow into Overland Areas to Lessen Impacts during Ice Jam Events

The historic dam across the creek, constructed as part of the Eric Canal, results in back water and reduction in flow velocities. During the winter months this may promote the development of ice jams resulting in flooding during spring freshet. An evaluation should be performed, including detailed hydraulic modeling, to assess impacts on upstream flooding of forming a pilot channel to encourage flows to bypass ice or debris jams.

Figure 4. Location map of potential flow diversion along Chittenango Creek.