

## Supplemental Supporting Information for a Finding of Effect

Project: Canaan 21878.00

Scope: Bridge Replacement

Finding of Effect: **No Adverse Effect**

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### **Purpose and Need**

The purpose of the project is to provide a safe crossing for vehicular and pedestrian traffic over the Carrabassett Stream in Canaan.

The need for this project is that the existing bridge, Canaan Bridge No. 2120, is ending its useful life and is structurally deficient. The bridge's deck and superstructure have been rated in poor condition.

### Existing Conditions

Canaan Bridge No. 2120 carries US Route 2/Route 23 (Main Street) over the Carrabassett Stream. It is a 28' reinforced concrete rigid frame bridge built in 1941. The bridge carries two 11' travel lanes with 4' shoulders, 4' sidewalks, and 1' concrete bridge railings. The most recent bi-annual inspection of the Canaan Bridge was performed in June 2018. The inspection noted that the bridge is in poor to fair condition overall. Condition ratings for the major components are documented as 4 (poor) for the deck, 4 (poor) for the superstructure, and 5 (fair) for the substructure. Moderate to heavy cracking and efflorescence is found on the underside of the concrete slab along with horizontal cracking and light spalling on the upstream and downstream faces of the top slab.

The Annual Average Daily Traffic (AADT) across the bridge is 5,800 vehicles. Crash Summary Report data covering a three-year study period from January 2014 to December 2016 indicates that there were three reportable accidents within the project limits directly attributable to the bridge or roadway alignment.

### **Proposed Action**

The proposed action (Alternative 2) would replace the existing bridge with a prestressed, precast concrete bridge with a 60' span. The replacement bridge would carry two 11' travel lanes with two 5' shoulders and a 5' sidewalk. The sidewalk would be located on the upstream side of the bridge to match with existing pedestrian facilities on Route 2. The south side of Route 2 does not have a sidewalk. The proposed horizontal alignment would match the existing alignment of Route 2. The vertical alignment would be slightly modified to conform with existing surveyed conditions.

The 60' span would increase hydraulic capacity of the bridge opening particularly at higher flow volumes. This span would locate the abutments further from the stream to take advantage of shallower and more uniform bedrock elevations. The bridge would be constructed with Northeast extreme tee (NEXT) beams. The use of NEXT beams would minimize the substructure excavation depths and impacts to the stream channel. A bituminous wearing surface would be placed on the superstructure. The end diaphragms, roadway slab, end posts, curbs, and sidewalks would be reinforced with stainless steel for a long-term and low cost maintenance structure. The abutments would be cast-in-place concrete located on ledge. The wingwalls would be cantilevered cast-in-

place on ledge. Riprap would be placed along the stream banks around all abutments and wingwalls.

Traffic would be maintained throughout construction via a single-lane temporary upstream bridge. The temporary bridge would have a 5' sidewalk. Temporary traffic signals would be utilized to direct traffic on Route 2 and at the intersections with Easy Street and Hill Road. The use of a single-lane temporary bridge would require the removal of three buildings (Sta. 572+80L, 573+75L, and 574+25L). The proposed action is estimated to cost \$2,270,000. The project is slated for completion in one construction season in 2021.

**Federal Action**

Federal funding.

**Definition of Area of Potential Effect (APE)**

The proposed project is located in Canaan. The map below shows the APE.

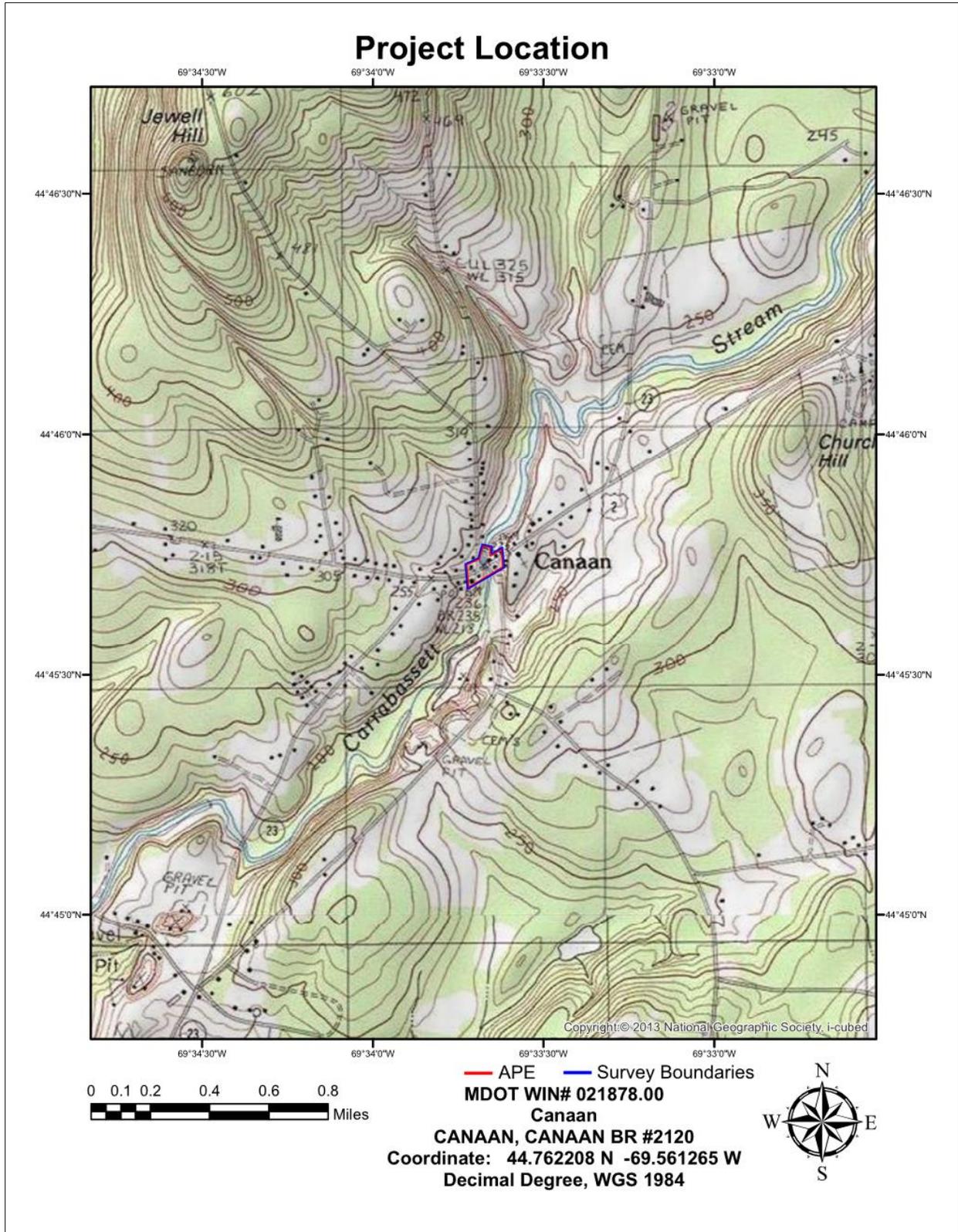


Figure 1. Canaan 21878.00 Area of Potential Effect

### Historic Properties

The proposed project is located in Canaan. The following descriptions of historic properties found within the project area are based on Maine Historic Preservation Commission (MHPC) survey forms.

#### 276 Main Street (Craig Heavey, 571+25L)



*National Register-eligible*

*Criteria A & C  
Architecture Exploration/  
Settlement*

The house at 276 Main Street is a two-story Federal-style dwelling that has a rectangular footprint and a low pitched metal hipped roof with an interior brick chimney. The house is clad in wood clapboard siding and has two-over-two wood windows with storm windows. The windows sit in narrow wood frames. The front entry has an oval sunburst molding surmounting a paneled front door flanked by sidelights. The building has a rear ell. It sits on a granite foundation. The property is a rare example of Federal-style architecture in Canaan and one of the oldest extant houses in the town. Its period of significance is c.1800-1832.

#### Archeological Resources

There are no archaeological resources in the project area.

### Impacts to Property

The following addresses potential impacts to properties as a result of the proposed action.

#### 276 Main Street (Craig Heavey, 571+25L)

*National Register-eligible*

*Criteria A & C, Architecture, Exploration/Settlement*

The proposed action would result in **No Adverse Effect** to the house at 276 Main Street. The proposed action would match into the existing pavement at this location at Sta. 571+50. The roadway would retain 11' travel lanes with 5' shoulders. The 5' sidewalk with curbing located from Sta. 571+50L to 571+60L would be reconstructed with in-kind materials. Fill would occur from Sta. 571+50L to 571+60L. All disturbed land would be graded, loamed, and seeded. All work within this parcel would be completed in the right-of-way. Temporary rights at the adjacent lot would be required for a temporary traffic signal and jersey barriers to help direct detour traffic.

The land would be returned to its original appearance before construction is complete. These actions would not diminish the property's seven aspects of integrity.

#### Archaeological Resources

No archaeological properties would be affected by the proposed undertaking.

#### **Avoidance and Minimization Efforts**

The proposed action avoids significant impacts at the National Register-eligible property located within the project area. The proposed action further minimizes impacts by using in-kind materials, such as hot mix asphalt and bituminous curbing.

#### **Dismissed Alternatives**

The following alternatives were evaluated for Canaan 21878.00 bridge improvements project.

#### No Build

The No Build alternative does not meet the purpose and need of the project and was therefore removed from further consideration.

#### Alternative 1

This alternative would replace the existing bridge with a precast concrete rigid frame bridge located on the existing alignment and profile. New footings would be cast over the existing footings and the wingwalls rebuilt. This alternative would have retained a similar sized bridge span opening at 28'. This alternative was dismissed because retaining the current bridge opening would not increase hydraulic flow and remain a potential hazard to catch debris, particularly during wet weather events. This alternative would have resulted in more impacts to the stream bed than the preferred alternative and would not meet 1.2 bank full requirements. This alternative was also dismissed because it would have higher maintenance costs and a shorter service life as the preferred alternative.

#### **Proposed Materials**

Hot-mix-asphalt, bituminous curbing and sidewalks, and guardrail.

#### **Plans**

Canaan, Somerset County, Canaan Bridge over Carrabassett Stream Federal Aid Project No. NHPP-2187(800), Maine Department of Transportation, May 26, 2020.

#### **Attachments**

Kirk F. Mohny, MHPC, Concur, October 25, 2017

# STATE OF MAINE

## Memorandum

Date: September 27, 2017

To: Kirk F. Mohney, MHPC  
From: Julie Senk, Maine DOT/ENV  
Subject: Section 106 request for concurrence  
Project: Canaan 21878.00  
Scope: Bridge improvements

SEP 29 2017

1850-16

The Maine DOT has reviewed this project pursuant to the Maine Programmatic Agreement (PA) and Section 106 of the National Historic Preservation Act of 1966, as amended.

The proposed project consists of bridge improvements to Canaan Bridge No. 2120 over Carrabassett Stream carrying US Route 2.

Attached is a memo addressing additional information requested by MHPC in a memo dated September 7, 2017. One resource was previously determined eligible for the National Register for this project.

In accordance with 36 CFR Part 800.4, the following identification efforts of historic properties were made:

- 800.4(a) (1) - The Area of Potential Effect (APE) includes properties/structures adjacent to the bridge and within the project limits. The project limits are defined by the structure and the immediately adjacent area, as well as potential approach roadway and intersection improvements nearby. Properties/structures adjacent to this project limit are considered to be within the APE.
- 800.4(a) (2) - Review of existing information consisted of researching the National Register and MHPC survey databases. The Maine Historic Preservation Commission Archaeological staff is currently reviewing this undertaking.
- 800.4(a) (3) - The Town of Canaan was contacted via letter and asked to comment on knowledge of, or concerns with, historic properties in the area, and any issues with the undertaking's effect on historic properties. The town was also requested to provide information regarding local historic societies or groups. The town has not replied to date.
- 800.4(a) (4) - Letters outlining project location and scope were sent to the 4 federally recognized Tribes in Maine. The Passamaquoddy Nation has replied with no concerns about the undertaking.
- 800.4(c) - The Maine DOT conducted historic architectural surveys within the APE to determine if properties met National Register criteria. Maine Historic Preservation Commission Archaeological staff is currently reviewing this undertaking. **The Maine DOT has determined that one architectural history property within the APE is eligible for listing in the National Register of Historic Places and determined that SM #4 (addressed in the attached memo) is not eligible for listing in the National Register.**

In accordance with the PA and 36 CFR Part 800, please reply with your concurrence or objection to this determination of National Register eligibility within 30 days.

Please contact me at Julie.Senk@maine.gov if you have any questions. Thank you.

cc: CPD e-file

enc: Amanda Taylor, Kleinfelder, to Julie Senk, Maine DOT, Memorandum, September 26, 2017

CONCUR	
	10/25/17
Kirk F. Mohney, State Historic Preservation Officer	Date

Project Scan

