

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



BANCROFT TWP
AROOSTOOK COUNTY
SMITH BROOK BRIDGE
OVER
SMITH BROOK
BANCROFT ROAD
FEDERAL AID PROJECT NO. 2826200
BRIDGE NO. 3189

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Tenth Edition 2024.

DESIGN LOADING

Live Load _____ HL - 93 Modified for Strength I

HYDROLOGIC DATA

Drainage Area _____ 15.11 sq mi
Design Discharge (Q50) _____ 1,320 cfs
Check Discharge (Q100) _____ 1,500 cfs
Headwater Elevation (Q1.1) _____ 332.9 ft
Headwater Elevation (Q25) _____ 339.8 ft
Headwater Elevation (Q50) _____ 340.7 ft
Headwater Elevation (Q100) _____ 341.5 ft
Discharge Velocity (Q1.1) _____ 2.8 fps
Discharge Velocity (Q50) _____ 11.9 fps
Discharge Velocity (Q100) _____ 12.9 fps

MATERIALS

Concrete:
Structural Concrete Slab & Curbs _____ Class "A1"
All Other _____ Class "A"

Reinforcing:
Plain Reinforcing Steel _____ ASTM A615, Grade 60
Glass Fiber Reinforcing Polymer (GFRP) _____ ASTM D7957
Low-Carbon Chromium Steel _____ ASTM A1035, Type CS, Grade 100

Structural Steel:
All Material (except as noted) _____ ASTM A709, Grade 50W (unpainted)
H-Piles _____ ASTM A572, Grade 50
High Strength Bolts _____ ASTM F3125, Grade A325, Type 3

BASIC DESIGN STRESSES

Concrete:
Class "A1" _____ $f'c = 4,000$ psi
Class "A" _____ $f'c = 4,000$ psi

Reinforcing:
Plain Reinforcing Steel _____ $f_y = 60,000$ psi
GFRP
Minimum Tensile Strength _____ $f_{tu} = 100,000$ psi
Minimum Elastic Modulus _____ $E_f = 8,700,000$ psi
Low-Carbon Chromium Steel _____ $f_y = 100,000$ psi

Structural Steel:
ASTM A709, Grade 50W _____ $F_y = 50,000$ psi
ASTM A572, Grade 50 _____ $F_y = 50,000$ psi
ASTM F3125, Grade A325 _____ $F_u = 120,000$ psi

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UTILITIES

Consolidated Communications
Eastern Maine Electric Cooperative, Inc.

TRAFFIC DATA

Current (2024) AADT _____ 130
Design Speed (mph) _____ 45 MPH

MAINTENANCE OF TRAFFIC

On-site detour maintaining one lane of alternating traffic using temporary traffic signals.

PROJECT LOCATION	Smith Brook Bridge (#3189) over Smith Brook. Located 0.36 of a mile northeast of Mill Road. Latitude: 45°40'41.09"N Longitude: 68°01'34.25"W
OUTLINE OF WORK	Bridge Replacement



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		APPROVED COMMISSIONER: CHIEF ENGINEER:		DATE 8-28-26
PROJECT INFORMATION		SIGNATURE: P.E. NUMBER: 13532 DATE: 07/21/2026		
PROGRAM	BRIDGE	R. MYERS	HOYLE TANNER	
PROJECT MANAGER		HOYLE TANNER		
DESIGNER		HOYLE TANNER		
CONSULTANT		HOYLE TANNER		
PROJECT RESIDENT				
CONTRACTOR				
PROJECT COMPLETION DATE				
WIN 28262.00				
BANCROFT TWP SMITH BROOK BRIDGE TITLE SHEET				
SHEET NUMBER 1 OF 36				

Date: 7/20/2026

Username: dtaylor

