

WIN: 27174.02
 Town: Woolwich
 Route No. ME127
 Asset ID: 228492
 Lat: 43.97970 Long: -69.78193

Project Name:
 Stream Name: trib to Nequasset
 Bridge Name: u/n
 Analysis by: csh
 Date: 3/16/2026

Peak Flow Calculations by USGS Regression Equations (Lombard/Hodgkins, 2021; Hodgkins, 1999 & Lombard/Hodgkins, 2015)

Enter data in blue cells only!

	km ²	mi ²	ac
A	2.05	0.79	505.6
W	0.09	0.0	21.7
P _c	437254	4870487	
County	Sagadahoc		

Enter data in [mi²]

Watershed Area DRNAREA
 Wetlands area (by NWI)

watershed centroid (E, N; UTM 19N; meters)
 choose county from drop-down menu

ver. 2021 Jan 01

Worksheet prepared by:

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 Maine Dept. Transportation
 Augusta, ME 04333-0016
 207-557-1052
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Watershed Characteristics from StreamStats

STORAGE	4.06	
STORNWI	4.30	NWI Wetlands %
SANDGRAVF	0.00	sand & gravel aquifer as decimal fraction of watershed A
ELEV	130.7	mean basin elevation (ft)
BSLDEM10M	10.4	mean basin slope (%)
COASTDIST	42.00	distance from the coast (mi)
ELEVMAX	235.6	maximum basin elevation (ft)
LC06WATER	0	percent of drainage basin land cover as open water
PRECIP	44.6	mean annual precipitation
STATSGOA	0	mean basin percentage of hydrological soil group A

References:

Hodgkins, G.A., 1999.
 Estimating the magnitude of peak flows for streams in Maine
 for Selected Recurrence Intervals
 WRIR 99-4008, USGS Augusta, ME

Lombard, P.J. & G.A. Hodgkins, 2015.
 Peak flow regression equations for small, ungaged streams:
 in Maine: Comparing Map-Based to Field-Based Variables
 SIR 2015-4059, USGS, Augusta, ME

Lombard, P.J. & G.A. Hodgkins, 2020.
 Estimating Flood Magnitude and Frequency on Gaged and
 Ungaged Streams in Maine
 SIR 2020-5092, USGS, Augusta, ME.

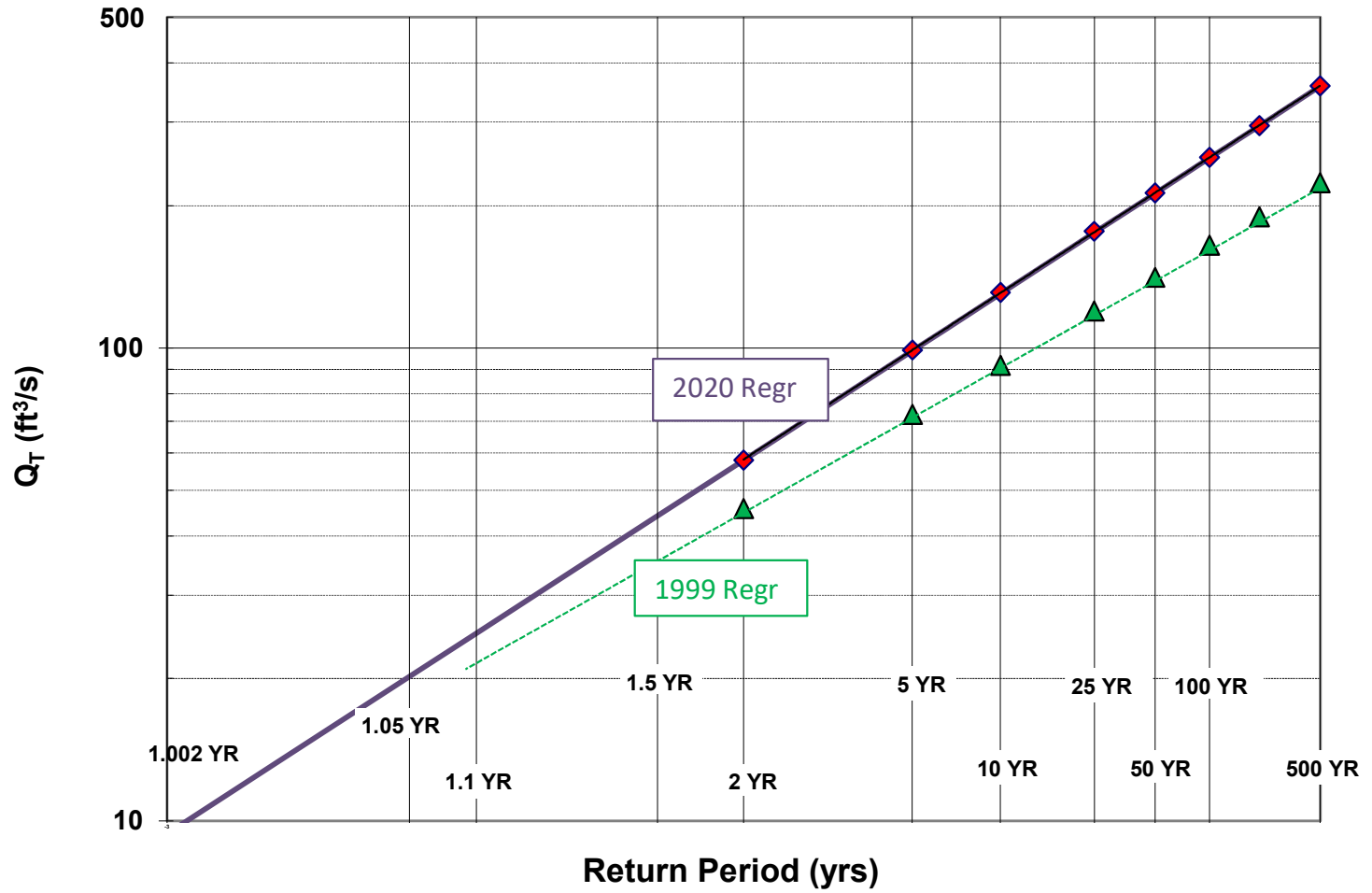
Ret Pd T (yr)	I24	Q _T (ft ³ /s)		Q _T (ft ³ /s) Design
		1999 / 2015	2020	
1.1			25	25
2	3.13	46	58	60
5	4.00	72	99	100
10	4.72	92	131	130
25	5.71	120	176	175
50	6.44	141	213	215
100	7.23	165	253	255
200	8.16	189	295	295
500	9.65	224	358	360

Calculated Bankfull Width: 9.6 ft

Instructions:

Enter values in blue cells only, watershed data from StreamStats
 Copy I24 values from Stream Stats
 Use results under "Design"
 Check against gage data and FEMA studies if available
 Questions? Check with ENV / Hydrology Section

Log-Normal Probability Plot



WIN:	27174.02		
Town:	Woolwich		
Route No.	ME127		
Asset ID:	228492		
Lat:	43.97970	Long:	-69.78193

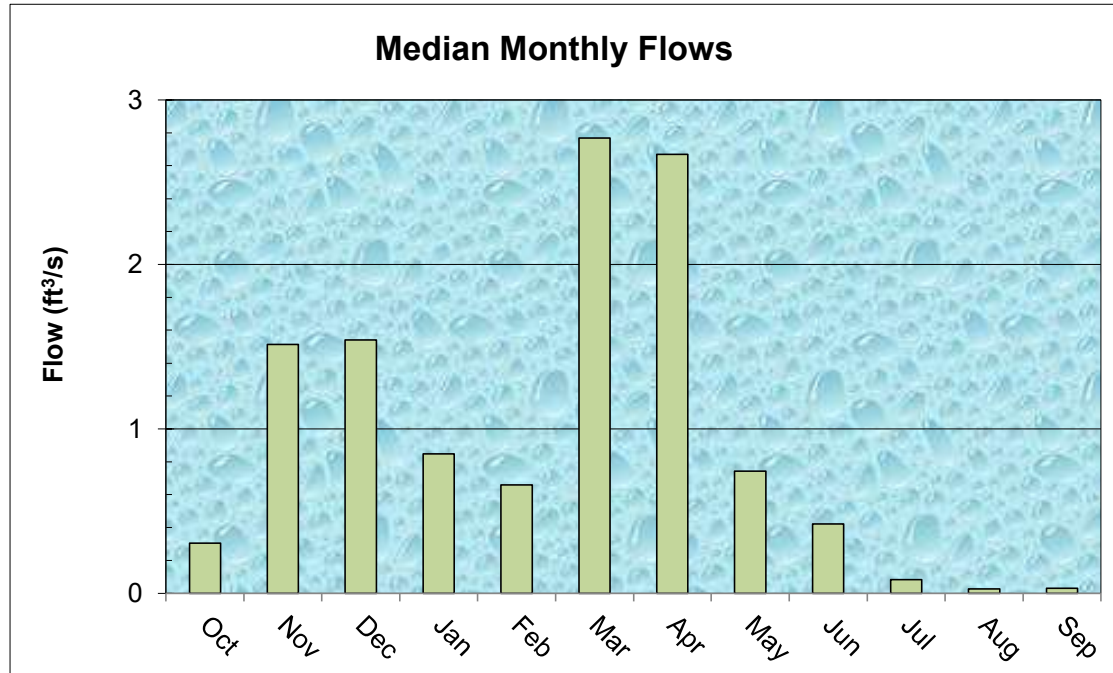
Project Name:	0
Stream Name:	trib to Nequasset
Bridge Name:	u/n
Analysis by:	csh
Date:	3/16/2026

DO NOT ENTER ANY DATA ON THIS PAGE; EVERYTHING IS CALCULATED

MAINE MONTHLY MEDIAN FLOWS and HYDRAULIC GEOMETRY BY USGS REGRESSION EQUATIONS (2004, 2013, 2015)

Value	Variable	Explanation
0.79	A	Area (mi ²)
437254	4870487	P_c Watershed centroid (E,N; UTM; Zone 19; meters)
42.00	DIST	Distance from Coastal reference line (mi)
44.6	pptA	Mean Annual Precipitation (inches)
0.00	SG	Sand & Gravel Aquifer (decimal fraction of watershed area)

Month	Q_{median} (ft ³ /s)	(m ³ /s)
Jan	0.85	0.0240
Feb	0.66	0.0187
Mar	2.77	0.0785
Apr	2.67	0.0757
May	0.74	0.0210
Jun	0.42	0.0119
Jul	0.08	0.0024
Aug	0.03	0.0008
Sep	0.03	0.0009
Oct	0.31	0.0087
Nov	1.51	0.0429
Dec	1.54	0.0436



Q_{bf}	4.1
ann avg	228492.0
ann med	0.7
$Q_{1.002}$	9.4
$Q_{1.01}$	13.3
$Q_{1.05}$	20.2
$Q_{1.1}$	24.9
Q_{bf}	14.9

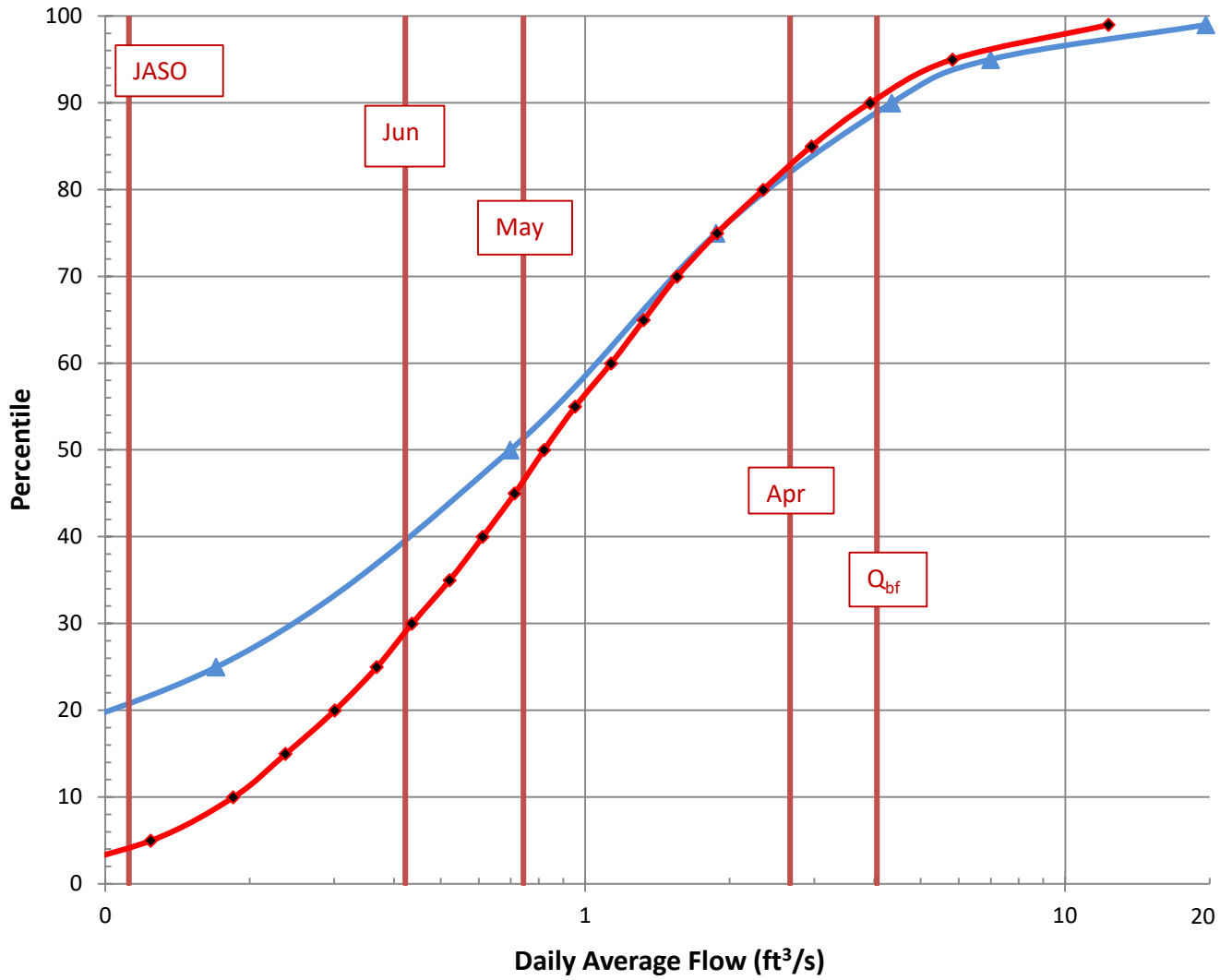
assume v = 4ft/s

W_{bf}	9.6	estimated bankfull width (ft)
d_{bf}	0.5	estimated bankfull depth (ft)
A_{bf}	3.7	estimated bankfull flow area (ft ²)

References

- Dudley, 2013. FY2013 Progress Report - Phase 1 ..., USFWS QRP Project
- Dudley, 2004. Estimating Monthly Streamflows ... , SIR 2004-5026
- Dudley, 2015. Regression Equations for Monthly & Annual Mean..., USGS SIR 2015-5151

Daily Average Flow Distribution



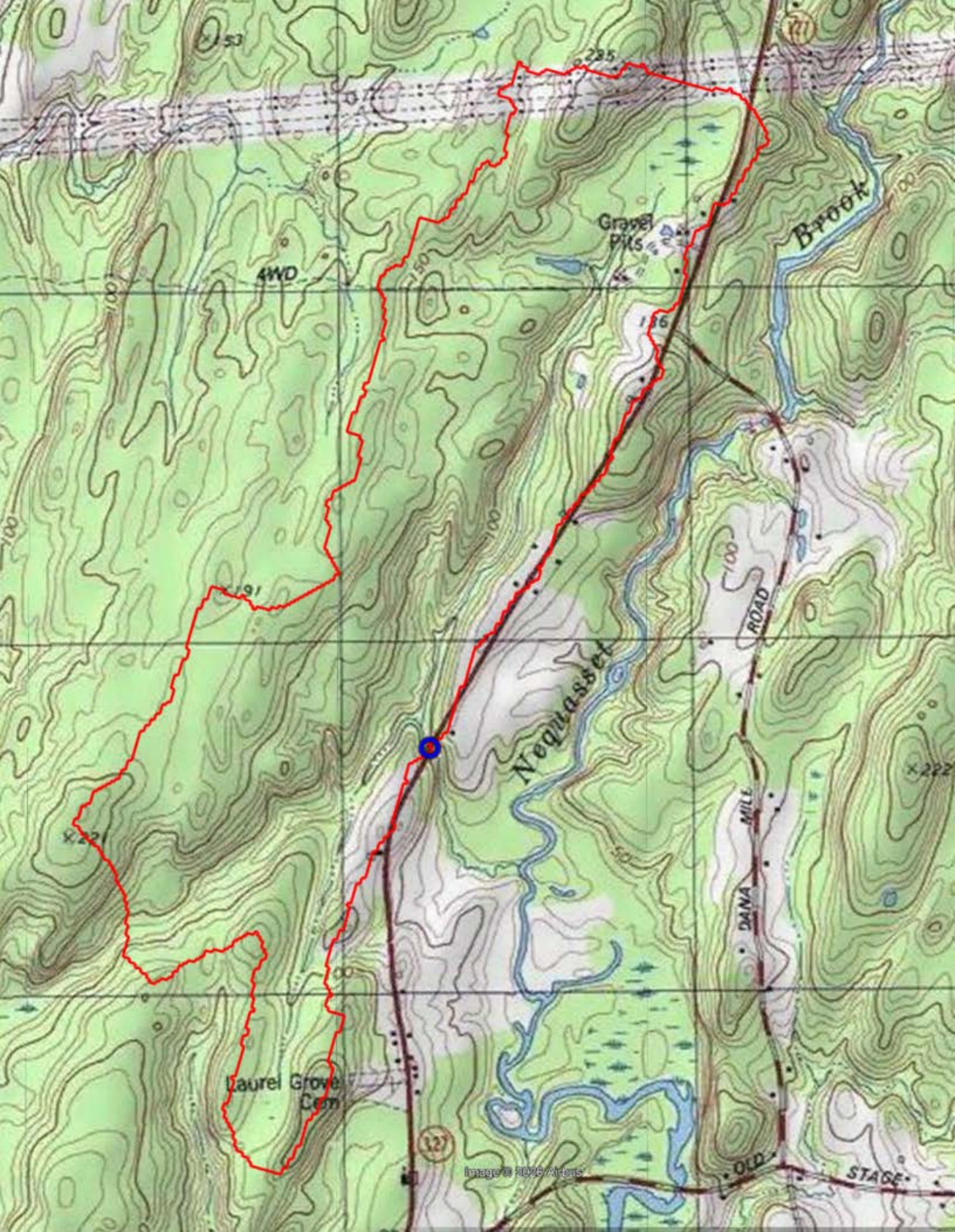
Daily Avg Flow Dist

$A_{ws} = (mi^2)$ 0.8

Q (ft³/s)

Pctl	Median	84 th pctl
1.00E-06	0.00	0.00
1	0.07	0.12
5	0.12	0.20
10	0.18	0.28
15	0.24	0.35
20	0.30	0.42
25	0.37	0.49
30	0.44	0.56
35	0.52	0.64
40	0.61	0.74
45	0.71	0.83
50	0.82	0.99
55	0.95	1.15
60	1.13	1.35
65	1.32	1.57
70	1.55	1.83
75	1.88	2.20
80	2.35	2.63
85	2.96	3.37
90	3.92	4.52
95	5.82	7.03
99	12.32	16.22

Q _{bf}	4.1
Q _{1.002}	9.4
Q _{1.1}	24.9
Q ₂	58.0



Laurel Grove Cem

Gravel Pits

Brook

Nequasset

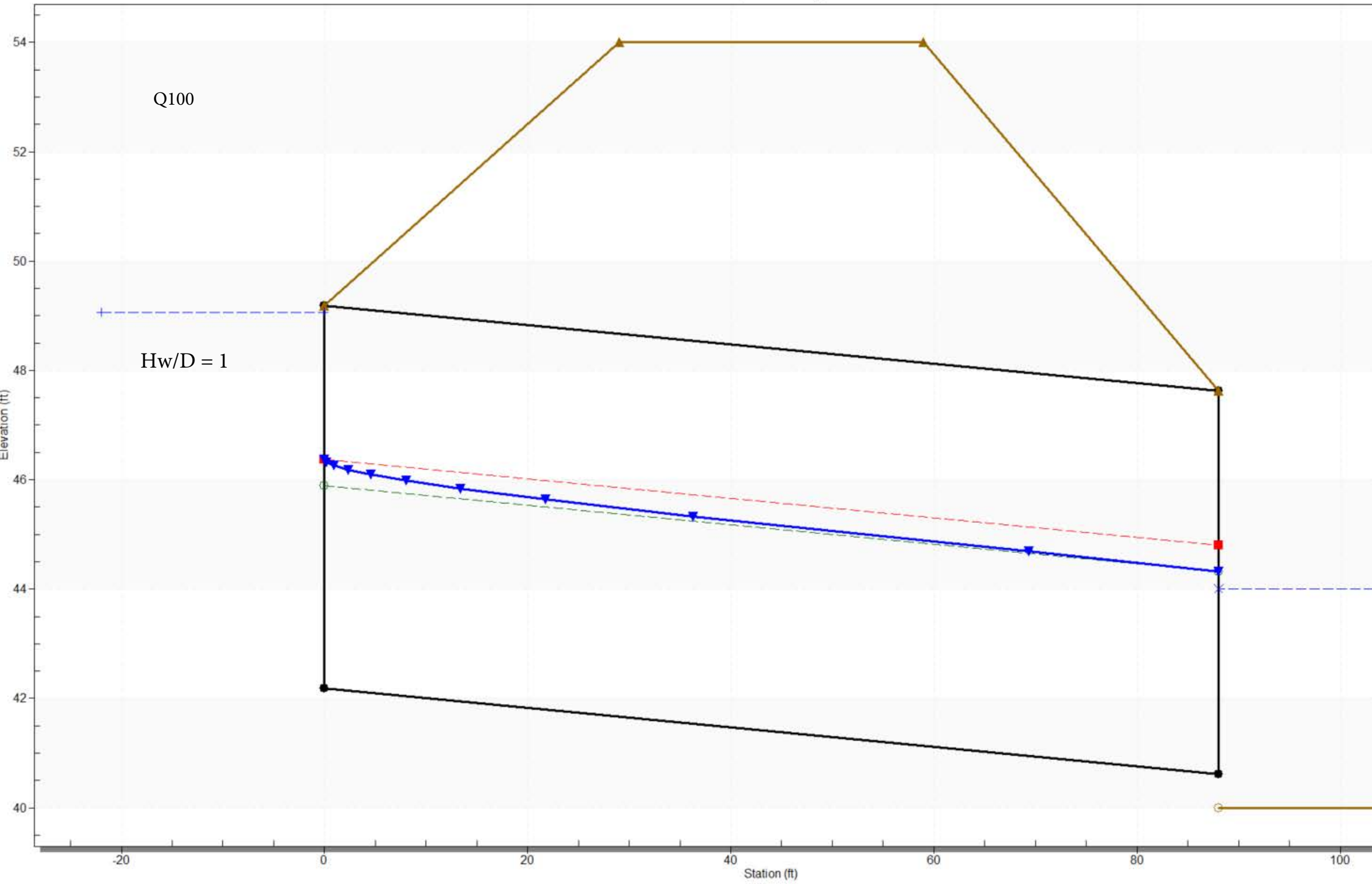
DANA MILL ROAD

OLD

STAGE

Crossing - 228492 N 7D, Design Discharge - 255.0 cfs

Culvert - Culvert 1, Culvert Discharge - 255.0 cfs



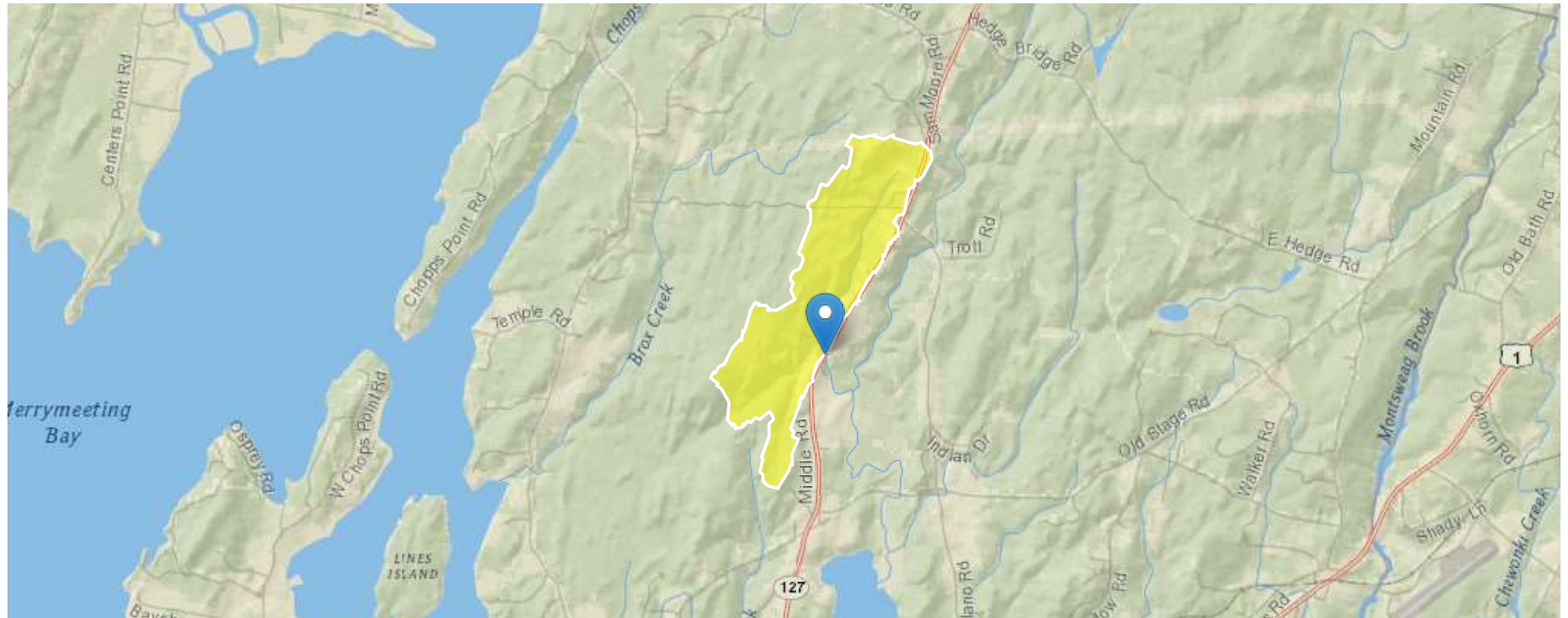
Woolwich 27174 ME127 XC228492

Region ID: ME

Workspace ID: ME20231108155630600000

Clicked Point (Latitude, Longitude): 43.97977, -69.78187

Time: 2023-11-08 10:56:55 -0500



"northerly pipe" on this WIN

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM10M	Mean basin slope computed from 10 m DEM	10.4	percent
CENTROIDX	Basin centroid horizontal (x) location in state plane coordinates	437254.3	meters
CENTROIDY	Basin centroid vertical (y) location in state plane units	4870487.21	meters
COASTDIST	Shortest distance from the coastline to the basin centroid	42	miles
DRNAREA	Area that drains to a point on a stream	0.79	square miles
ELEV	Mean Basin Elevation	130.7	feet
ELEVMAX	Maximum basin elevation	235.6	feet
I24H100Y	Maximum 24-hour precipitation that occurs on average once in 100 years	7.23	inches
I24H10Y	Maximum 24-hour precipitation that occurs on average once in 10 years	4.72	inches
I24H200Y	Maximum 24-hour precipitation that occurs on average once in 200 years	8.16	inches
I24H25Y	Maximum 24-hour precipitation that occurs on average once in 25 years	5.71	inches
I24H2Y	Maximum 24-hour precipitation that occurs on average once in 2 years - Equivalent to precipitation intensity index	3.13	inches
I24H500Y	Maximum 24-hour precipitation that occurs on average once in 500 years	9.65	inches
I24H50Y	Maximum 24-hour precipitation that occurs on average once in 50 years	6.44	inches
I24H5Y	Maximum 24-hour precipitation that occurs on average once in 5 years	4	inches
JULAVPRE	Mean July Precipitation	3.28	inches
LC06WATER	Percent of open water, class 11, from NLCD 2006	0	percent
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits	0	percent
PRDEC FEB90	Basin average mean precipitation for December to February from PRISM 1961-1990	11.5	inches
PRECIP	Mean Annual Precipitation	44.6	inches
SANDGRAVAF	Fraction of land surface underlain by sand and gravel aquifers	0	dimensionless

Parameter Code	Parameter Description	Value	Unit
SANDGRAVAP	Percentage of land surface underlain by sand and gravel aquifers	0	percent
STATSGOA	Percentage of area of Hydrologic Soil Type A from STATSGO	0	percent
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	4.059	percent
STORNWI	Percentage of storage (combined water bodies and wetlands) from the National Wetlands Inventory	4.3	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Statewide multiparameter peakflows SIR 2020 5092]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.79	square miles	0.26	5680
I24H2Y	24 Hour 2 Year Precipitation	3.13	inches	1.92	4.17
STORAGE	Percent Storage	4.059	percent	0	29.4
I24H5Y	24 Hour 5 Year Precipitation	4	inches	2.48	5.38
I24H10Y	24 Hour 10 Year Precipitation	4.72	inches	2.84	6.38
I24H25Y	24 Hour 25 Year Precipitation	5.71	inches	3.3	7.75
I24H50Y	24 Hour 50 Year Precipitation	6.44	inches	3.65	8.79
I24H100Y	24 Hour 100 Year Precipitation	7.23	inches	3.99	9.88
I24H200Y	24 Hour 200 Year Precipitation	8.16	inches	5.26	11.1
I24H500Y	24 Hour 500 Year Precipitation	9.65	inches	5.95	13.1

Peak-Flow Statistics Flow Report [Statewide multiparameter peakflows SIR 2020 5092]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU	ASEp
50-percent AEP flood	58	ft ³ /s	30.9	109	39.1
20-percent AEP flood	99	ft ³ /s	53.4	183	38.1
10-percent AEP flood	131	ft ³ /s	69.7	246	38.9
4-percent AEP flood	176	ft ³ /s	92.3	336	39.9
2-percent AEP flood	213	ft ³ /s	110	413	39.7
1-percent AEP flood	253	ft ³ /s	131	489	40.7
0.5-percent AEP flood	295	ft ³ /s	148	590	42.8
0.2-percent AEP flood	358	ft ³ /s	176	727	43.8

Peak-Flow Statistics Citations

Lombard, P.J., and Hodgkins, G.A., 2020, Estimating flood magnitude and frequency on gaged and ungaged streams in Maine: U.S. Geological Survey Scientific Investigations Report 2020-5092, 56 p. (<https://doi.org/10.3133/sir20205092>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Annual SIR 2015 5151]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.79	square miles	14.9	1419
SANDGRAVAF	Fraction of Sand and Gravel Aquifers	0	dimensionless	0	0.212
ELEV	Mean Basin Elevation	130.7	feet	239	2120

Annual Flow Statistics Disclaimers [Statewide Annual SIR 2015 5151]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Annual SIR 2015 5151]

Statistic	Value	Unit
Mean Annual Flow	1.79	ft ³ /s

Annual Flow Statistics Citations

Dudley, R.W., 2015, Regression equations for monthly and annual mean and selected percentile streamflows for ungaged rivers in Maine: U.S. Geological Survey Scientific Investigations Report 2015–5151, 35 p. (<http://dx.doi.org/10.3133/sir20155151>)

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Application Version: 4.18.1

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1