Murphy, Susan

From: Mann, Alexander

Sent: Wednesday, June 04, 2008 4:35 PM

To: Murphy, Susan

Cc: Frankhauser Jr, Wayne

Subject: Bridge Drainage analysis for Falmouth 15094.00 RR Crossing Bridge Br#2702

Susan

Attached please find the worksheet and location map for the RR Crossing Bridge over the Presumpscot River in Falmouth. The analysis indicates the flows will be:

Q50 – 16,172CFS
Q100 – 19,357CFS
Q500 – 28,690CFS

Let me know if you have any questions or need any more information.

Alex

Project Name:	Falmouth	**PIN:**	15094.00
Stream Name:	Presumpscot River	**Town:**	Falmouth
Bridge Name:	RRCrossingBr	**Bridge No.**	2702
Route No.	RR	**USGS Quad:**	
Analysis by:	A.W.Mann	**Date:**	5/29/2008

Peak Flow Calculations by USGS Regression Equations (Hodgkins, 1999)

Enter data in blue cells only!

	km^2	mi^2	ac
A	1553.28		
W	294.42		

Use just one consistent set of units:
Watershed Area
Wetlands area (by NWI)

A (km^2)	1553.280
W (%)	18.95

Conf Lvl 0.67

Worksheet prepared by:
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Ret Pd T (yr)	Peak Flow Estimate Lower	Q_T (m^3/s)	Upper	Q_T (ft^3/s)
1.1		106.23		3750.9
2	122.53	171.16	239.08	6043.5
5	164.31	229.83	321.47	8115.3
10	190.69	269.57	381.07	9518.4
25	222.14	318.11	455.52	11232.3
50	244.45	353.88	512.30	12495.6
100	267.54	391.71	573.50	13831.2
500	317.07	478.55	722.27	16897.7

Reference:

Hodgkins, G., 1999.
Estimating the magnitude of peak flows for streams in Maine for selected recurrence intervals
Water-Resources Investigations Report 99-4008
US Geological Survey, Augusta, Maine

$Q_T = b \times A^a \times 10^{-wW}$