

MANCHAUG VILLAGE FLOODING PLANNING STUDY



MVP

Municipal Vulnerability
Preparedness



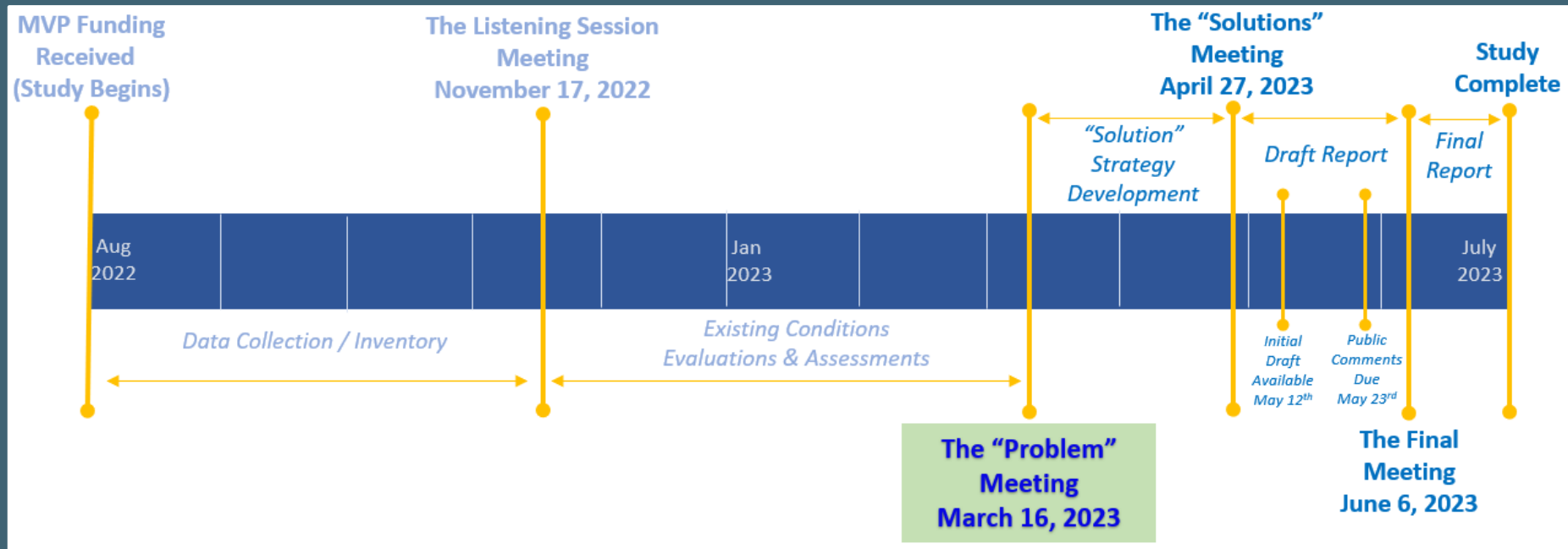
Second Public Meeting
"The Problem"
MARCH 16, 2023



Planning Study Overview

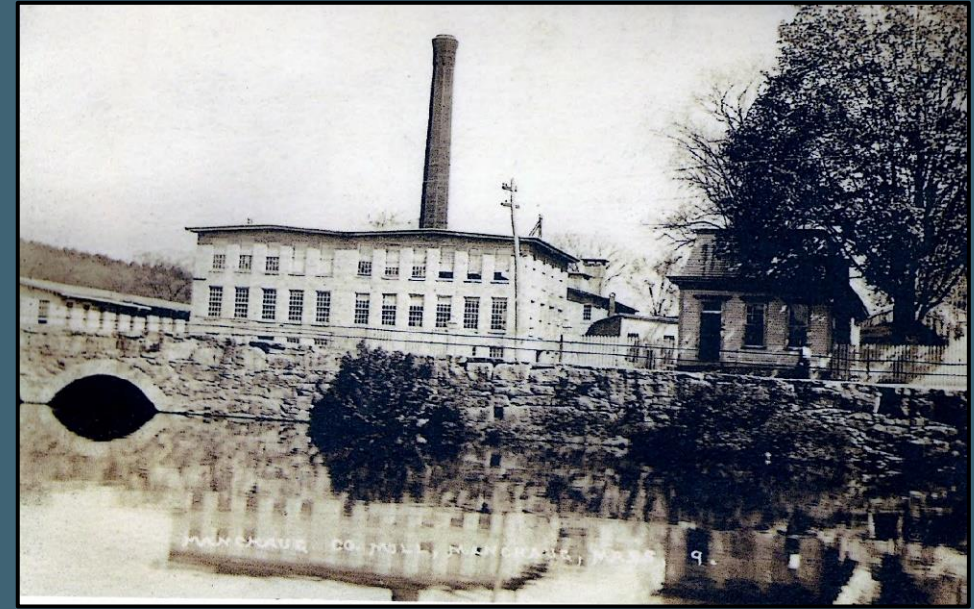
- ▶ General Scope: Planning Study for the Mumford River / Dark Brook watershed and river corridor with a specific focus on the issue of flooding within Manchaug Village

- ▶ Scope & Schedule



The Problem Meeting - Agenda

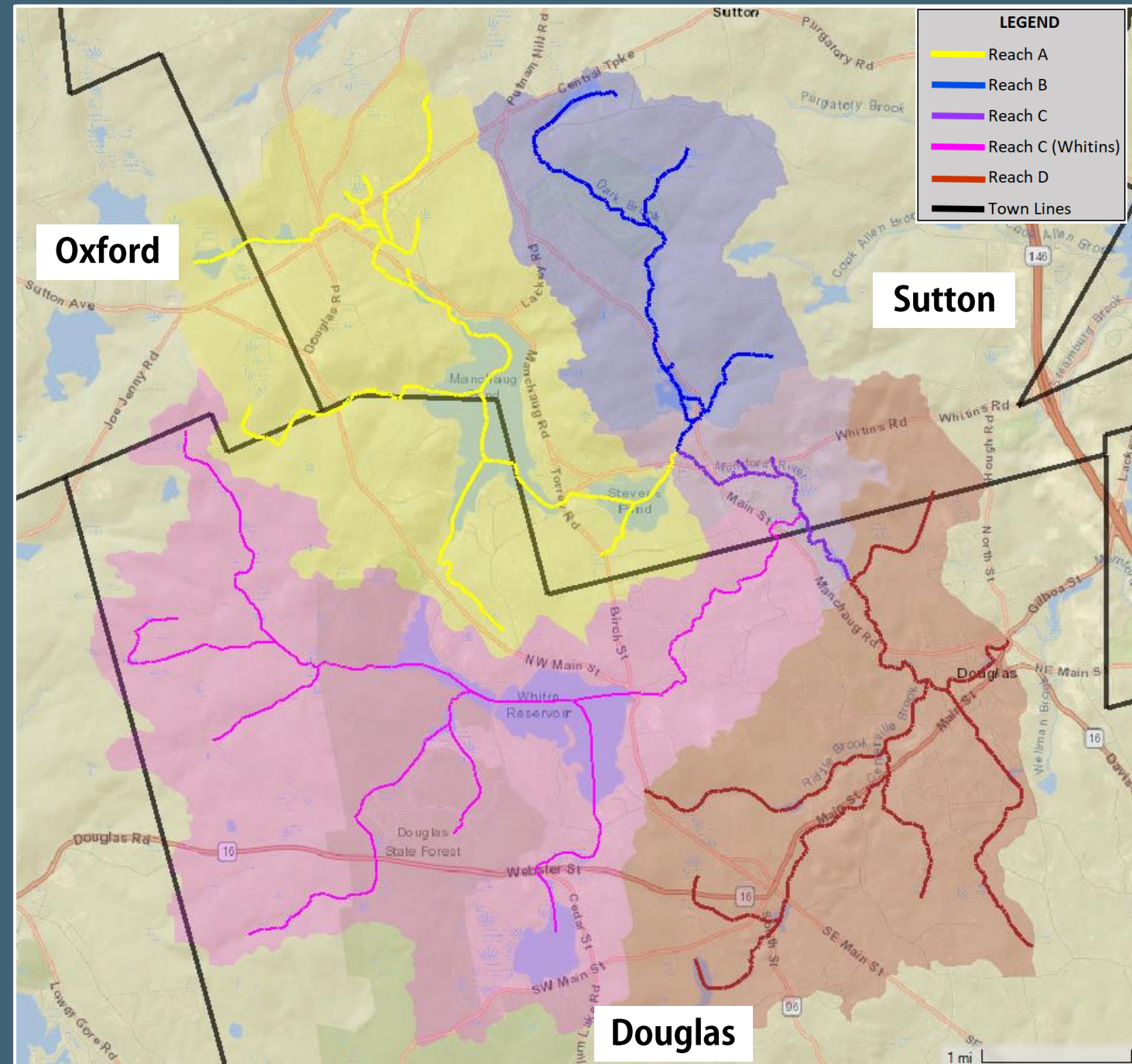
- ▶ Project Area Overview
- ▶ Evaluations
- ▶ Evaluation Findings
- ▶ Next Steps
- ▶ Discussion



Project Area Overview

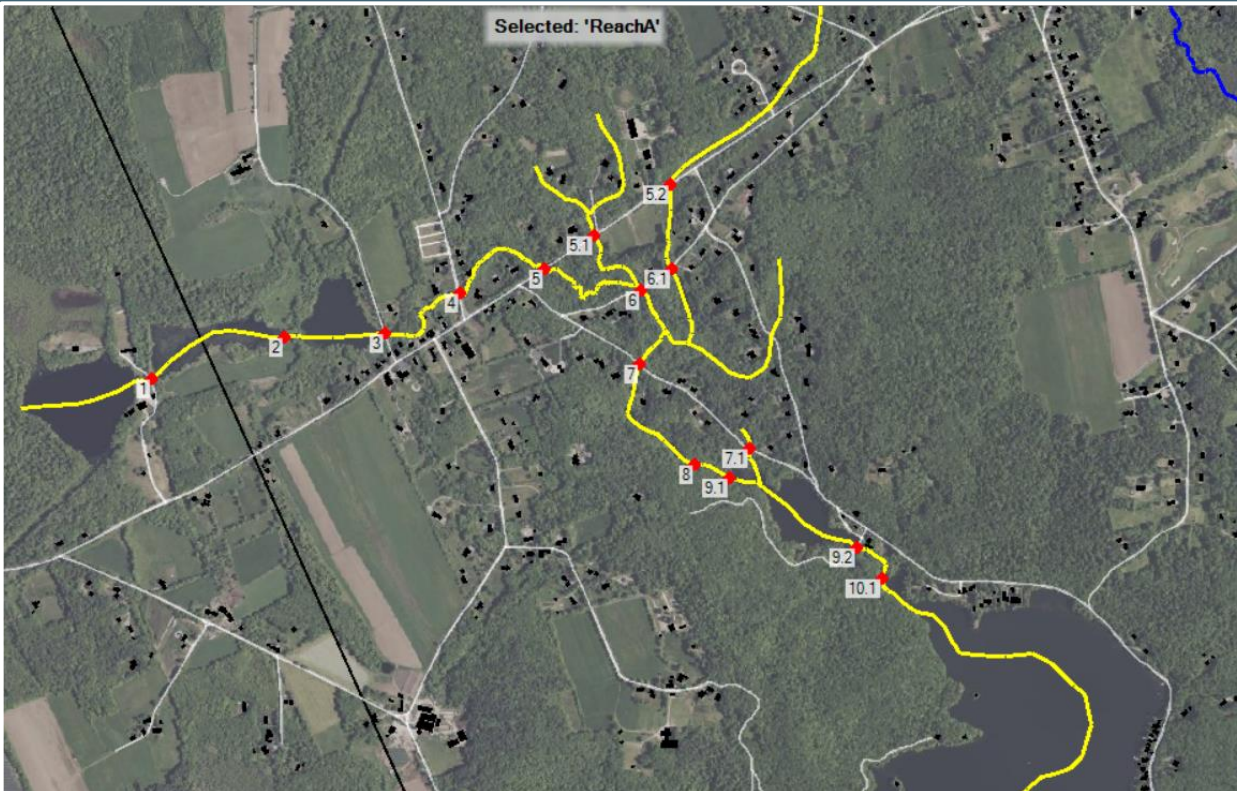
Four Reaches **A**, **B**, **C**, & **D**

- ▶ **Reach A:** Mumford River - Upstream
- ▶ **Reach B:** Dark Brook
- ▶ **Reach C:** Mumford River - Manchaug Village
 - ▶ Whitins Reservoir Tributary
- ▶ **Reach D:** Mumford River - Douglas



Reach A Overview

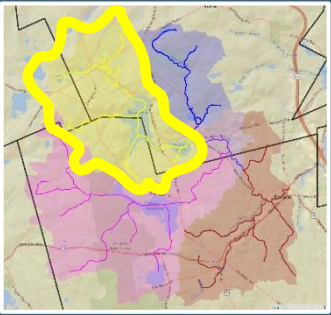
- ▶ 5.4 river miles
- ▶ 7.8 mi² watershed
- ▶ 14 crossings
 - ▶ 6 dams
 - ▶ 1 former dam
 - ▶ 7 road crossings
- ▶ 15 identified locations



Reach A Locations	
1	MA00671 Stump Pond Dam
2	MA03383 Number Two Pond Dam
3	MA03382 Number One Pond Dam / Town Farm Road
4	West Sutton Road
5	Central Turnpike Main
5.1	Central Turnpike East
5.2	Central Turnpike East #2
6	Mendon Road Main
6.1	Mendon Road East
7	Manchaug Road Main
7.1	Manchaug Road East
8	MA02889 Homes Pond Dam
9.1	Sutton Falls Pond
9.2	MA00956 Sutton Falls Pond Dam
10.1	Manchaug Pond
10.2	MA00955 Manchaug Pond Dam / Torrey Road
11.1	Stevens Pond
11.2	MA00957 Stevens Pond Dam / Manchaug Road
12	Confluence with Dark Brook

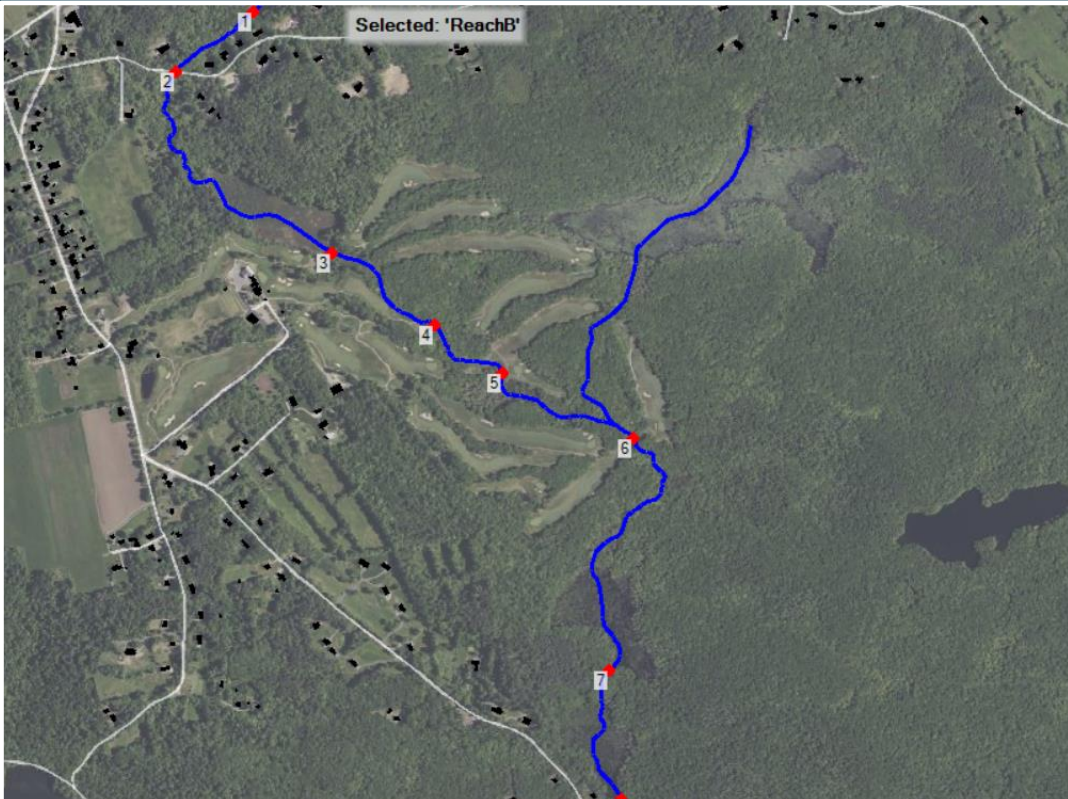


#11.2

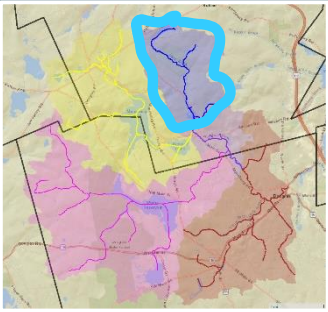
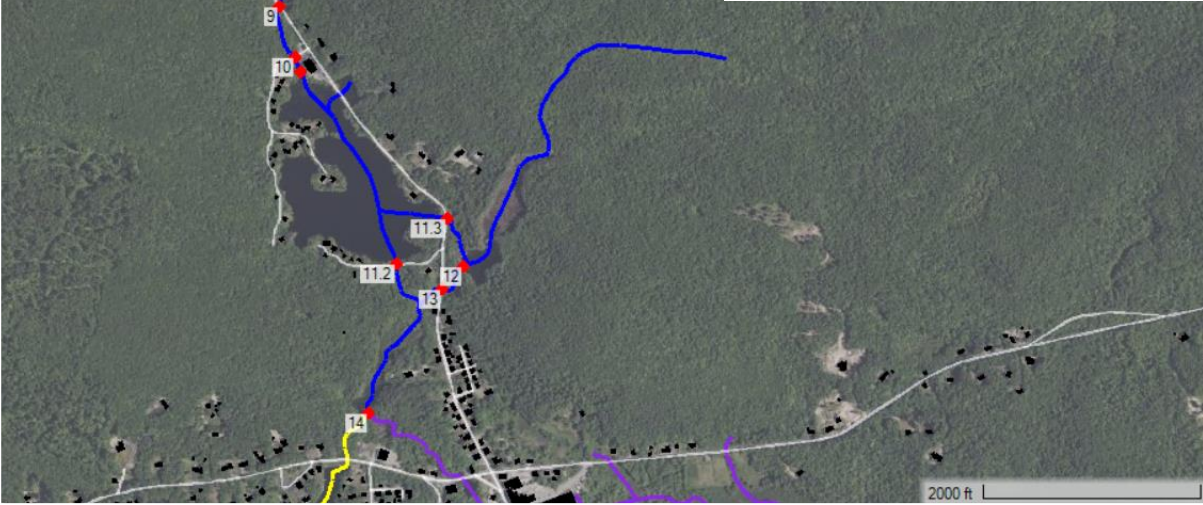


Reach B Overview

- ▶ 3.7 river miles
- ▶ 3.5 mi² watershed
- ▶ 10 crossings
 - ▶ 3 dams
 - ▶ 1 former dam
 - ▶ 3 cart paths
 - ▶ 3 road crossings
- ▶ 16 identified locations

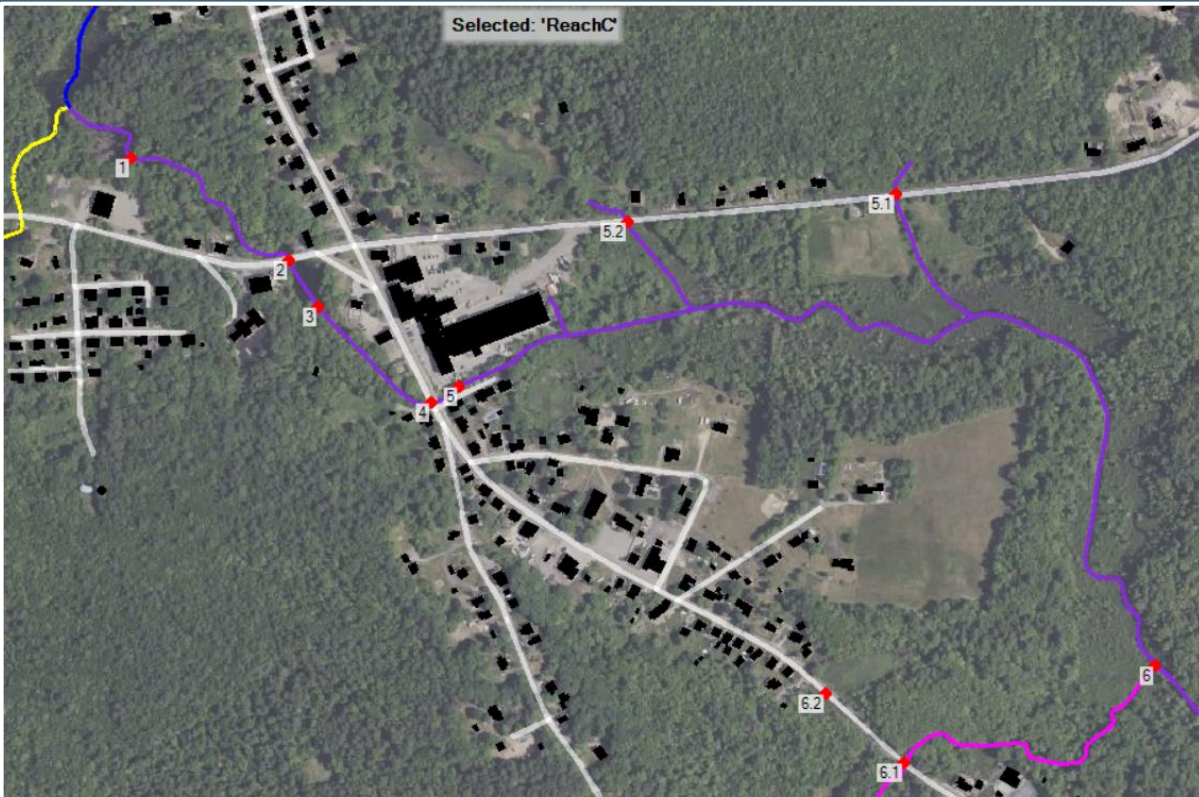


Reach B Locations	
1	MA02894 Summit Pond Dam
2	Mendon Road
3	Golf Course Path #1
4	Golf Course Path #2
5	Golf Course Path #3
6	Golf Course Limits
7	Wetland/Impoundment (Possible Beaver Dam)
8	Wetland/Impoundment (Possible Beaver Dam)
9	Putnam Hill Road
10	Tucker Lane
11.1	Upper Tucker Pond
11.2	MA00660 Upper Tucker Pond South Dam (Cote Lane)
11.3	MA02882 Upper Tucker Pond East Dam (Putnam Hill Road)
12	Former Upper Tucker Pond Dam (Current Beaver Dam)
13	Putnam Hill Road
14	Mumford River Confluence

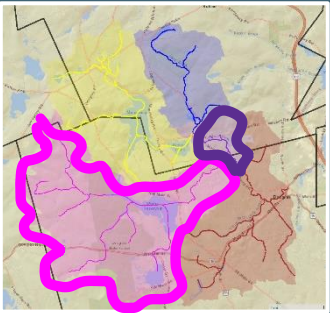


Reach C Overview

- ▶ 1.9 river miles
- ▶ 18.3 mi² watershed
 - ▶ 7.8 mi² from Reach A
 - ▶ 3.5 mi² from Reach B
 - ▶ 11.4 mi² direct
 - ▶ 10.4 mi² from Whitins
- ▶ 6 crossings
 - ▶ 2 dams
 - ▶ 1 former dam
 - ▶ 3 road crossings
- ▶ 9 identified locations

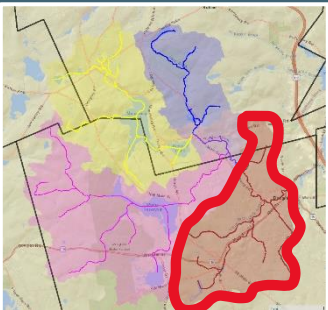
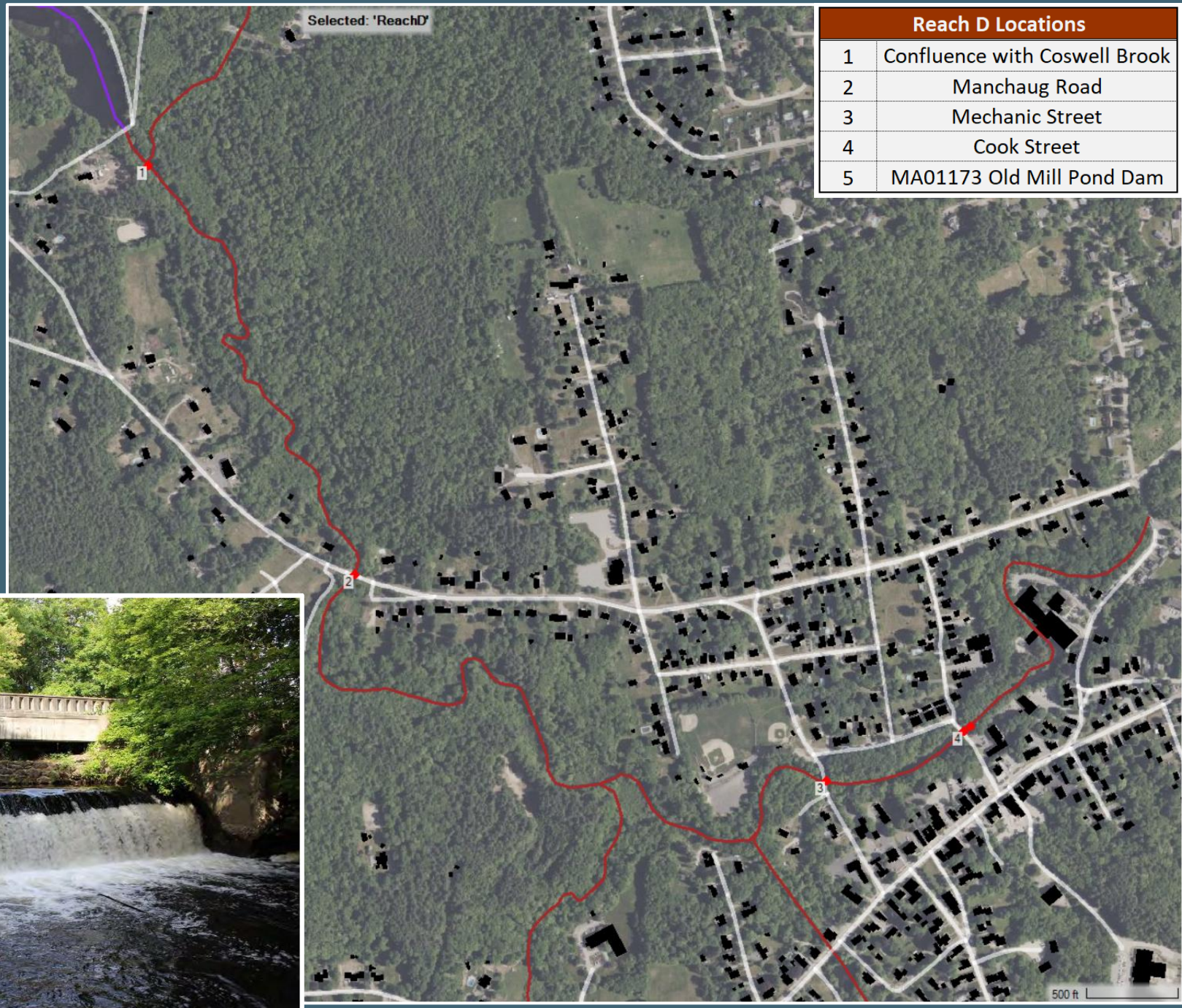


Reach C Locations	
1	Former Lower Tucker Pond Dam (Current Beaver Dam)
2	Manchaug Road
3	MA02881 Mill Pond #1 Dam
4	Main Street
5	Stone Weir
5.1	Whitins Road East
5.2	Whitins Road West
6	Confluence from Whitin Reservoir Dam
6.1	Main Street Main
6.2	Main Street West
6.3	Main Street East (Manchaug Road)
6.4	Mumford Road
7	Potter Road Impoundment
8	MA01172 Potter Road Dam
9	Potter Road



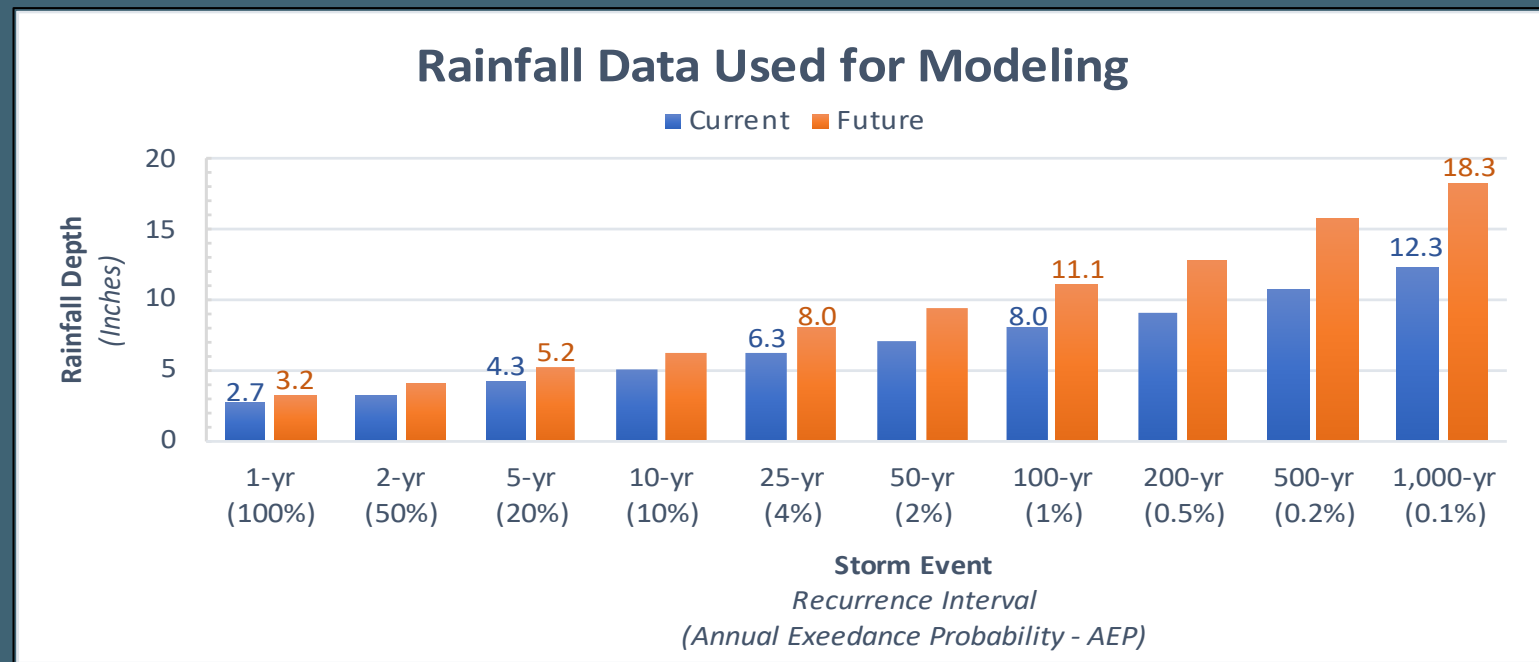
Reach D Overview

- ▶ 1.6 river miles
- ▶ 29.4 mi² watershed
 - ▶ 7.8 mi² from Reach A
 - ▶ 3.5 mi² from Reach B
 - ▶ 11.4 mi² from Reach C
 - ▶ 6.7 mi² direct
- ▶ 4 crossings (1 dam, 3 road)
- ▶ 5 identified locations



Evaluations

- ▶ Hydrologic¹ & Hydraulic² (H&H) Modeling
 - ▶ Current and Future³ Rainfall Scenarios
- ▶ Decipher Model Results
- ▶ Identify Strengths & Vulnerabilities of Assets
 - ▶ Dams
 - ▶ Roadways
 - ▶ Structures (EAD⁴)
- ▶ Watershed-Wide Assessment



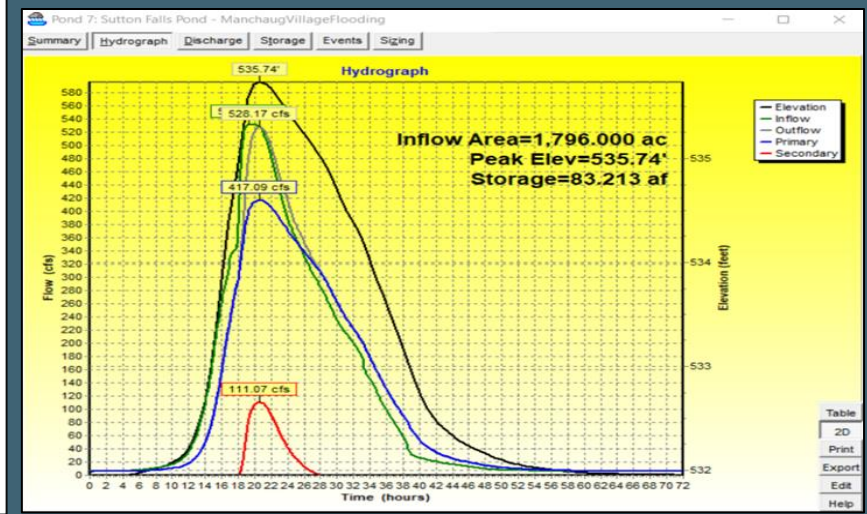
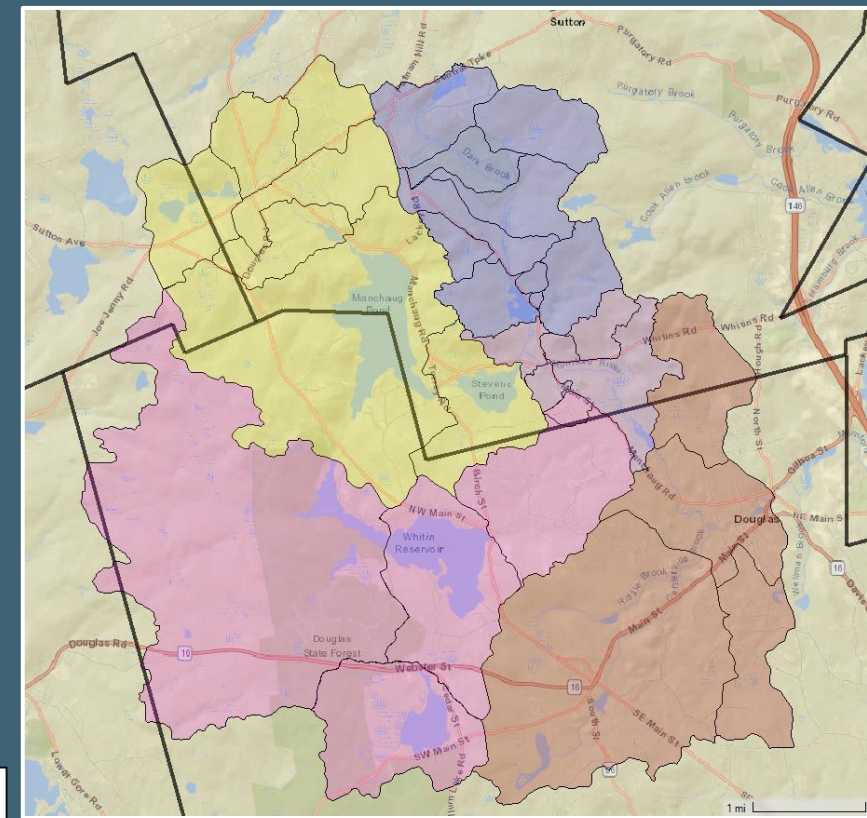
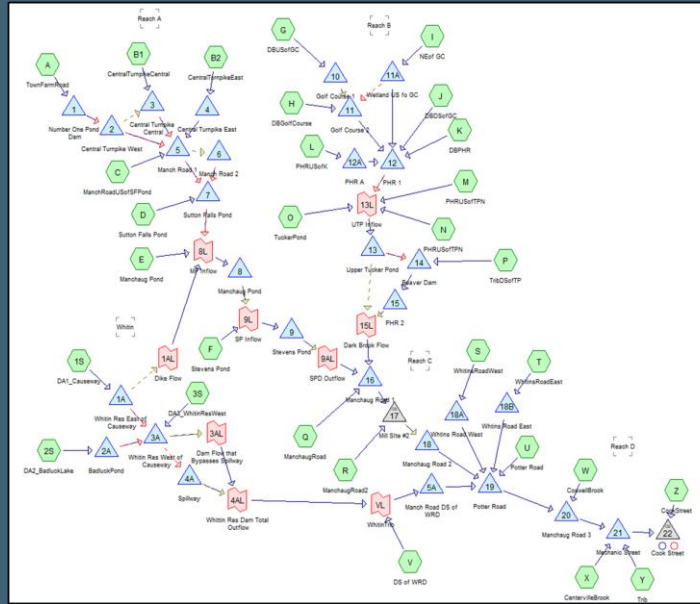
Definitions:

- Hydrologic Modeling:** Used to determine how rainfall interacts with the ground surface.
 - ▶ How much of the rain is absorbed by the ground surface?
 - ▶ How much of the rain runs off to rivers and streams? And how much does it runoff?
- Hydraulic Modeling:** Used to determine what the runoff does to the river, its floodplain, and nearby infrastructure.
 - ▶ How high and wide does the water level reach? And how fast is it flowing?
 - ▶ What is expected to be impacted by those water levels?
- Climate Change Informed Predicted Future Rainfall Data**
- EAD: Equivalent Annual Damage**

Hydrologic Modeling

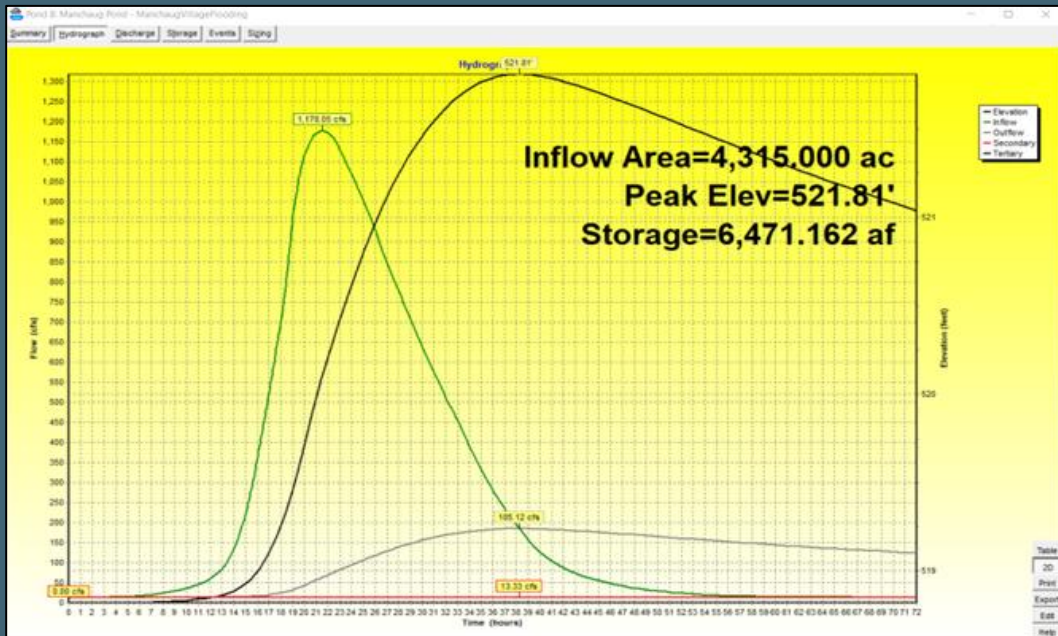
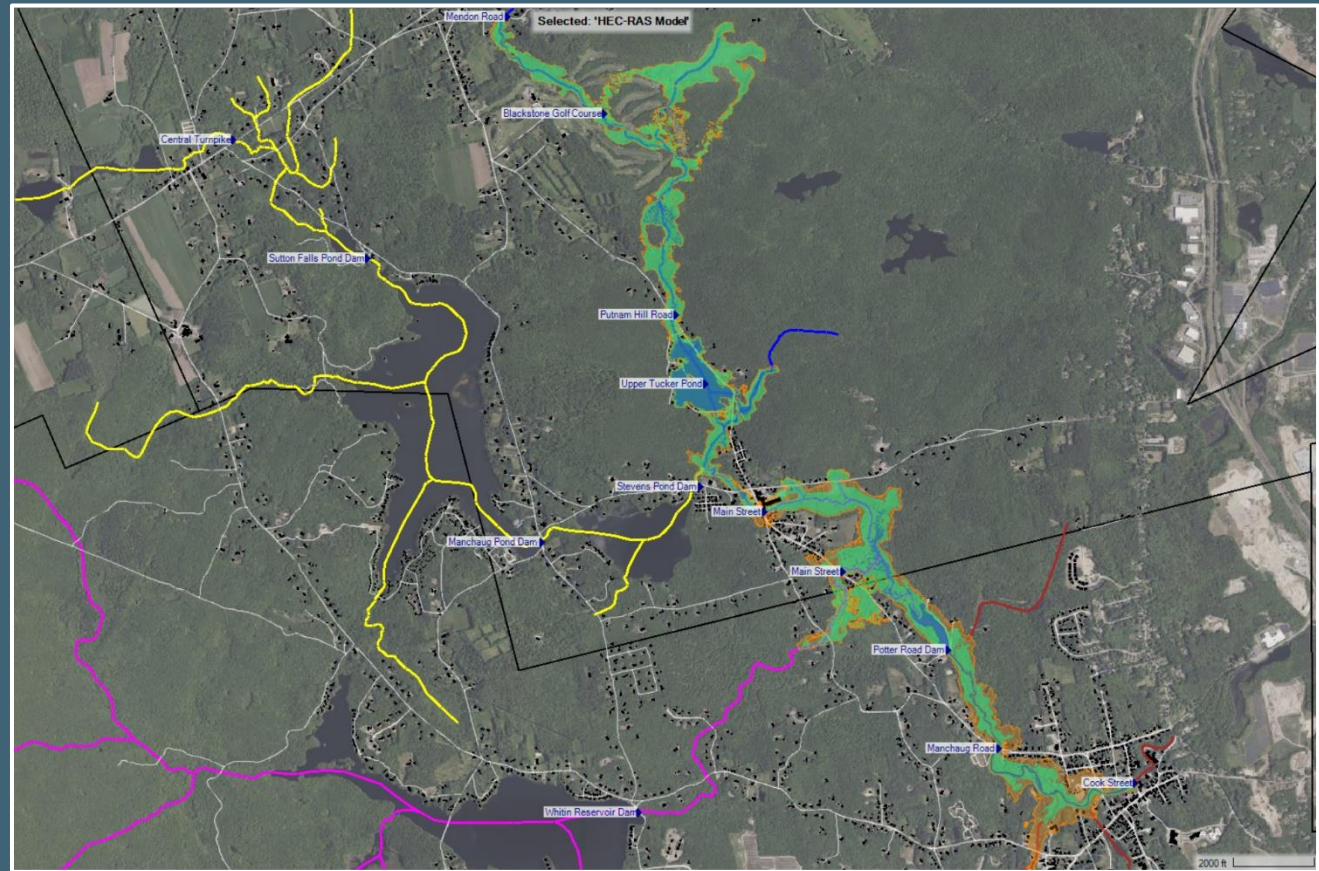
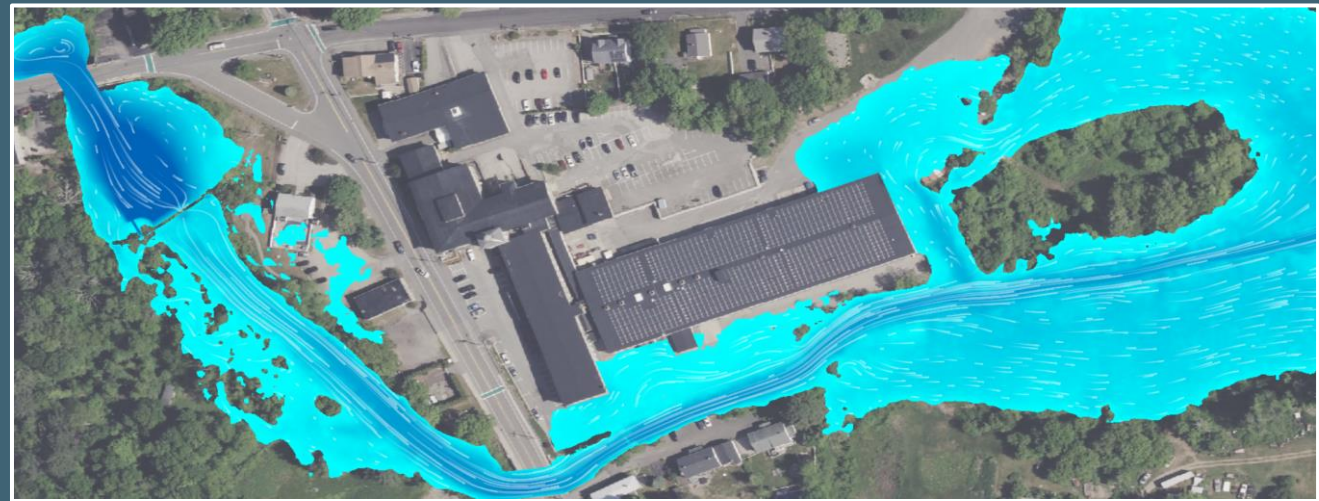
- ▶ Subbasin Development (31 each)
- ▶ Hydrological Parameters (mi², CN, Tc)
- ▶ Rainfall (Current & Future)
- ▶ HydroCAD Model
- ▶ Model Results Used Directly for Reach A
- ▶ Produced Runoff Hydrographs for Reaches B-D

Drainage Area Parameters																				
Group	Reach	ID	Name	Size	Baseflow	Tc	Curve Number			HSG				LCG						
				s.m.	acres	CFS	Min	LFP	CN ¹	% Imp	Imp acres	CN ²	A	B	C	D	1	2	3	4
Mumford River US	A	A	Town Farm Road	0.74	473	1.5	461	2700	78	9.0%	43	76	0%	0%	80%	20%	52%	32%	7%	9%
		B	Central Turnpike	0.91	582	1.8	443	4300	70	5.3%	31	68	4%	44%	29%	23%	59%	25%	11%	5%
		C	March Road US of SF Pond	0.67	427	1.3	388	4500	73	4.6%	20	72	3%	27%	40%	30%	58%	24%	13%	5%
		D	Sutton Falls Pond	0.49	314	1.0	396	7700	69	8.2%	26	66	4%	52%	18%	26%	57%	26%	9%	8%
		E	Manchaug Pond	3.94	2519	7.9	750	11600	72	17.6%	443	66	2%	37%	23%	38%	68%	9%	5%	18%
		F	Stevens Pond	0.93	593	1.9	415	7300	73	18.0%	107	68	3%	19%	52%	26%	72%	6%	4%	18%
Dark Brook	B	G	Dark Brook Mendon Road	0.60	382	1.2	267	4000	77	10.4%	40	75	0%	8%	59%	33%	60%	21%	9%	10%
		H	DB Golf Course	0.30	193	0.6	127	2000	69	1.9%	4	68	0%	65%	7%	28%	47%	44%	7%	2%
		I	DB NE of GC	0.59	375	1.2	280	3300	70	2.0%	8	69	0%	41%	25%	34%	75%	5%	18%	2%
		J	DB DS of GC	0.48	306	1.0	280	4000	63	0.6%	2	63	0%	72%	1%	27%	89%	3%	7%	1%
		K	DB PHR	0.37	237	0.7	217	3800	73	3.5%	8	72	0%	30%	15%	55%	68%	23%	5%	4%
		L	PHR US of K	0.18	112	0.4	142	2400	67	1.4%	2	67	0%	43%	37%	20%	88%	5%	6%	1%
		M	PHR US of TP N	0.06	35	0.1	77	1800	60	1.8%	1	59	0%	82%	0%	18%	95%	1%	2%	2%
		N	PHR US of TP S	0.01	9	0.0	61	850	56	3.7%	0	55	11%	89%	0%	0%	81%	15%	0%	4%
		O	Tucker Pond	0.36	231	0.7	187	5600	69	14.3%	33	64	0%	45%	37%	18%	81%	2%	3%	14%
		P	Trib DS of TP	0.46	295	0.9	208	6200	64	0.7%	2	64	2%	57%	14%	27%	92%	0%	7%	1%
Mumford River Manch Village	C	Q	Manchaug Road	0.19	121	0.4	141	3200	63	7.9%	10	60	18%	58%	4%	20%	73%	9%	10%	8%
		R	Mumford Road	0.10	62	0.2	60	1500	65	11.9%	7	61	26%	29%	36%	9%	77%	12%	0%	12%
		S	Whitkins Road West	0.07	45	0.1	45	1100	60	5.0%	2	58	37%	26%	9%	28%	80%	6%	9%	5%
		T	Whitkins Road East	0.22	138	0.4	120	3800	59	1.3%	2	58	0%	88%	3%	9%	92%	1%	6%	1%
		U	Potter Road	0.63	405	1.3	406	6600	65	6.0%	24	63	21%	45%	21%	13%	62%	9%	23%	6%
Whitins Res	D	1	WRD - Causeway	6.04	3867	12.1	1235	20000	62	2.9%	112	61	2%	71%	13%	14%	86%	1%	10%	3%
		2	WRD - Bad Luck Lake	1.35	867	2.7	294	8200	73	13.7%	119	69	2%	26%	59%	13%	66%	2%	18%	14%
		3	WRD - WRR est	1.55	992	3.1	258	10000	74	31.6%	313	63	5%	23%	30%	42%	56%	9%	4%	32%
		V	DS of WRD	1.44	920	2.9	461	6600	66	3.7%	34	65	6%	41%	47%	6%	81%	8%	8%	4%
Mumford River DS 2	D	W	Coswell Brook	0.89	571	1.8	660	12500	67	2.0%	11	66	4%	56%	23%	17%	74%	5%	19%	2%
		X	Centerville Brook	3.96	2537	7.9	1000	12000	61	7.1%	180	58	27%	45%	21%	7%	67%	14%	12%	7%
		Y	Trib US of Mechanic	0.79	504	1.6	500	10800	58	5.7%	29	56	39%	24%	31%	6%	74%	11%	10%	6%
		Z	North Street	1.09	696	2.2	600	9800	59	12.2%	85	54	41%	49%	10%	0%	59%	18%	11%	12%
Totals				29.39	18809	58.8				9.0%	1697	11%	40%	27%	22%	69%	13%	9%	9%	
HSG: Hydrologic Soil Group LCG: Land Cover Group																				
A	High Absorption			Clean Sands & Gravels (<10% fines)			1	High Absorption			Forests, Shrubs, Grass									
B	Moderate Absorption			Silty Sands & Gravels (10-20% fines)			2	Moderate Absorption			Bare, Cultivated/Pasture									
C	Low Absorption			Sandy Silts & Silts (20-40% fines)			3	Low Absorption			Wetlands, Aquatic Beds									
D	Very Low / No Absorption			Silts & Clays (>40% fines), Bedrock, Water			4	Very Low / No Absorption			Impervious									



Hydraulic Modeling

- ▶ HydroCAD Model for Reach A
- ▶ HEC-RAS 2D Model For Reaches B-D
 - ▶ Topography, Land Cover, Crossing Information
 - ▶ Flow Data from HydroCAD
- ▶ 10 storm events x 2 rainfall scenarios



Reach A Model Results

Dams

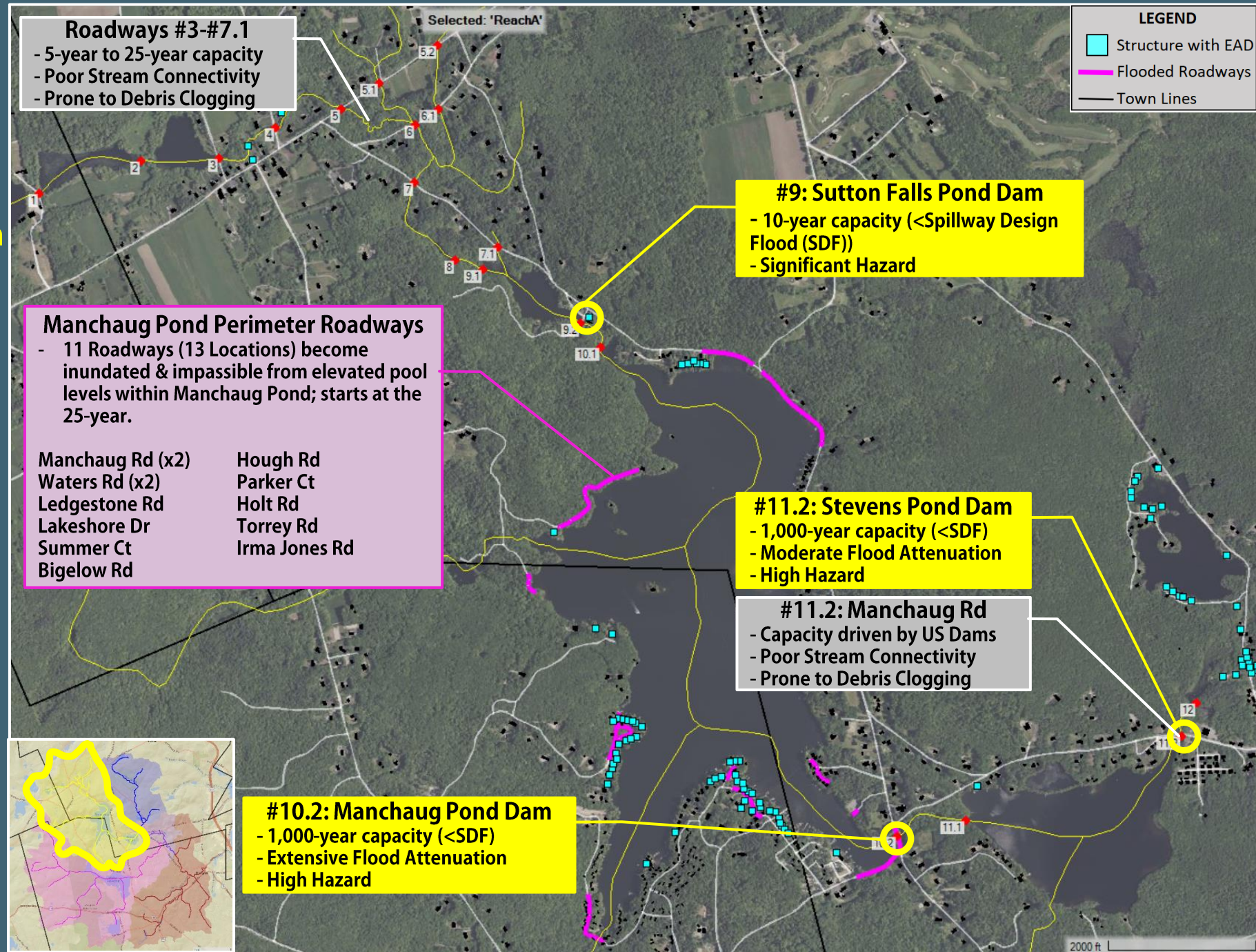
- ▶ #9 Sutton Falls Pond Dam
- ▶ #10 Manchaug Pond Dam
- ▶ #11 Stevens Pond Dam (SPD)

Roads

- ▶ All upstream (US) of Sutton Falls Pond Dam
- ▶ Manchaug Pond Perimeter
- ▶ Manchaug Road downstream (DS) of SPD

Structures

- ▶ 58 with potential for EAD
- ▶ 4 US of Manchaug Pond
- ▶ 53 along Manchaug Pond



Reach B Model Results

► Dams

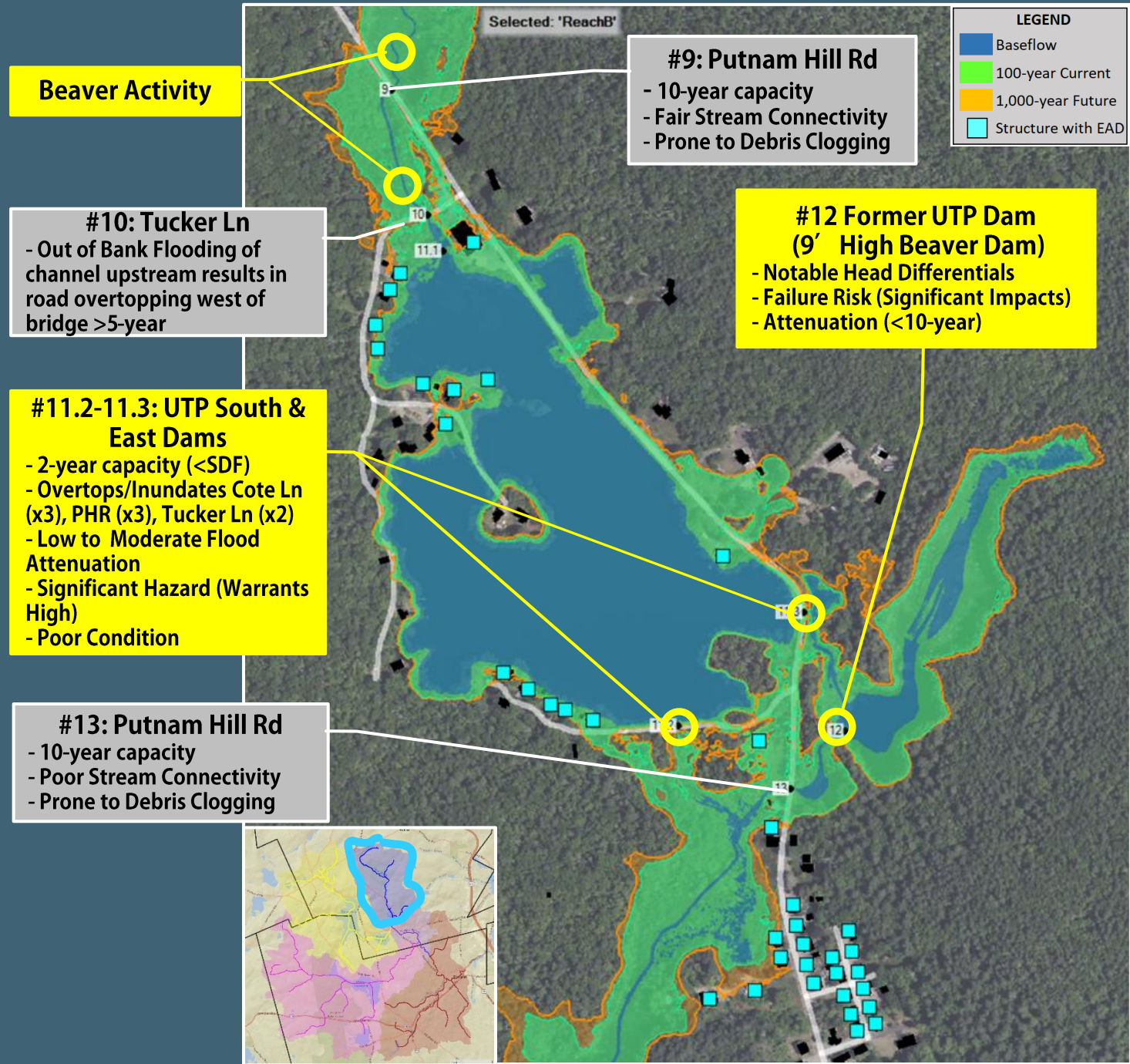
- #11.2-11.3 Upper Tucker Pond (UTP) Dams
- #12 Former UTP Dam (Current Beaver Dam)
- Other Beaver Activity

► Roads

- Putnam Hill Road (5 locations)
- Tucker Lane (3 locations)
- Cote Lane (3 locations)

► Structures

- 37 with potential for EAD
- 15 along Upper Tucker Pond
- 11 downstream of UTP



Reach C Model Results

► Dams

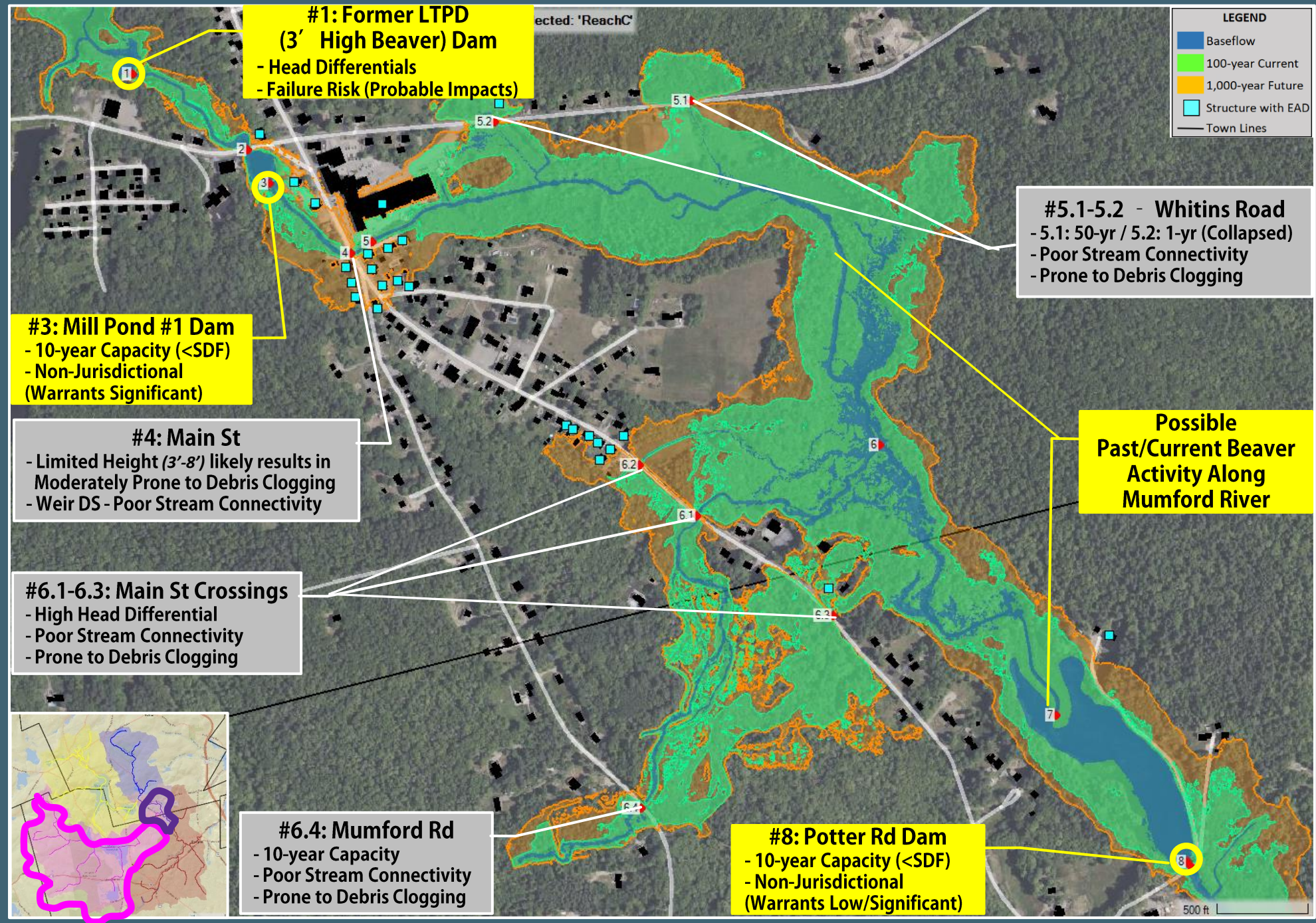
- #1 Former Lower Tucker Pond (LTP) Dam
- #3 Mill Pond Dam
- #8 Potter Road Dam
- Other Beaver Activity

► Roads

- #4 Main Street
- #9 Potter Road
- All 6 Tribs (3 Main Street, 2 Whitins Road, 1 Mumford Road)

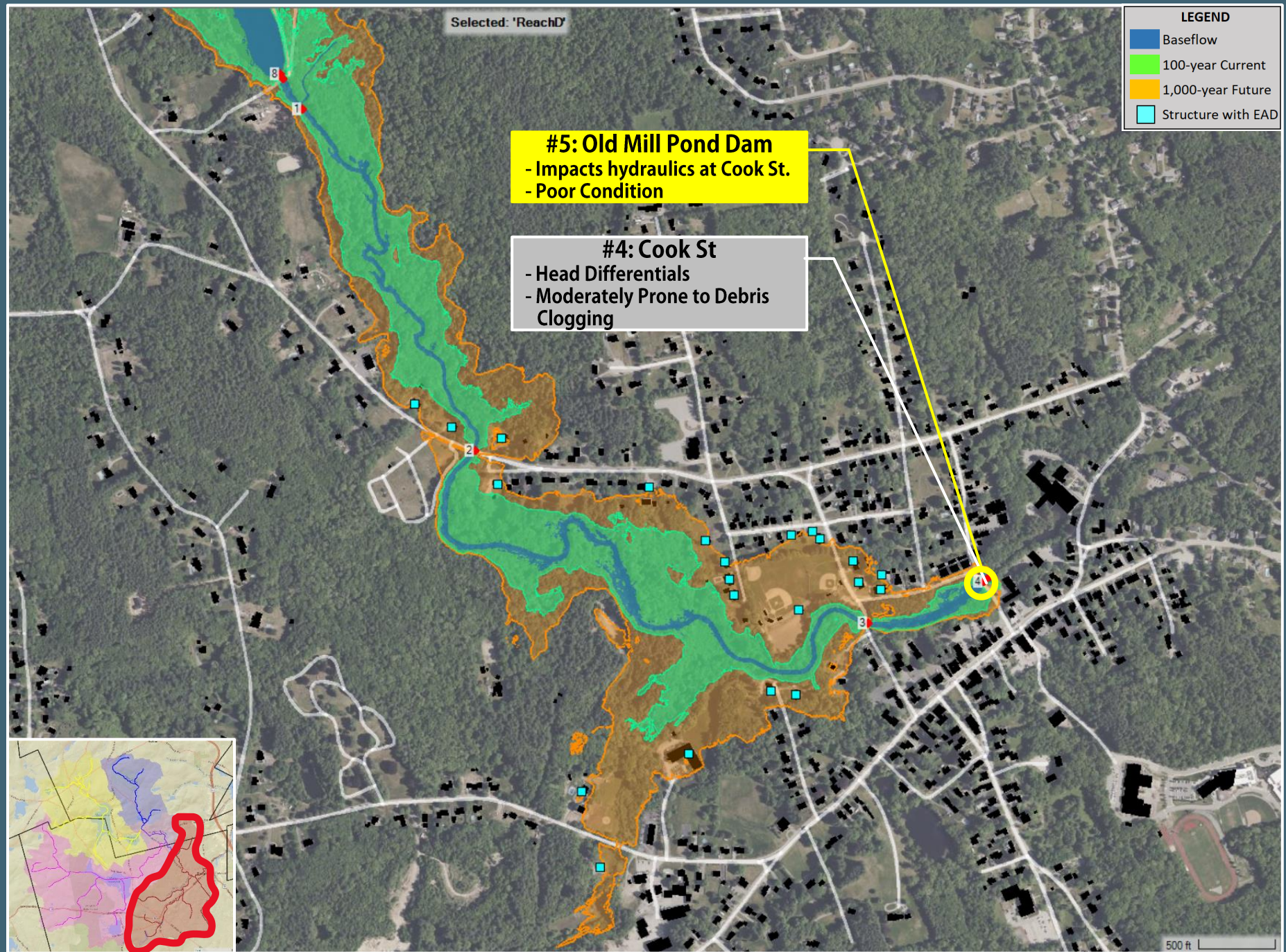
► Structures

- 25 with potential for EAD
- Mill Site #1



Reach D Model Results

- ▶ **Dams**
 - ▶ #5 Old Mill Pond Dam
- ▶ **Roads**
 - ▶ #4 Cook Street
- ▶ **Structures**
 - ▶ 22 with potential for EAD



Model Findings – Within Report

Crossings along Reach A (Mumford River Upstream of Dark Brook Confluence)								
ID	Location	+Trib	Drng. Area	Crossing Information			Capacity	
#	River Mi.	No.	s.m.	Name	Description	Owner	Current	CCIPF
1*	0.2	-	0.3	MA00671 Stump Pond Dam	8' high dam embankment	Private	-	-
2*	0.6	-	0.6	MA03383 Number Two Pond Dam	5' high dam embankment	Private	-	-
3*	0.8	-	0.7	MA03382 Number One Pond Dam (Town Farm Road)	11' high dam/roadway embankment with three 3' CMP spillway conduits	Private	25-yr	10-yr
4*	1.0	-	0.8	West Sutton Road	11' high roadway embankment with uninventoried low head dam upstream	Town	-	-
5	1.2	-	1.0	Central Turnpike	7' high roadway embankment with 4'wx6'h box culvert	Town	10-yr	2-yr
6*	1.4	+1	1.7	Mendon Road	4' high roadway embankment	Town	-	-
7	1.6	+1	2.3	Manchaug Road	9' high roadway embankment with 6' CMP conduit	Town	5-yr	2-yr
8*	1.9	-	2.4	MA02899 Homes Pond Dam	7' high partially breached dam embankment	Private	-	-
9.1	2.0	-	2.8	Sutton Falls Pond	Impoundment	Private	10-yr	5-yr
9.2	2.3	-	2.8	MA00956 Sutton Falls Pond Dam (Aldrich Lane)	12' high dam embankment with 19' long spillway	Private	10-yr	5-yr
10.1	2.4	+2	6.7	Manchaug Pond	Impoundment	Town & Private	-	-
10.2	4.4	-	6.7	MA00955 Manchaug Pond Dam (Torrey Road)	29' high dam/roadway embankment with 10' wide stop log controlled spillway culvert and 2' square gated LLO conduit	Town	>1,000-yr	200-yr
11.1	4.6	+1	7.7	Stevens Pond	Impoundment	Town	-	-
11.2	5.3	-	7.7	MA00957 Stevens Pond Dam (Manchaug Road)	30' high dam/roadway embankment with 16' wide spillway and 3' square LLO routed to 16'wx5'h arch culvert under road	Town	>1,000-yr	200-yr
12	5.4	-	7.8	Confluence with Dark Brook	Open Channel	Private	-	-

*Not included in data collection task; information provided from available documentation, LIDAR terrain data, and aerial imagery

Reach A: Mumford River Upstream of Confluence with Dark Brook

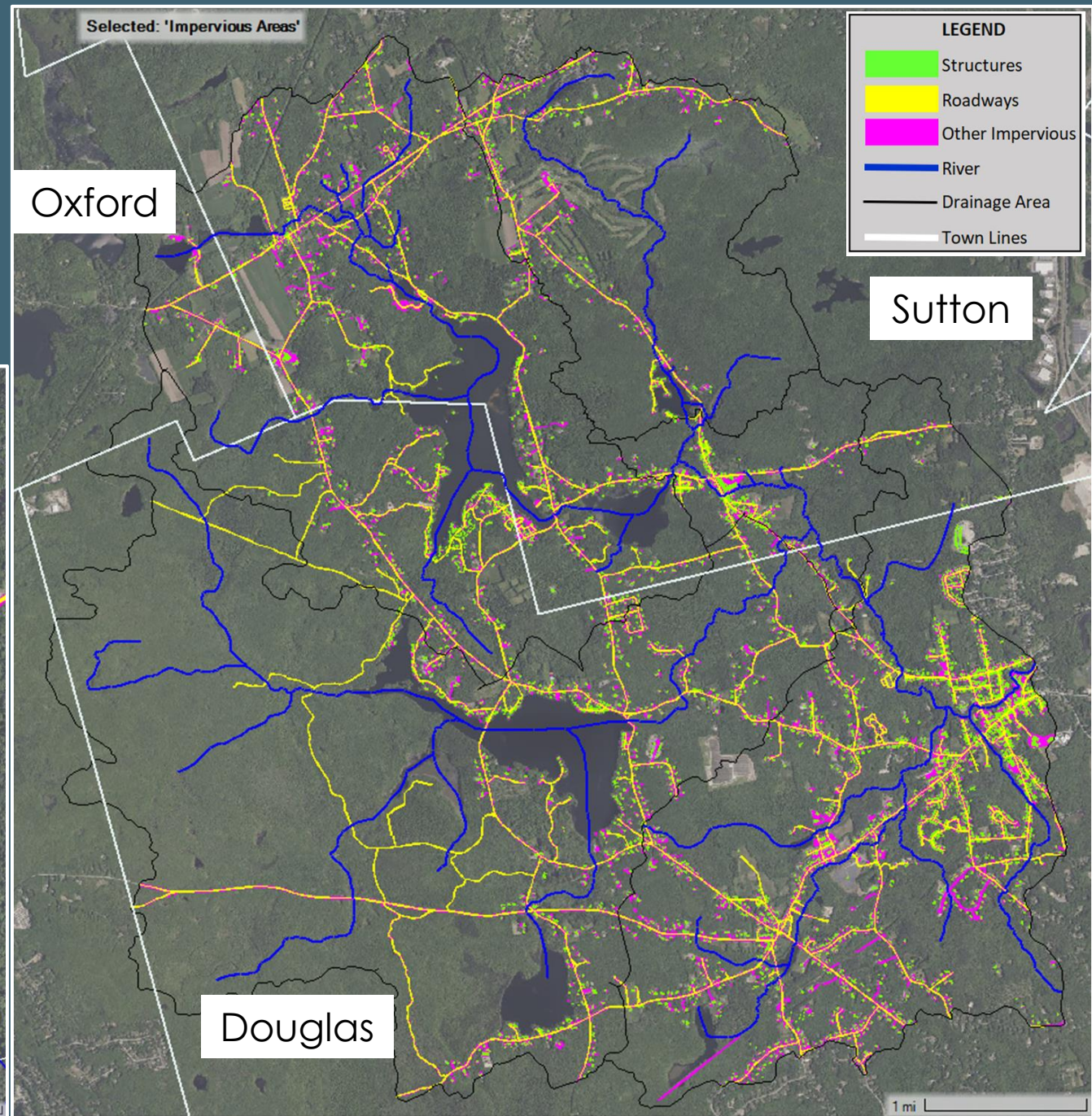
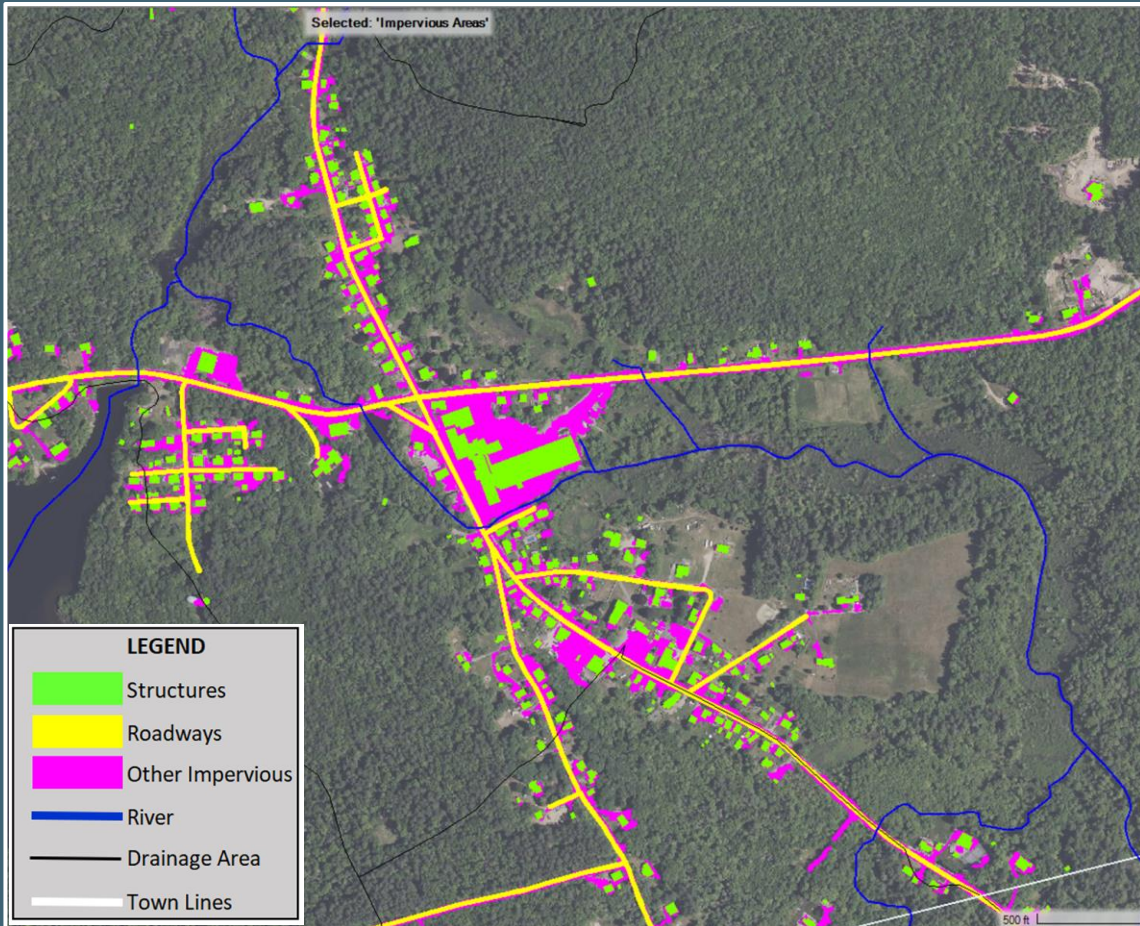
- a. **Dams**
- i. Sutton Falls Pond Dam – *limited capacity and SDF compliance*
 - ii. Manchaug Pond Dam – *attenuation, hazard, and SDF compliance*
 - iii. Stevens Pond Dam – *attenuation, hazard, and SDF compliance*
- b. **Roadways**
- i. All roadways upstream of Sutton Falls Pond Dam – *limited capacity, poor stream connectivity, proneness to debris clogging*
 - ii. Roadways along perimeter of Manchaug Pond – *flooding from Manchaug Pond storm pool elevations*
 - iii. Manchaug Road DS of Stevens Pond – *poor stream connectivity, proneness to debris clogging, capacity dependent on dam attenuation provided upstream*
- c. **Structures:**
- i. 58 structures identified as having potential to sustain flood damage.

Structures Impacted by Flooding Along Reach A										
ID	FID	Map-Par ID	Address	CITY	Description	FEE*	Start of Damage	CCPF	Current	EAD
							Current	CCPF	Current	CCIPF
1	1174	35-82	650 Central Turnpike	SUTTON	House in Close Proximity with River		ND	ND	ND	ND
2	798	35-143		SUTTON	Structure in Close Proximity with River		ND	ND	ND	ND
3	375	35-47	381 West Sutton Road	SUTTON	House in Close Proximity with River		ND	ND	ND	ND
4	1211	0	90 Manchaug Road	SUTTON	Sutton Falls Camping Area Intake Building - May See Flooding during events that OT Sutton Falls Pond Dam		25-yr	10-yr	ND	ND
5	157	111-35	34 HOUGH RD	DOUGLAS	House likely to experience flooding during high pool levels in Manchaug Pond	525	100-yr	25-yr	\$285	\$2,109
6	86	110-14	115 LEDGESTONE RD	DOUGLAS	Same Description as #5	523.3	10-yr	5-yr	\$4,625	\$10,410
7	159	111-38	33 HOUGH RD	DOUGLAS	Same Description as #5	523.5	10-yr	5-yr	\$4,142	\$9,244
8	133	111-15	84 BIGELOW RD	DOUGLAS	Same Description as #5	524.5	50-yr	25-yr	\$546	\$2,704
9	89	110-20	100 LEDGESTONE RD	DOUGLAS	Same Description as #5	523.5	10-yr	5-yr	\$3,700	\$8,257
10	158	111-37	37 HOUGH RD	DOUGLAS	Same Description as #5	523.5	10-yr	5-yr	\$5,464	\$12,194
11	136	111-18	55 BIGELOW RD	DOUGLAS	Same Description as #5	523.5	10-yr	5-yr	\$4,254	\$9,493
12	95	110-22	89 LEDGESTONE RD	DOUGLAS	Same Description as #5	523.2	10-yr	5-yr	\$1,135	\$2,572
13	137	111-19	53 BIGELOW RD	DOUGLAS	Same Description as #5	523.5	10-yr	5-yr	\$1,227	\$2,739
14	96	110-23	87 LEDGESTONE RD	DOUGLAS	Same Description as #5	523.2	10-yr	5-yr	\$1,103	\$2,501
15	163	111-41	17 HOUGH RD	DOUGLAS	Same Description as #5	522.7	10-yr	2-yr	\$1,881	\$8,044
16	85	110-13	117 LEDGESTONE RD	DOUGLAS	Same Description as #5	524	25-yr	10-yr	\$874	\$2,564
17	569	42-11	126 MANCHAUG RD	SUTTON	Same Description as #5	523.5	10-yr	5-yr	\$2,373	\$5,296
18	166	111-44	3 HOUGH RD	DOUGLAS	Same Description as #5	524	10-yr	2-yr	\$654	\$1,917
19	162	111-40	25 HOUGH RD	DOUGLAS	Same Description as #5	523.5	10-yr	5-yr	\$5,478	\$12,224
20	132	111-14	82 BIGELOW RD	DOUGLAS	Same Description as #5	523.5	10-yr	5-yr	\$1,334	\$2,976
21	570	42-12	126.5 MANCHAUG RD	SUTTON	Same Description as #5	523.5	10-yr	5-yr	\$640	\$1,429
22	165	111-43	7 HOUGH RD	DOUGLAS	Same Description as #5	523.5	10-yr	5-yr	\$1,566	\$3,495
23	94	110-21	95 LEDGESTONE RD	DOUGLAS	Same Description as #5	523.7	25-yr	10-yr	\$533	\$1,605
24	730	48-35	3 PARKER RD	SUTTON	House likely to experience flooding during high pool levels in Stevens Pond	474	25-yr	10-yr	\$1,262	\$3,405
25	30	110-18	105 LEDGESTONE RD	DOUGLAS	Same Description as #5	524.3	50-yr	25-yr	\$615	\$3,114
26	123	110-7	107 LEDGESTONE RD	DOUGLAS	Same Description as #5	525	100-yr	25-yr	\$263	\$1,945
27	169	111-47	12 PARKER CT	DOUGLAS	Same Description as #5	524.2	50-yr	25-yr	\$404	\$2,091
28	87	110-15	113 LEDGESTONE RD	DOUGLAS	Same Description as #5	524.5	100-yr	25-yr	\$283	\$1,401
29	617	42-7	122 MANCHAUG RD	SUTTON	Same Description as #5	524	50-yr	25-yr	\$265	\$777
30	135	111-17	65 BIGELOW RD	DOUGLAS	Same Description as #5	524.5	50-yr	25-yr	\$81	\$402
31	156	111-34	30 HOUGH RD	DOUGLAS	Same Description as #5	523.5	500-yr	50-yr	\$189	\$830
32	91	110-19	109 LEDGESTONE RD	DOUGLAS	Same Description as #5	525.4	200-yr	50-yr	\$127	\$753
33	89	110-17	109 LEDGESTONE RD	DOUGLAS	Same Description as #5	525.6	500-yr	50-yr	\$103	\$615
34	1239	0	24 HOLT RD	SUTTON	Same Description as #5	525-546	200-yr	50-yr	\$3	\$85
35	128	111-10	48 BIGELOW RD	DOUGLAS	Same Description as #5	525	200-yr	50-yr	\$95	\$703
36	131	111-13	76 BIGELOW RD	DOUGLAS	Same Description as #5	526.5	1000-yr	100-yr	\$44	\$457
37	167	111-45	4 PARKER CT	DOUGLAS	Same Description as #5	526.2	500-yr	100-yr	\$37	\$399
38	568	42-10	124.5 MANCHAUG RD	SUTTON	Same Description as #5	526	500-yr	100-yr	\$21	\$169
39	154	111-32	18 HOUGH RD	DOUGLAS	Same Description as #5	526.5	1000-yr	100-yr	\$12	\$121
40	168	111-46	8 PARKER CT	DOUGLAS	Same Description as #5	526.7	1000-yr	200-yr	\$7	\$307
41	170	111-48	18 PARKER CT	DOUGLAS	Same Description as #5	526.9	1000-yr	200-yr	\$6	\$124
42	171	111-49	24 PARKER CT	DOUGLAS	Same Description as #5	526.6	1000-yr	200-yr	\$6	\$58
43	100	110-27	77 LEDGESTONE RD	DOUGLAS	Same Description as #5	527	1000-yr	200-yr	\$3	\$85
44	634	42-9	124 MANCHAUG RD	SUTTON	Same Description as #5	527	1000-yr	200-yr	\$2	\$50
45	99	110-26	79 LEDGESTONE RD	DOUGLAS	Same Description as #5	528	-	500-yr	\$0	\$202
46	130	111-12	64 BIGELOW RD	DOUGLAS	Same Description as #5	528	-	500-yr	\$0	\$197
47	145	110-16	42 HOUGH RD	DOUGLAS	Same Description as #5	527.5	-	200-yr	\$0	\$165
48	98	110-25	81 LEDGESTONE RD	DOUGLAS	Same Description as #5	527.5	-	200-yr	\$0	\$153
49	88	110-16	111 LEDGESTONE RD	DOUGLAS	Same Description as #5	527.7	-	500-yr	\$0	\$118
50	97	110-24	85 LEDGESTONE RD	DOUGLAS	Same Description as #5	528.5	-	500-yr	\$0	\$109
51	8	102-7	38 LEDGEWOOD DR	DOUGLAS	Same Description as #5	528.5	-	500-yr	\$0	\$99
52	129	111-11	56 BIGELOW RD	DOUGLAS	Same Description as #5	528	-	500-yr	\$0	\$48
53	7	102-6	34 LEDGEWOOD DR	DOUGLAS	Same Description as #5	528	-	500-yr	\$0	\$44
54	624	42-8	122.5 MANCHAUG RD	SUTTON	Same Description as #5	530	-	500-yr	\$0	\$36
55	118	110-43	8 SUMMER CT	DOUGLAS	Same Description as #5	529.5	-	1000-yr	\$0	\$23
56	1221	0	120 MANCHAUG RD	SUTTON	Same Description as #5	529	-	500-yr	\$0	\$18
57	280	121-1	76 OAK ST	DOUGLAS	Same Description as #5	528	-	500-yr	\$0	\$16
58	1214	0	62R WATERS RD	SUTTON	Same Description as #5	530	-	1000-yr	\$0	\$10
59	125	110-8	0 LEDGESTONE RD	DOUGLAS	Same Description as #5	526.5	500-yr	100-yr	\$31	\$318

*Approximated first floor elevation based upon available LIDAR

Watershed-Wide Assessment

Impervious Area Type	Count	Area (acres)	Percent of Drainage Area
Structures	4,520	13	0.1%
Roadways	670	24	0.1%
Other Impervious	3,610	22	0.1%
Total Paved	8,800	59	0.3%
Surface Water	20	1,638	8.7%



Next Steps:

- ▶ Develop Improvement Strategies (Solutions)
- ▶ The “Solutions” Meeting
 - ▶ April 27th, 6:00pm, Location: TBD
- ▶ Planning Study Report - Draft
 - ▶ Available to Public - May 12th Target date
 - ▶ Public Comment Period Until - May 22nd
- ▶ Select Board Meeting - Present Draft of Study
 - ▶ June 6th, 6:00pm, Sutton Town Hall
- ▶ Planning Study Report - Final
 - ▶ June 30th

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Discussion

