

## Attachment 6 – Hydraulic Model Results



Hydraulic Model Results

Randall Meadow Floodplain Restoration - Waterbury, VT

6/19/2025

Reach	River Sta	Profile	Plan	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Waterbury Study	146510	10-yr	LCFmixed	25800	401.79	420.2		420.32	0.000242	3.8	12229.95	1950.87	0.18
Waterbury Study	146510	10-yr	Ex Cond v5 mixed	25800	401.79	420.41		420.69	0.000558	5.79	11046.32	1953.71	0.27
Waterbury Study	146510	50-yr	LCFmixed	36800	401.79	423.71		423.79	0.000129	3.21	19954.7	2967.91	0.13
Waterbury Study	146510	50-yr	Ex Cond v5 mixed	36800	401.79	423.85		424.01	0.00031	4.97	18789.06	2968.25	0.21
Waterbury Study	146510	100-yr	LCFmixed	42400	401.79	426.15		426.2	0.00008	2.76	27202.58	2973.86	0.11
Waterbury Study	146510	100-yr	Ex Cond v5 mixed	42400	401.79	426.24		426.35	0.000188	4.22	25910.53	2974.1	0.16
Waterbury Study	146510	500-yr	LCFmixed	57100	401.79	428.91		428.97	0.000072	2.83	35441.41	3009.91	0.1
Waterbury Study	146510	500-yr	Ex Cond v5 mixed	57100	401.79	429.01		429.11	0.000162	4.26	34162.53	3014.29	0.16
Waterbury Study	145680.6	10-yr	LCFmixed	25800	402	419.98		420.13	0.00022	4.15	13570.3	1947.8	0.18
Waterbury Study	145680.6	10-yr	Ex Cond v5 mixed	25800	402	420.1		420.35	0.000306	4.92	11329.68	1951.25	0.21
Waterbury Study	145680.6	50-yr	LCFmixed	36800	402	423.57		423.68	0.000142	3.78	21504.62	2472.2	0.15
Waterbury Study	145680.6	50-yr	Ex Cond v5 mixed	36800	402	423.67		423.82	0.000185	4.33	19258.7	2480.04	0.17
Waterbury Study	145680.6	100-yr	LCFmixed	42400	402	426.05		426.13	0.000097	3.37	27740.97	2535.52	0.12
Waterbury Study	145680.6	100-yr	Ex Cond v5 mixed	42400	402	426.12		426.23	0.000122	3.79	25439.18	2536.73	0.14
Waterbury Study	145680.6	500-yr	LCFmixed	57100	402	428.82		428.9	0.000094	3.57	35306.39	2791.33	0.12
Waterbury Study	145680.6	500-yr	Ex Cond v5 mixed	57100	402	428.9		429	0.000113	3.93	33043.26	2791.8	0.14

RS	WATER SURFACE ELEVATION (FT)							
	EX 10-YR	EX 50-YR	EX 100-YR	EX 500-YR	PR 10-YR	PR 50-YR	PR 100-YR	PR 500-YR
146510.0	420.4	423.9	426.2	429.0	420.2	423.7	426.2	428.9
145680.6	420.1	423.7	426.1	428.9	420.0	423.6	426.1	428.8

WATER SURFACE ELEVATION CHANGE(FT)			
PR 10-YR	PR 50-YR	PR 100-YR	PR 500-YR
-0.2	-0.1	-0.1	-0.1
-0.1	-0.1	-0.1	-0.1

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS River: Winooski River Reach: Waterbury Study													
Reach	River Sta	Profile	Plan	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Waterbury Study	148828.5	500-yr	Ex Cond v5 mixed	57100.00	402.10	429.82		430.03	0.000243	5.23	28196.23	3321.72	0.19
Waterbury Study	147635.2	10-yr	LCFmixed	25800.00	401.98	419.71		421.40	0.002066	10.78	3382.65	649.06	0.51
Waterbury Study	147635.2	10-yr	Ex Cond v5 mixed	25800.00	401.98	420.67		421.99	0.001564	9.70	4053.03	778.96	0.45
Waterbury Study	147635.2	50-yr	LCFmixed	36800.00	401.98	423.16		424.52	0.001534	10.45	6582.22	1349.36	0.45
Waterbury Study	147635.2	50-yr	Ex Cond v5 mixed	36800.00	401.98	423.78		424.94	0.001281	9.78	7526.15	1700.34	0.41
Waterbury Study	147635.2	100-yr	LCFmixed	42400.00	401.98	425.83		426.64	0.000876	8.72	11800.71	2311.81	0.35
Waterbury Study	147635.2	100-yr	Ex Cond v5 mixed	42400.00	401.98	426.20		426.92	0.000778	8.32	12651.17	2362.87	0.33
Waterbury Study	147635.2	500-yr	LCFmixed	57100.00	401.98	428.71		429.32	0.000661	8.31	19051.19	2765.58	0.31
Waterbury Study	147635.2	500-yr	Ex Cond v5 mixed	57100.00	401.98	429.01		429.56	0.000604	8.01	19885.46	2787.34	0.30
Waterbury Study	146510.0	10-yr	LCFmixed	25800.00	401.79	420.20		420.32	0.000242	3.80	12229.95	1950.87	0.18
Waterbury Study	146510.0	10-yr	Ex Cond v5 mixed	25800.00	401.79	420.41		420.69	0.000558	5.79	11046.32	1953.71	0.27
Waterbury Study	146510.0	50-yr	LCFmixed	36800.00	401.79	423.71		423.79	0.000129	3.21	19954.70	2967.91	0.13
Waterbury Study	146510.0	50-yr	Ex Cond v5 mixed	36800.00	401.79	423.85		424.01	0.000310	4.97	18789.06	2968.25	0.21
Waterbury Study	146510.0	100-yr	LCFmixed	42400.00	401.79	426.15		426.20	0.000080	2.76	27202.58	2973.86	0.11
Waterbury Study	146510.0	100-yr	Ex Cond v5 mixed	42400.00	401.79	426.24		426.35	0.000188	4.22	25910.53	2974.10	0.16
Waterbury Study	146510.0	500-yr	LCFmixed	57100.00	401.79	428.91		428.97	0.000072	2.83	35441.41	3009.91	0.10
Waterbury Study	146510.0	500-yr	Ex Cond v5 mixed	57100.00	401.79	429.01		429.11	0.000162	4.26	34162.53	3014.29	0.16
Waterbury Study	145680.6	10-yr	LCFmixed	25800.00	402.00	419.98		420.13	0.000220	4.15	13570.30	1947.80	0.18
Waterbury Study	145680.6	10-yr	Ex Cond v5 mixed	25800.00	402.00	420.10		420.35	0.000306	4.92	11329.68	1951.25	0.21
Waterbury Study	145680.6	50-yr	LCFmixed	36800.00	402.00	423.57		423.68	0.000142	3.78	21504.62	2472.20	0.15
Waterbury Study	145680.6	50-yr	Ex Cond v5 mixed	36800.00	402.00	423.67		423.82	0.000185	4.33	19258.70	2480.04	0.17
Waterbury Study	145680.6	100-yr	LCFmixed	42400.00	402.00	426.05		426.13	0.000097	3.37	27740.97	2535.52	0.12
Waterbury Study	145680.6	100-yr	Ex Cond v5 mixed	42400.00	402.00	426.12		426.23	0.000122	3.79	25439.18	2536.73	0.14
Waterbury Study	145680.6	500-yr	LCFmixed	57100.00	402.00	428.82		428.90	0.000094	3.57	35306.39	2791.33	0.12
Waterbury Study	145680.6	500-yr	Ex Cond v5 mixed	57100.00	402.00	428.90		429.00	0.000113	3.93	33043.26	2791.80	0.14

## Attachment 7 – Flood Reductions

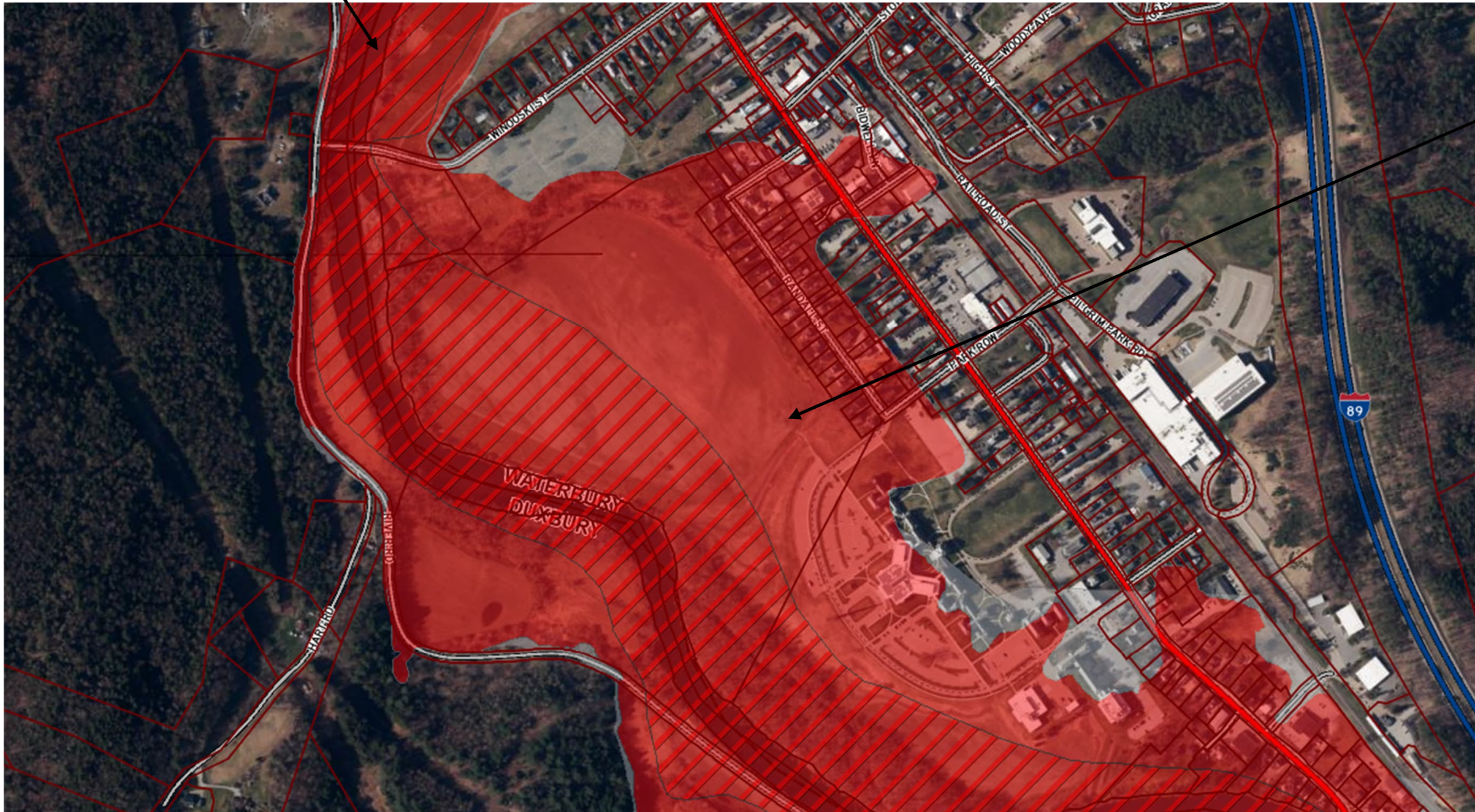


# Waterbury Initial Hydraulic Modeling State Corn Field

March 13, 2025

FEMA Floodway  
(Diagonal Hatch)

FEMA Floodplain  
(Red)





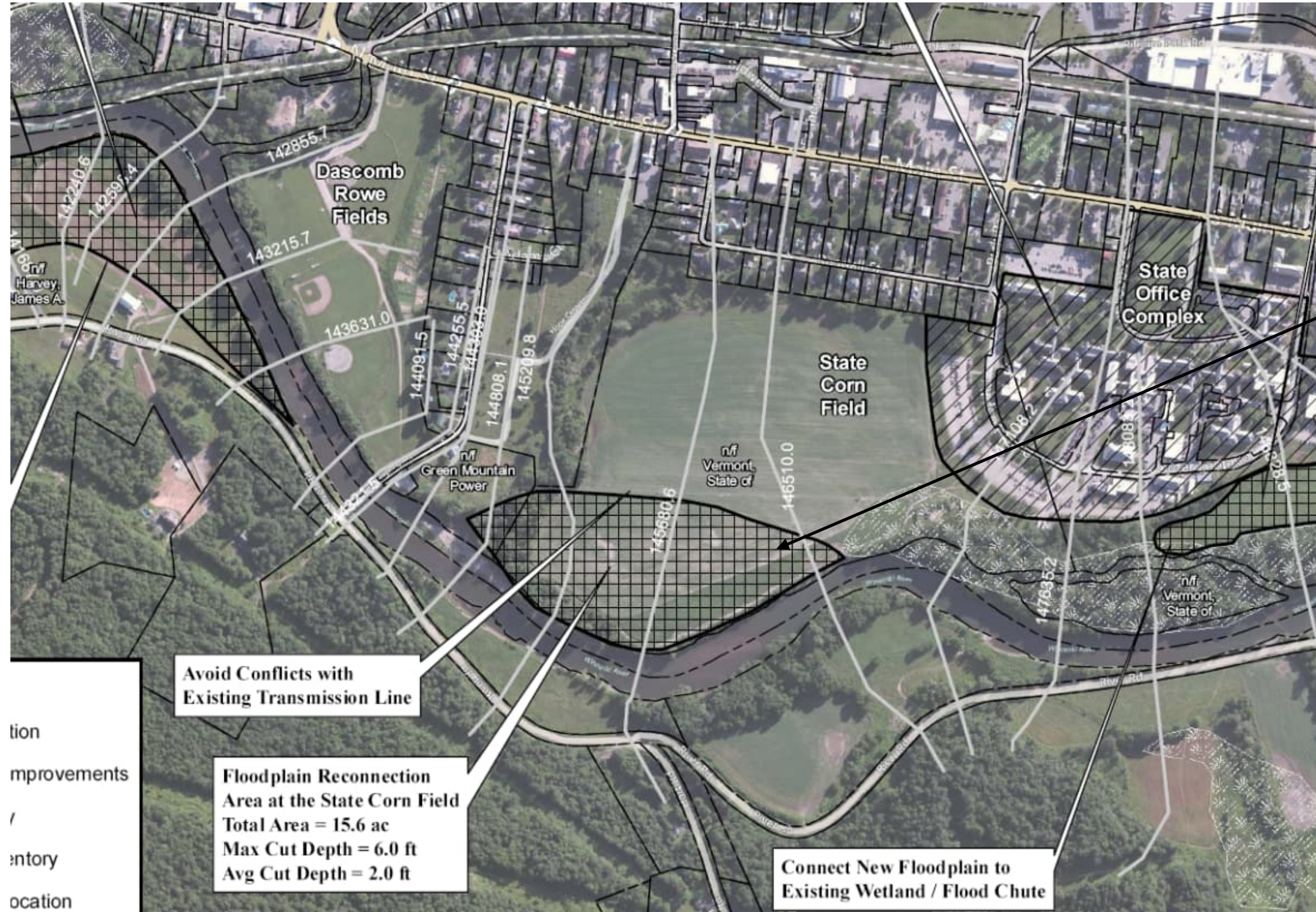
# Waterbury – State Corn Field

VT River Corridor  
(Yellow)





# Waterbury – State Corn Field



Partial lowering  
evaluated in 2013  
Flood Study

Avoid Conflicts with  
Existing Transmission Line

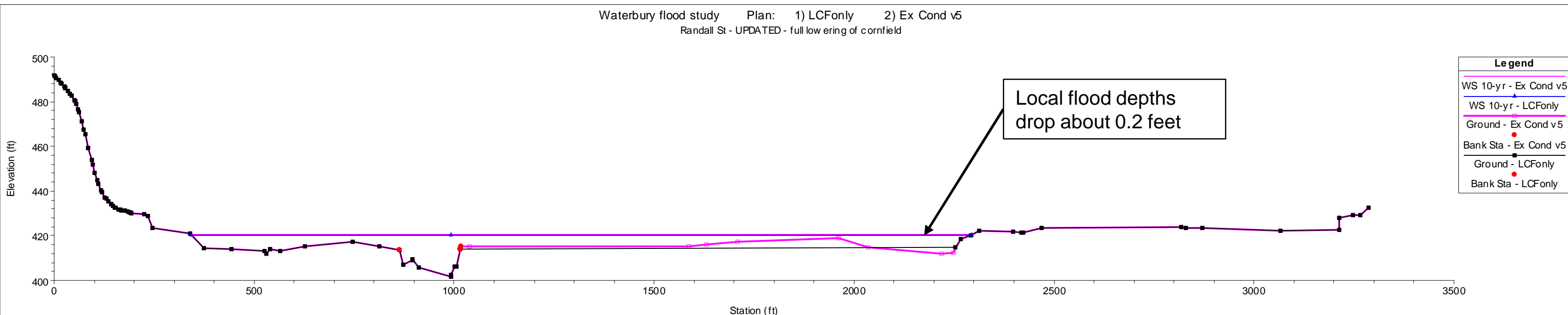
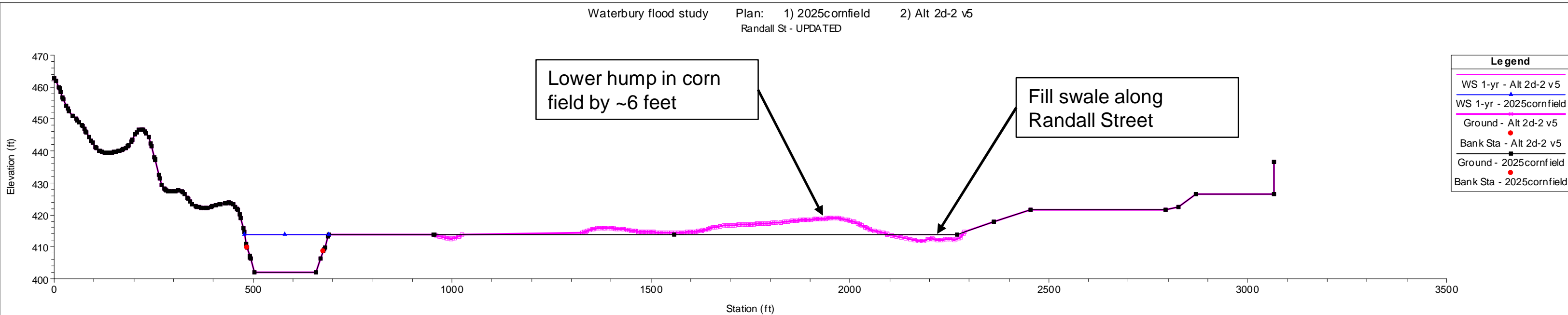
Floodplain Reconnection  
Area at the State Corn Field  
Total Area = 15.6 ac  
Max Cut Depth = 6.0 ft  
Avg Cut Depth = 2.0 ft

Connect New Floodplain to  
Existing Wetland / Flood Chute

tion  
mprovements  
/  
entory  
ocation



# Waterbury – State Corn Field





# Waterbury – State Corn Field

Flood depth decrease ~0.3 to 1.0 feet and extend over ~7,000 feet upstream

