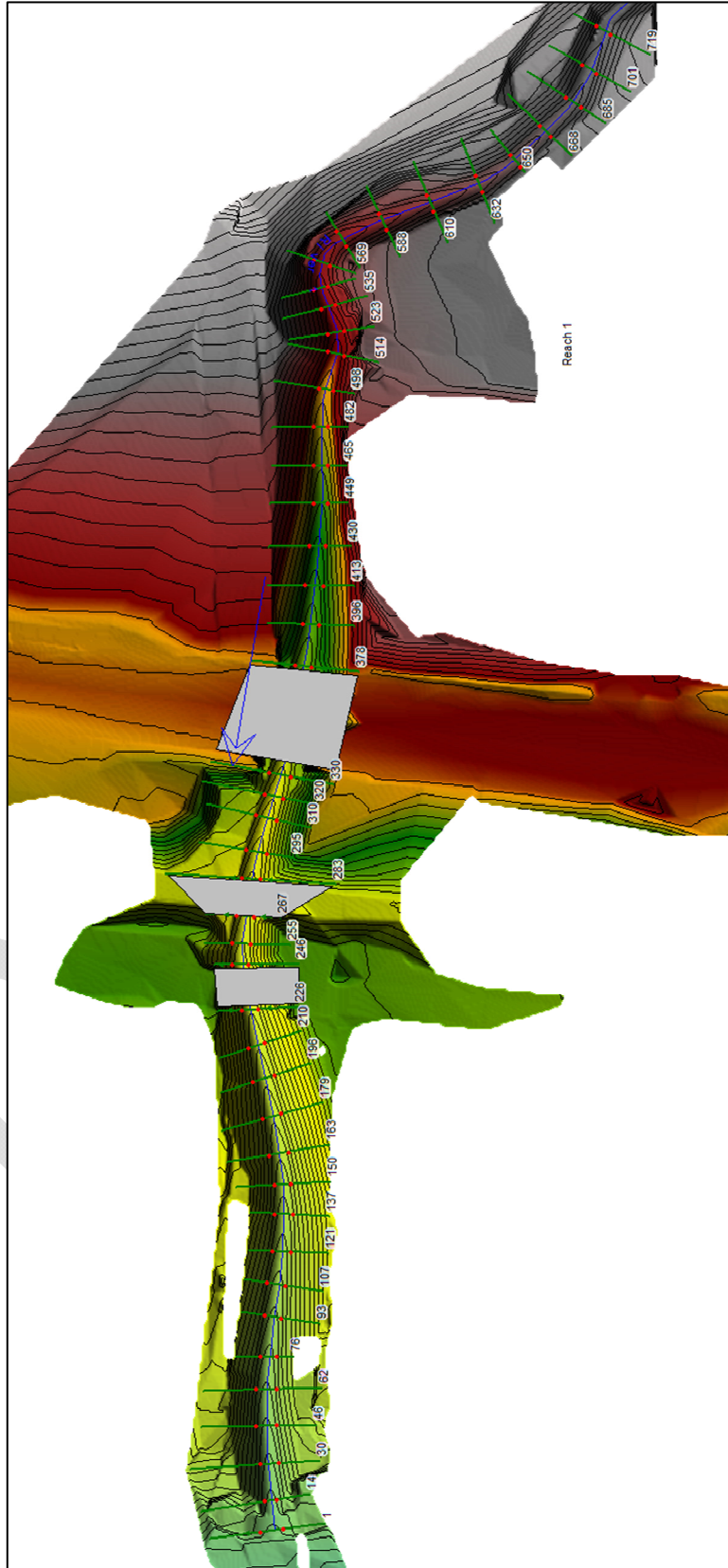


APPENDIX A

Preliminary Hydraulic Results

DRAFT



2-year Event

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Hydr Depth C (ft)	Froude # Chl	Shear Chan (lb/sq ft)
Reach 1	1	2YR-NHCrec	39.00	30.84	31.74	32.03	0.493916	4.35	8.98	28.12	0.76	0.88	23.44
Reach 1	14	2YR-NHCrec	39.00	31.70	33.64	33.74	0.059523	2.62	15.37	19.90	1.78	0.35	6.47
Reach 1	30	2YR-NHCrec	39.00	32.72	34.73	34.85	0.084217	2.85	13.91	10.44	1.61	0.40	7.98
Reach 1	46	2YR-NHCrec	39.00	33.78	35.96	36.05	0.063611	2.52	15.70	10.96	1.67	0.34	6.20
Reach 1	62	2YR-NHCrec	39.00	34.79	36.96	37.06	0.064739	2.54	15.60	10.87	1.66	0.35	6.29
Reach 1	76	2YR-NHCrec	39.00	35.70	37.82	37.92	0.057420	2.59	15.27	10.82	1.83	0.34	6.28
Reach 1	93	2YR-NHCrec	39.00	36.75	38.84	38.95	0.064261	2.68	14.77	10.69	1.77	0.36	6.81
Reach 1	107	2YR-NHCrec	39.00	37.63	39.76	39.86	0.066012	2.63	15.09	10.89	1.71	0.35	6.67
Reach 1	121	2YR-NHCrec	39.00	38.51	40.67	40.77	0.060316	2.56	15.53	10.99	1.76	0.34	6.27
Reach 1	137	2YR-NHCrec	39.00	39.51	41.66	41.76	0.063563	2.61	15.25	10.85	1.73	0.35	6.51
Reach 1	150	2YR-NHCrec	39.00	40.34	42.44	42.55	0.059046	2.60	15.18	10.82	1.81	0.34	6.39
Reach 1	163	2YR-NHCrec	39.00	41.13	43.27	43.38	0.066098	2.63	15.15	10.91	1.70	0.35	6.65
Reach 1	179	2YR-NHCrec	39.00	42.17	44.33	44.43	0.062341	2.57	15.48	10.96	1.73	0.34	6.35
Reach 1	196	2YR-NHCrec	39.00	43.23	45.41	45.50	0.065584	2.50	15.77	10.95	1.62	0.35	6.17
Reach 1	210	2YR-NHCrec	39.00	44.14	46.29	46.39	0.057341	2.56	15.48	10.90	1.81	0.34	6.18
Reach 1	226	2YR-NHCrec	39.00	45.13	47.21	47.31	0.060951	2.63	15.04	10.88	1.78	0.35	6.52
Reach 1	235	Bridge											
Reach 1	246	2YR-NHCrec	39.00	46.35	48.48	48.58	0.056980	2.57	15.31	10.93	1.82	0.34	6.21
Reach 1	255	2YR-NHCrec	39.00	46.90	49.02	49.13	0.066609	2.65	15.05	11.01	1.71	0.36	6.75
Reach 1	267	2YR-NHCrec	39.00	47.72	49.79	49.90	0.063361	2.67	14.85	10.83	1.77	0.35	6.74
Reach 1	270	Bridge											
Reach 1	283	2YR-NHCrec	39.00	48.76	50.91	51.01	0.062512	2.59	15.39	11.32	1.74	0.35	6.44
Reach 1	295	2YR-NHCrec	39.00	49.57	51.70	51.80	0.070207	2.59	15.27	10.94	1.62	0.36	6.62
Reach 1	310	2YR-NHCrec	39.00	50.48	52.70	52.79	0.060147	2.46	16.12	11.30	1.68	0.33	5.87
Reach 1	320	2YR-NHCrec	39.00	51.07	53.27	53.36	0.055556	2.48	16.04	11.15	1.78	0.33	5.85
Reach 1	330	2YR-NHCrec	39.00	51.75	53.88	53.99	0.072476	2.59	15.24	11.17	1.58	0.36	6.68
Reach 1	350	Bridge											
Reach 1	378	2YR-NHCrec	39.00	55.08	57.11	57.23	0.074841	2.82	14.10	10.55	1.70	0.38	7.62
Reach 1	396	2YR-NHCrec	39.00	56.37	58.42	58.53	0.068352	2.74	14.42	10.57	1.75	0.37	7.17
Reach 1	413	2YR-NHCrec	39.00	57.51	59.60	59.71	0.071962	2.72	14.65	10.74	1.68	0.37	7.14
Reach 1	430	2YR-NHCrec	39.00	58.73	60.78	60.89	0.066993	2.73	14.52	10.63	1.76	0.36	7.06
Reach 1	449	2YR-NHCrec	39.00	60.00	62.02	62.14	0.067257	2.78	14.00	10.49	1.79	0.37	7.29
Reach 1	465	2YR-NHCrec	39.00	61.11	63.12	63.25	0.069288	2.81	13.86	10.45	1.78	0.37	7.46
Reach 1	482	2YR-NHCrec	39.00	62.28	64.29	64.42	0.070133	2.82	13.81	10.47	1.78	0.37	7.53
Reach 1	498	2YR-NHCrec	39.00	63.41	65.43	65.56	0.068932	2.80	13.93	10.47	1.78	0.37	7.40
Reach 1	514	2YR-NHCrec	39.00	64.52	66.57	66.69	0.073324	2.79	14.17	10.42	1.71	0.38	7.49
Reach 1	523	2YR-NHCrec	39.00	65.17	67.24	67.35	0.068372	2.74	14.48	11.19	1.74	0.37	7.15
Reach 1	535	2YR-NHCrec	39.00	65.96	68.01	68.13	0.065701	2.75	14.21	10.52	1.80	0.36	7.13
Reach 1	544	2YR-NHCrec	39.00	66.56	68.59	68.71	0.069291	2.78	14.08	10.58	1.76	0.37	7.34
Reach 1	555	2YR-NHCrec	39.00	67.32	69.37	69.48	0.073343	2.78	14.28	10.58	1.70	0.38	7.43
Reach 1	569	2YR-NHCrec	39.00	68.20	70.33	70.43	0.065209	2.63	15.13	10.78	1.73	0.35	6.64
Reach 1	588	2YR-NHCrec	39.00	69.47	71.58	71.68	0.065752	2.66	14.95	10.83	1.73	0.36	6.76
Reach 1	610	2YR-NHCrec	39.00	70.89	73.01	73.12	0.065114	2.65	14.96	10.86	1.73	0.35	6.72
Reach 1	632	2YR-NHCrec	39.00	72.39	74.47	74.58	0.065887	2.68	14.87	10.93	1.74	0.36	6.83
Reach 1	650	2YR-NHCrec	39.00	73.47	75.60	75.70	0.056365	2.59	15.14	10.98	1.85	0.34	6.28
Reach 1	668	2YR-NHCrec	39.00	74.10	76.44	76.52	0.036457	2.25	17.80	12.85	2.08	0.28	4.55
Reach 1	685	2YR-NHCrec	39.00	74.69	77.08	77.15	0.036612	2.18	18.28	11.77	2.00	0.27	4.34
Reach 1	701	2YR-NHCrec	39.00	75.22	77.63	77.70	0.032654	2.13	18.51	11.79	2.09	0.26	4.07
Reach 1	719	2YR-NHCrec	39.00	76.03	78.33	78.42	0.050023	2.39	16.37	11.67	1.88	0.31	5.39

10-year Event

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Hydr Depth C (ft)	Froude # Chl	Shear Chan (lb/sq ft)
Reach 1	1	10yr-NHCrev	76.00	30.84	32.08	32.50	0.411241	5.09	14.68	32.18	1.11	0.85	28.34
Reach 1	14	10yr-NHCrev	76.00	31.70	34.07	34.20	0.062369	3.10	26.90	31.49	2.21	0.37	8.40
Reach 1	30	10yr-NHCrev	76.00	32.72	35.26	35.49	0.108083	3.90	19.88	12.25	2.13	0.47	13.62
Reach 1	46	10yr-NHCrev	76.00	33.78	36.68	36.83	0.062973	3.19	24.43	13.36	2.39	0.36	8.78
Reach 1	62	10yr-NHCrev	76.00	34.79	37.67	37.83	0.064588	3.22	24.23	13.31	2.38	0.37	8.96
Reach 1	76	10yr-NHCrev	76.00	35.70	38.53	38.69	0.056797	3.21	23.96	13.56	2.54	0.35	8.64
Reach 1	93	10yr-NHCrev	76.00	36.75	39.54	39.71	0.063587	3.33	23.12	13.28	2.47	0.37	9.41
Reach 1	107	10yr-NHCrev	76.00	37.63	40.45	40.62	0.065908	3.30	23.51	13.47	2.41	0.37	9.35
Reach 1	121	10yr-NHCrev	76.00	38.51	41.37	41.52	0.061079	3.23	24.08	13.52	2.46	0.36	8.89
Reach 1	137	10yr-NHCrev	76.00	39.51	42.37	42.53	0.063140	3.26	23.74	13.15	2.44	0.37	9.11
Reach 1	150	10yr-NHCrev	76.00	40.34	43.15	43.31	0.058906	3.24	23.64	13.16	2.51	0.36	8.87
Reach 1	163	10yr-NHCrev	76.00	41.13	43.98	44.14	0.065237	3.29	23.66	13.36	2.41	0.37	9.29
Reach 1	179	10yr-NHCrev	76.00	42.17	45.03	45.19	0.062964	3.24	24.03	13.53	2.43	0.37	9.01
Reach 1	196	10yr-NHCrev	76.00	43.23	46.11	46.27	0.066292	3.20	24.32	13.39	2.32	0.37	8.96
Reach 1	210	10yr-NHCrev	76.00	44.14	47.00	47.16	0.057202	3.20	24.10	13.28	2.52	0.35	8.61
Reach 1	226	10yr-NHCrev	76.00	45.13	47.92	48.08	0.059846	3.25	23.54	13.26	2.49	0.36	8.94
Reach 1	235	Bridge											
Reach 1	246	10yr-NHCrev	76.00	46.35	49.17	49.33	0.057865	3.22	23.70	13.24	2.51	0.36	8.73
Reach 1	255	10yr-NHCrev	76.00	46.90	49.72	49.88	0.065611	3.30	23.48	13.21	2.41	0.37	9.35
Reach 1	267	10yr-NHCrev	76.00	47.72	50.47	50.62	0.057615	3.16	24.61	20.80	2.45	0.36	8.47
Reach 1	270	Bridge											
Reach 1	283	10yr-NHCrev	76.00	48.76	51.58	51.73	0.058844	3.13	24.66	22.09	2.41	0.36	8.40
Reach 1	295	10yr-NHCrev	76.00	49.57	52.33	52.48	0.067789	3.18	26.03	24.20	2.25	0.37	8.90
Reach 1	310	10yr-NHCrev	76.00	50.48	53.33	53.48	0.063813	3.13	25.57	18.61	2.31	0.36	8.58
Reach 1	320	10yr-NHCrev	76.00	51.07	53.93	54.08	0.059822	3.19	24.79	16.63	2.45	0.36	8.67
Reach 1	330	10yr-NHCrev	76.00	51.75	54.55	54.68	0.062250	3.04	25.89	17.42	2.25	0.36	8.15
Reach 1	350	Bridge											
Reach 1	378	10yr-NHCrev	76.00	55.08	57.79	57.94	0.065194	3.28	23.96	17.32	2.38	0.38	9.27
Reach 1	396	10yr-NHCrev	76.00	56.37	59.05	59.24	0.075653	3.54	21.73	12.83	2.38	0.40	10.78
Reach 1	413	10yr-NHCrev	76.00	57.51	60.29	60.47	0.070765	3.39	22.92	13.17	2.38	0.39	9.94
Reach 1	430	10yr-NHCrev	76.00	58.73	61.46	61.64	0.067122	3.40	22.64	13.17	2.44	0.38	9.83
Reach 1	449	10yr-NHCrev	76.00	60.00	62.70	62.89	0.066812	3.44	21.81	12.55	2.47	0.39	9.99
Reach 1	465	10yr-NHCrev	76.00	61.11	63.80	63.99	0.069339	3.48	21.52	12.44	2.45	0.39	10.29
Reach 1	482	10yr-NHCrev	76.00	62.28	64.96	65.16	0.069799	3.49	21.57	12.74	2.45	0.39	10.33
Reach 1	498	10yr-NHCrev	76.00	63.41	66.11	66.30	0.069238	3.47	21.71	12.82	2.45	0.39	10.24
Reach 1	514	10yr-NHCrev	76.00	64.52	67.25	67.43	0.073801	3.50	21.93	12.37	2.39	0.40	10.53
Reach 1	523	10yr-NHCrev	76.00	65.17	67.90	68.06	0.061278	3.22	24.28	16.13	2.41	0.37	8.86
Reach 1	535	10yr-NHCrev	76.00	65.96	68.65	68.83	0.070093	3.48	22.19	14.50	2.43	0.39	10.29
Reach 1	544	10yr-NHCrev	76.00	66.56	69.25	69.44	0.070943	3.48	21.86	13.15	2.42	0.39	10.33
Reach 1	555	10yr-NHCrev	76.00	67.32	70.05	70.22	0.072965	3.47	22.64	14.60	2.38	0.40	10.35
Reach 1	569	10yr-NHCrev	76.00	68.20	71.01	71.18	0.067236	3.34	23.26	13.05	2.41	0.38	9.57
Reach 1	588	10yr-NHCrev	76.00	69.47	72.27	72.43	0.063013	3.26	24.11	15.14	2.43	0.37	9.07
Reach 1	610	10yr-NHCrev	76.00	70.89	73.68	73.84	0.065831	3.31	23.88	15.80	2.40	0.38	9.40
Reach 1	632	10yr-NHCrev	76.00	72.39	75.15	75.32	0.066503	3.35	23.13	13.50	2.42	0.38	9.58
Reach 1	650	10yr-NHCrev	76.00	73.47	76.29	76.45	0.056041	3.19	23.77	13.48	2.54	0.35	8.55
Reach 1	668	10yr-NHCrev	76.00	74.10	77.12	77.22	0.033496	2.61	31.04	22.91	2.76	0.28	5.55
Reach 1	685	10yr-NHCrev	76.00	74.69	77.76	77.88	0.042921	2.87	27.13	14.46	2.68	0.31	6.81
Reach 1	701	10yr-NHCrev	76.00	75.22	78.38	78.49	0.034822	2.70	28.27	14.31	2.83	0.28	5.90
Reach 1	719	10yr-NHCrev	76.00	76.03	79.07	79.21	0.046421	2.88	26.03	14.18	2.63	0.31	6.99

100-year Event

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Hydr Depth C (ft)	Froude # Chl	Shear Chan (lb/sq ft)
Reach 1	1	100yr-NHCrev	128.00	30.84	32.25	32.45	0.077738	2.43	38.02	36.82	1.28	0.38	6.17
Reach 1	14	100yr-NHCrev	128.00	31.70	34.00	34.43	0.217308	5.66	24.77	30.10	2.14	0.68	28.35
Reach 1	30	100yr-NHCrev	128.00	32.72	36.10	36.35	0.077627	4.13	31.57	15.57	2.97	0.42	13.64
Reach 1	46	100yr-NHCrev	128.00	33.78	37.33	37.55	0.067426	3.87	33.85	15.68	3.04	0.39	11.96
Reach 1	62	100yr-NHCrev	128.00	34.79	38.37	38.59	0.064485	3.81	34.36	15.76	3.08	0.38	11.57
Reach 1	76	100yr-NHCrev	128.00	35.70	39.22	39.44	0.056381	3.75	34.28	16.44	3.23	0.37	10.90
Reach 1	93	100yr-NHCrev	128.00	36.75	40.22	40.46	0.062878	3.89	33.05	15.98	3.15	0.39	11.86
Reach 1	107	100yr-NHCrev	128.00	37.63	41.13	41.35	0.065402	3.87	33.49	16.13	3.08	0.39	11.88
Reach 1	121	100yr-NHCrev	128.00	38.51	42.04	42.26	0.061705	3.81	34.13	16.22	3.14	0.38	11.45
Reach 1	137	100yr-NHCrev	128.00	39.51	43.05	43.28	0.063997	3.87	33.53	15.56	3.12	0.39	11.81
Reach 1	150	100yr-NHCrev	128.00	40.34	43.84	44.07	0.059290	3.82	33.47	15.49	3.20	0.38	11.37
Reach 1	163	100yr-NHCrev	128.00	41.13	44.67	44.89	0.064060	3.85	33.83	16.06	3.10	0.39	11.74
Reach 1	179	100yr-NHCrev	128.00	42.17	45.72	45.94	0.062534	3.81	34.26	16.28	3.11	0.38	11.48
Reach 1	196	100yr-NHCrev	128.00	43.23	46.80	47.02	0.067071	3.83	34.31	15.77	3.01	0.39	11.74
Reach 1	210	100yr-NHCrev	128.00	44.14	47.69	47.91	0.057775	3.77	34.10	15.70	3.21	0.37	11.08
Reach 1	226	100yr-NHCrev	128.00	45.13	48.61	48.83	0.059166	3.81	33.56	15.72	3.18	0.38	11.29
Reach 1	235	Bridge											
Reach 1	246	100yr-NHCrev	128.00	46.35	49.86	50.09	0.058044	3.79	33.63	15.66	3.20	0.37	11.15
Reach 1	255	100yr-NHCrev	128.00	46.90	50.40	50.64	0.065088	3.88	33.15	14.98	3.09	0.39	11.92
Reach 1	267	100yr-NHCrev	128.00	47.72	51.11	51.32	0.050900	3.46	34.80	25.02	3.09	0.35	9.42
Reach 1	270	Bridge											
Reach 1	283	100yr-NHCrev	128.00	48.76	52.25	52.46	0.053108	3.50	35.25	48.23	3.09	0.35	9.70
Reach 1	295	100yr-NHCrev	128.00	49.57	52.94	53.08	0.047638	3.12	43.30	30.93	2.86	0.33	7.94
Reach 1	310	100yr-NHCrev	128.00	50.48	53.79	54.00	0.075585	3.84	35.44	24.29	2.77	0.41	12.18
Reach 1	320	100yr-NHCrev	128.00	51.07	54.48	54.69	0.065509	3.82	35.82	22.74	3.00	0.39	11.63
Reach 1	330	100yr-NHCrev	128.00	51.75	55.12	55.31	0.061708	3.51	36.09	18.41	2.82	0.37	10.12
Reach 1	350	Bridge											
Reach 1	378	100yr-NHCrev	128.00	55.08	58.39	58.61	0.057079	3.58	34.25	18.75	2.98	0.37	10.19
Reach 1	396	100yr-NHCrev	128.00	56.37	59.62	59.90	0.085481	4.34	29.66	15.03	2.95	0.45	15.09
Reach 1	413	100yr-NHCrev	128.00	57.51	60.97	61.21	0.070096	3.99	32.70	15.88	3.05	0.40	12.63
Reach 1	430	100yr-NHCrev	128.00	58.73	62.13	62.37	0.066943	3.98	32.27	15.83	3.11	0.40	12.47
Reach 1	449	100yr-NHCrev	128.00	60.00	63.36	63.63	0.067671	4.05	30.88	14.77	3.14	0.40	12.84
Reach 1	465	100yr-NHCrev	128.00	61.11	64.46	64.74	0.069512	4.10	30.58	14.68	3.12	0.41	13.12
Reach 1	482	100yr-NHCrev	128.00	62.28	65.63	65.90	0.068757	4.07	30.97	15.42	3.12	0.41	12.95
Reach 1	498	100yr-NHCrev	128.00	63.41	66.75	67.02	0.069664	4.08	30.88	15.27	3.10	0.41	13.03
Reach 1	514	100yr-NHCrev	128.00	64.52	67.90	68.18	0.076248	4.19	30.62	14.05	3.05	0.42	13.88
Reach 1	523	100yr-NHCrev	128.00	65.17	68.57	68.77	0.053555	3.54	35.57	17.75	3.08	0.36	9.88
Reach 1	535	100yr-NHCrev	128.00	65.96	69.24	69.50	0.070238	4.03	31.62	17.13	3.03	0.41	12.84
Reach 1	544	100yr-NHCrev	128.00	66.56	69.85	70.13	0.075253	4.16	30.59	15.75	3.03	0.42	13.69
Reach 1	555	100yr-NHCrev	128.00	67.32	70.68	70.92	0.069857	3.97	32.49	16.48	3.01	0.40	12.56
Reach 1	569	100yr-NHCrev	128.00	68.20	71.66	71.91	0.075208	4.13	32.56	18.24	3.06	0.42	13.57
Reach 1	588	100yr-NHCrev	128.00	69.47	72.95	73.16	0.056884	3.65	35.13	17.22	3.11	0.36	10.48
Reach 1	610	100yr-NHCrev	128.00	70.89	74.27	74.49	0.064985	3.81	34.10	18.47	2.99	0.39	11.56
Reach 1	632	100yr-NHCrev	128.00	72.39	75.79	76.02	0.071838	4.06	34.64	25.59	3.06	0.41	13.08
Reach 1	650	100yr-NHCrev	128.00	73.47	76.96	77.19	0.056809	3.76	33.38	14.87	3.22	0.37	10.99
Reach 1	668	100yr-NHCrev	128.00	74.10	77.78	77.90	0.027325	2.71	46.57	24.24	3.42	0.26	5.61
Reach 1	685	100yr-NHCrev	128.00	74.69	78.36	78.55	0.050575	3.56	36.59	17.03	3.28	0.35	9.83
Reach 1	701	100yr-NHCrev	128.00	75.22	79.08	79.24	0.037889	3.26	39.07	16.73	3.53	0.31	8.00
Reach 1	719	100yr-NHCrev	128.00	76.03	79.79	79.98	0.045405	3.35	37.14	16.70	3.35	0.32	8.71

