APPENDIX C

Subcatchment Characteristics (Baseline Model)

Appendix C: Combined Subcatchment Characteristics (Baseline Model)

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
BA_10th_St_a	4.576	251.9	21.5%	6.5%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_27th_St_1	2.049	295.1	66.0%	66.0%	3.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_9th_St_1	4.53	244.6	21.5%	6.5%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Ave_C_1	5.068	132.6	40.0%	12.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_AveA_026N1	19.632	3478	65.0%	65.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_AveA_026S1	2.751	1302	65.0%	65.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_AveA_027N1	1.332	543.6	66.0%	66.0%	1.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_AveA_027S1	0.269	244.4	66.0%	66.0%	1.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_AveB_1	6.042	1157.7	64.0%	64.0%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_AveB_2	14.93	1820.1	64.0%	64.0%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_AveB_6	10.711	1541.7	64.0%	64.0%	1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_AveB_new_1	13.956	1759.5	64.0%	64.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Broadway_1	0.429	51	21.5%	6.5%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Broadway_4	2.166	77.2	21.5%	6.5%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Broadway_5	11.574	173.3	21.5%	6.5%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Bway_new_1	5.428	548.6	68.0%	68.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Bway_new_3	33.861	1370.4	68.0%	68.0%	1.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Cottage_St_1	0.968	400.6	21.5%	21.5%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Cottage_St_2	5.801	283.6	21.5%	6.5%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Cottage_St_3	3.526	221.1	21.5%	6.5%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_E_5th_4	3.233	220.8	21.5%	6.5%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_E18th_2	7.371	639.4	68.0%	68.0%	1.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_E5th_St_5	14.522	265.3	21.5%	6.5%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO002-4B	4.783	515	68.0%	68.0%	1.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO002-5B_E1	23.91	1151.6	68.0%	68.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO004-1	11.799	1618.1	63.0%	63.0%	3.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO022-3	6.151	146	40.0%	12.0%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO024-1	18.167	251	40.0%	40.0%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO024-2	14.692	152.5	40.0%	40.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO024-3	6.227	146.9	40.0%	12.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO027-1	5.42	1096.4	66.0%	66.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO028-1	4.415	989.7	64.0%	64.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO029-1	3.33	859.7	64.0%	64.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO031-1	5.02	1055.2	66.0%	66.0%	1.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_IO032-2	6.154	1168.4	66.0%	66.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MH028_8	14.755	1808.5	64.0%	64.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MHaIO006-2	0.884	774.8	66.0%	66.0%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MHb_IO006-2	1.759	1041.3	66.0%	66.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MHcIO006-2	0.789	732.4	66.0%	66.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MHdIO006-2	1.089	860.4	66.0%	66.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MHh_IO006-2	1.87	281.8	66.0%	66.0%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MHj_IO006-2	2.318	313.8	66.0%	66.0%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MHl_IO006-2	1.187	898	66.0%	66.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_MHm_IO006-2	1.208	905.6	66.0%	66.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
BA_MHo_IO006-2	0.453	554.4	66.0%	66.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_N100	5.681	1122.8	66.0%	66.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_N108	5.921	1146	66.0%	66.0%	2.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_N109	2.121	662.8	66.0%	66.0%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_N112	2.235	704	66.0%	66.0%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_N123	29.852	743.4	68.0%	68.0%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_N89	1.399	121.9	40.0%	12.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_NE002	35.52	701.8	68.0%	68.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_NE013	4.549	1757.6	66.0%	66.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_NE014	3.753	912.4	66.0%	66.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_NE021	8.016	666.8	67.0%	67.0%	1.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_NE022	25.688	1193.6	67.0%	67.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_NE025	10.426	760.4	67.0%	67.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_NE027	12.85	844.2	68.0%	68.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_NE028	11.818	809.6	68.0%	68.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Packard_3	1.432	140.9	66.0%	66.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Prospect_Ave4	3.678	1580.8	66.0%	66.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Prospect_Ave5	3.42	1524.8	66.0%	66.0%	3.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R002_a	0.132	85.4	68.0%	68.0%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R003_mh01	1.964	660	66.0%	66.0%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R015MH04	10.847	1550.4	66.0%	66.0%	1.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R01MH01	4.009	943.6	65.0%	65.0%	5.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02_new1	19.233	1032.8	68.0%	68.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02_new2	20.878	1076	68.0%	68.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02_new3	10.368	758.4	68.0%	68.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02_new4	6.495	600.2	68.0%	68.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02_new5	3.054	411.6	68.0%	68.0%	1.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02_new7	4.854	518.8	68.0%	68.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_11	2.248	353.2	68.0%	68.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_12	3.83	460.8	68.0%	68.0%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_14	5.931	573.6	68.0%	68.0%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_16	4.753	513.4	68.0%	68.0%	1.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_20	0.965	231.4	68.0%	68.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_21	1.76	312.4	68.0%	68.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_24	9.969	743.6	68.0%	68.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_27	15.356	922.8	68.0%	68.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_33	5.443	549.4	68.0%	68.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_35	5.193	536.6	68.0%	68.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_36	10.192	751.8	68.0%	68.0%	1.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_37	13.834	876	68.0%	68.0%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R02MH_5	3.238	208.2	21.5%	21.5%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R03MH01	3.834	1614.4	66.0%	66.0%	3.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R03MH02	7.047	2188.4	66.0%	66.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R03MH03	0.726	702.8	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R03OF02	8.604	2418	66.0%	66.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2

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BA_R03OF03	7.653	2280.4	66.0%	66.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_junc	2.985	355.9	66.0%	66.0%	3.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new1	17.304	813.6	66.0%	66.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new10	15.135	1959.2	66.0%	66.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new11	3.384	1832.4	66.0%	66.0%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new13	13.674	858	66.0%	66.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new16	13.944	1741.6	66.0%	66.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new17	7.285	1758.8	66.0%	66.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new18	5.68	1271.2	66.0%	66.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new19	21.089	1132.4	66.0%	66.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new21	3.786	2163.2	66.0%	66.0%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new23	6.447	928.8	66.0%	66.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new24	6.045	1196	66.0%	66.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new25	9.288	1158	66.0%	66.0%	2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new3	18.151	1435.6	66.0%	66.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new4	9.2	2006.8	66.0%	66.0%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new5	12.853	1428.8	66.0%	66.0%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new8	13.948	1688.4	66.0%	66.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04_new9	10.313	1759.2	66.0%	66.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04n_MH02	6.748	1512.8	66.0%	66.0%	1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04nMH01	10.611	1223.6	66.0%	66.0%	1.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R04sMH01	20.728	1539.2	66.0%	66.0%	1.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new1	9.278	358.7	21.5%	6.5%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new10	11.243	394.8	21.5%	6.5%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new12	2.707	193.8	21.5%	6.5%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new14	26.412	604.4	21.5%	6.5%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new15	2.764	194.3	21.5%	6.5%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new16	3.078	206.6	21.5%	6.5%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new17	6.92	310.1	21.5%	6.5%	1.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new18	7.485	322.2	21.5%	6.5%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new19	4.644	253.7	21.5%	6.5%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new22	13.96	440	21.5%	6.5%	1.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new23	5.54	277.2	21.5%	6.5%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new24	9.011	353.5	21.5%	6.5%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new25	7.481	322.1	21.5%	6.5%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new26	7.256	317.2	21.5%	6.5%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new28	23.757	569.8	21.5%	6.5%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new29	6.621	313.5	21.5%	6.5%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new3	4.376	246.3	21.5%	6.5%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new30	5.525	276.8	21.5%	6.5%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new4	2.6	189.9	21.5%	6.5%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new5	3.54	221.6	21.5%	6.5%	1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new6	3.698	226.4	21.5%	6.5%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new7	3.519	220.9	21.5%	6.5%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R05_new8	4.031	236.4	21.5%	6.5%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2

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BA_R05_newjunc	19.111	514.8	21.5%	6.5%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R06_middle	0.819	426.1	63.0%	63.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R06aMH03	13.322	1719.1	63.0%	63.0%	10.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R06bMH01	4.04	946.7	63.0%	63.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R07_mh03	8.097	167.6	40.0%	12.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R07MH04	6.118	145.6	40.0%	12.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R08aMH01	1.321	541.2	68.0%	68.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R08aMH04	7.127	1257.6	68.0%	68.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R08bMH02	9.903	1482	68.0%	68.0%	1.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R08MH01	2.791	786.8	68.0%	68.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R09bMH04	28.581	2517.9	61.0%	61.0%	1.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R09cMH03	3.59	892.4	68.0%	68.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R11_new1	11.452	398.5	82.0%	82.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R12_new1	11.092	686.4	67.0%	67.0%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R12_new2	4.858	454.1	67.0%	67.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R12_new3	6.503	525.5	67.0%	67.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R12_new4	9.434	633	67.0%	67.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R12_new5	11.207	689.9	67.0%	67.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R12_new6	11.03	684.4	67.0%	67.0%	1.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R12_new7	17.286	856.8	67.0%	67.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R12MH01	10.917	680.9	67.0%	67.0%	1.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R14MH01	12.464	2771.3	65.0%	65.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R15MH02	7.117	1256.4	66.0%	66.0%	3.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R16_new2	4.282	974.9	64.0%	64.0%	2.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R16_new3	1.745	622.4	64.0%	64.0%	1.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R16_new4	12.951	1695.1	64.0%	64.0%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R16_new5	7.803	1315.7	64.0%	64.0%	1.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R16_new6	2.391	728.5	64.0%	64.0%	1.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R16MH01	2.115	684.8	64.0%	64.0%	9.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R17_new1	12.141	1641.2	66.0%	66.0%	2.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R17_new2	2.877	798.8	66.0%	66.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new1	7.492	422.3	68.0%	68.0%	1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new12	5.024	363.9	68.0%	68.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new2	4.228	342.1	68.0%	68.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new3	10.848	487.8	68.0%	68.0%	1.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new4	6.099	390.8	68.0%	68.0%	1.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new5	8.282	438.9	68.0%	68.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new6	11.031	491.1	68.0%	68.0%	2.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new7	4.054	337.1	68.0%	68.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new8	9.553	464	68.0%	68.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18_new9	9.677	466.3	68.0%	68.0%	1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18aMH03	34.364	700	68.0%	68.0%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18bMH03	6.379	397.4	68.0%	68.0%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_R18MH01	5.849	393.1	68.0%	68.0%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_RH11MH01	16.451	477.6	82.0%	82.0%	3.3	0.02	0.05	0.1	0.05	0%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
BA_RH13MH03	20.317	928.9	68.0%	68.0%	1.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_E26th_1	0.371	71.7	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_E26th_3	1.003	118	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_E27th_1	0.411	75.4	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_E27th_2	0.618	92.6	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_E28th_1	0.449	78.9	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_E28th_2	0.552	588	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHaIO006-2	0.542	151.7	66.0%	66.0%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHb_IO006-2	1.013	207.4	66.0%	66.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHdIO006-2	0.229	98.7	66.0%	66.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHflO006-2	1.149	235.6	66.0%	66.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHh_IO006-2	1.144	220.3	66.0%	66.0%	0.7	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHi_IO006-2	1.386	242.6	66.0%	66.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHk_IO006-2	1.462	249.2	66.0%	66.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHl_IO006-2	1.002	206.3	66.0%	66.0%	0.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_MHm_IO006-2	1.14	220	66.0%	66.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_S_NE013	28.436	1098.8	66.0%	66.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SE004	3.294	854.8	68.0%	68.0%	0.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SE009	6.639	1213.6	68.0%	68.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SE011	4.117	119.5	40.0%	40.0%	0.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SE015	4.916	130.6	40.0%	40.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SE017	2.826	99	40.0%	40.0%	0.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SE019	7.965	166.2	40.0%	40.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SE023	5.363	136.4	40.0%	40.0%	0.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SNew_St_1	0.398	74.3	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_SNew_St_3	0.97	116	66.0%	66.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_Storm_1	2.125	1201.2	66.0%	66.0%	0.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_ToR007_1	11.742	201.5	40.0%	12.0%	1.2	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W25St_mh2	43.461	5175.3	65.0%	65.0%	1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W34th_St_4	8.597	1381.3	64.0%	64.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W42nd_St_2	4.311	978.1	64.0%	64.0%	1.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W43rd_St_1	8.036	1335.3	64.0%	64.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W43rd_St_2	4.362	983.5	64.0%	64.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W44th_St_2	4.872	1039.5	64.0%	64.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W45th_St_1	2.779	785.1	64.0%	64.0%	1.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W45th_St_2	4.609	1011.2	64.0%	64.0%	1.8	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W46th_St_1	14.828	1813.7	64.0%	64.0%	1.3	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W53rd_033	3.308	314.2	68.0%	68.0%	4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W5St_mh1	1.491	575.3	61.0%	61.0%	9.6	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W5St_mh2	1.498	576.5	61.0%	61.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BA_W5St_mh3	6.687	1218.1	61.0%	61.0%	2.9	0.02	0.05	0.1	0.05	0%	5	2	2
BA_WN002	1.85	640.5	64.0%	64.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_WN003	3.068	825.1	64.0%	64.0%	1.5	0.02	0.05	0.1	0.05	0%	5	2	2
BA_WN005	4.11	954.7	64.0%	64.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
BA_WN006	5.326	767.5	64.0%	64.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2

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BA_WN009	4.802	1032	64.0%	64.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_WN011	5.428	1097.1	64.0%	64.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_WN012	3.909	931.2	64.0%	64.0%	0.1	0.02	0.05	0.1	0.05	0%	5	2	2
BA_WN014	11.106	1569.6	64.0%	64.0%	0.4	0.02	0.05	0.1	0.05	0%	5	2	2
BranchBrookParkLake	237.162	1039	11.0%	6.3%	5.7	0.02	0.05	0.1	0.05	0%	5	2	2
EN_CS38#1	62.455	3584.8	62.9%	37.7%	3.4	0.02	0.05	0.1	0.05	25%	5	2	2
HR_CS39#1	6.068	885	58.2%	17.7%	5.6	0.02	0.05	0.1	0.05	25%	5	2	2
HR_CS40#1	26.133	2125.4	57.0%	30.8%	3.8	0.02	0.05	0.1	0.05	25%	5	2	2
HR_CS41#1	81.418	4202.9	60.8%	37.2%	3.1	0.02	0.05	0.1	0.05	25%	5	2	2
HR_CS42#1	3.161	598.4	62.1%	55.1%	1	0.02	0.05	0.1	0.05	25%	5	2	2
HR_CS43#1	76.531	4049.7	64.2%	46.8%	1.6	0.02	0.05	0.1	0.05	25%	5	2	2
HR_CS44#1	59.121	3468.7	63.9%	9.6%	2	0.02	0.05	0.1	0.05	25%	5	2	2
HR_CS45#1	174.307	6636.1	57.4%	15.0%	2	0.02	0.05	0.1	0.05	25%	5	2	2
HR_H-HSW3	9.456	1154.9	61.6%	50.5%	2	0.02	0.05	0.1	0.05	25%	5	2	2
JCE10C110#1	5.5	399	80.8%	80.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C274#1	6.714	600	66.5%	66.5%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C294#1	2.069	230	72.2%	72.2%	1.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C314#1	2	285	66.5%	66.5%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C32#1	3.4	263	78.9%	78.9%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C348#1	26.03	1080	61.8%	61.8%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C400#1	21.36	1180	47.5%	47.5%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C60#1	1.8	170	80.8%	80.8%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C76#1	2	289	80.8%	80.8%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE10C88#1	3.5	308	80.8%	80.8%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C140#1	1.21	220	80.8%	80.8%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C194#1	1.51	270	80.8%	80.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C224#1	1.4	250	80.8%	80.8%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C262#1	12.1	420	79.8%	79.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C336#1	10	727	80.8%	80.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C396#1	0.49	200	42.8%	42.8%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C464#1	1.67	150	80.8%	80.8%	5.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C490#1	1.12	200	80.8%	80.8%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C50#1	2.2	260	80.8%	80.8%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C50#2	4.098	170	85.5%	85.5%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C510#1	2.33	530	82.7%	82.7%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C568#1	4.602	335	74.1%	74.1%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C578#1	5.5	477	82.7%	82.7%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C600#1	10.12	470	82.7%	82.7%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C632#1	12	697	71.3%	71.3%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C691#1	20.2	1150	76.0%	76.0%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C72#1	3.46	258	82.7%	82.7%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C720#1	8.8	545	80.8%	80.8%	2.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C82#1	6.31	330	80.8%	80.8%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C870#1	1.2	150	82.7%	82.7%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11C894#1	1.42	135	82.7%	82.7%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2

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JCE11C94#1	10.79	360	80.8%	80.8%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE11CC11#1	15.9	771	78.9%	78.9%	2.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE13C206#1	12.6	643	76.0%	76.0%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE14C218#1	13.6	1186	80.8%	80.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE14C242#1	1.37	300	80.8%	80.8%	1.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE14C270#1	1.33	200	80.8%	80.8%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE14C62#1	6.6	390	82.7%	82.7%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE14CM12#1	1.95	200	85.5%	85.5%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE14CM8#1	5.85	400	85.5%	85.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C136#1	1.3	150	80.8%	80.8%	1.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C154#1	0.53	140	61.8%	61.8%	1.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C192#1	1.2	150	80.8%	80.8%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C300#1	2	438	80.8%	80.8%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C308#1	6.74	340	82.7%	82.7%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C324#1	7.18	350	82.7%	82.7%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C342#1	4.581	465	66.5%	66.5%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C35#1	6.6	229	80.8%	80.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C354#1	1.52	260	66.5%	66.5%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C354#2	5.33	420	38.0%	38.0%	2.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C388#1	1.2	180	66.5%	66.5%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C463#1	0.54	160	82.7%	82.7%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C472#1	1.41	180	82.7%	82.7%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C486#1	0.63	175	82.7%	82.7%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C52#1	7.2	300	80.8%	80.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C520#1	1.77	225	82.7%	82.7%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C562#1	1.34	210	82.7%	82.7%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C580#1	2.534	265	66.5%	66.5%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C68#1	1.96	380	61.8%	61.8%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15C76#1	6.792	550	61.8%	61.8%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE15CBD#1	9.6	700	47.5%	47.5%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE16C118#1	0.65	180	66.5%	66.5%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE16C136#1	3.89	245	66.5%	66.5%	1.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE16C154#1	1.3	200	52.3%	52.3%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE16C192#1	0.555	115	47.5%	47.5%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE16C44#1	9.1	440	66.5%	66.5%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE16C60#1	6.9	300	47.5%	47.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE16C84#1	3.17	350	66.5%	66.5%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE16C94#1	6.38	420	66.5%	66.5%	0.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C114#1	1.25	200	80.8%	80.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C124#1	0.65	145	80.8%	80.8%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C136#1	1.68	180	80.8%	80.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C174#1	0.81	130	80.8%	80.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C202#1	0.34	75	52.3%	52.3%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C230#1	2.7	970	66.5%	66.5%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C276#1	5.57	450	57.0%	57.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
JCE17C304#1	4.96	354	57.0%	57.0%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C314#1	10.1	787	66.5%	66.5%	2.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C40#1	1.7	318	61.8%	61.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C438#1	0.66	100	57.0%	57.0%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C48#1	7.3	450	52.3%	52.3%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C64#1	5.5	330	80.8%	80.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE17C82#1	3.9	430	57.0%	57.0%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C1028#1	7.6	500	57.0%	57.0%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C1088#1	1.71	250	57.0%	57.0%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C110#1	5.75	500	47.5%	47.5%	3.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C1103#1	1.36	160	57.0%	57.0%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C1128#1	1.62	150	57.0%	57.0%	1.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C164#1	42.1	1357	68.4%	68.4%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C192#1	3.15	400	66.5%	66.5%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C232#1	31	965	33.3%	33.3%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C348#1	13.7	796	48.5%	48.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C4002#1	5.75	320	47.5%	47.5%	5.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C494#1	3.31	340	66.5%	66.5%	1.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C504#1	17.32	1300	66.5%	66.5%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C800#1	9.89	630	57.0%	57.0%	3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C830#1	9.03	500	66.5%	66.5%	1.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C850#1	2.76	340	66.5%	66.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C864#1	1.1	150	57.0%	57.0%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C870#1	2.29	600	57.0%	57.0%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C9010#1	5.53	450	57.0%	57.0%	1.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C9011#1	5.31	400	57.0%	57.0%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C942#1	10.12	625	57.0%	57.0%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C972#1	2.7	300	57.0%	57.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C9864#1	1.23	200	57.0%	57.0%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18C994#1	2.28	270	57.0%	57.0%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18G9010#2	3.31	300	57.0%	57.0%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE18NH18#1	20.44	1187	61.8%	61.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C102#1	1.32	200	66.5%	66.5%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C1068#1	28.58	1350	54.2%	54.2%	3.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C1094#1	4.046	350	42.8%	42.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C1110#1	20.955	1573	57.0%	57.0%	0.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C1530#1	19.668	1080	40.9%	40.9%	3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C26#1	4	205	71.3%	71.3%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C510#1	36.426	1211	63.7%	63.7%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C520#1	10.933	476	60.8%	60.8%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C60S#1	17.05	1100	66.5%	66.5%	1.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C692#1	16.52	1360	61.8%	61.8%	3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C77#1	2	200	61.8%	61.8%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C828#1	29.25	763	63.7%	63.7%	3.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19C92#1	1.46	200	61.8%	61.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2

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JCE19C966#1	20.377	1105	66.5%	66.5%	2.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19N1122#1	7.39	1360	54.2%	54.2%	4.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19N172#1	0	512	63.7%	63.7%	4.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19N320#1	3.357	571	62.7%	62.7%	1.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19N602#1	15.328	602	61.8%	61.8%	2.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19N662#1	4.098	438	35.2%	35.2%	3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19N740#1	1.848	445	38.0%	38.0%	4.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19N84#1	48.432	700	58.0%	58.0%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE19N94#1	4.134	310	45.6%	45.6%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C104#1	13.4	1170	58.0%	58.0%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C130#1	4.728	273	70.3%	70.3%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C18#1	11.8	535	42.8%	42.8%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C32#1	7.2	500	68.4%	68.4%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C330#1	5	530	47.5%	47.5%	1.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C376#1	7.8	330	58.9%	58.9%	1.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C384#1	17.4	400	62.7%	62.7%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C400#1	8.1	615	61.8%	61.8%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C406#1	29.842	1363	61.8%	61.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C418#1	4.742	302	67.5%	67.5%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C460#1	20.335	780	63.7%	63.7%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C580#1	38.74	521	58.9%	58.9%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C588#1	22.968	610	61.8%	61.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE1C97#1	17	1237	71.3%	71.3%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE21C320#1	32.8	1192	47.5%	47.5%	3.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE22G9098#1	17.023	450	48.5%	48.5%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE22G9098#2	6.745	230	47.5%	47.5%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE22G9098#3	2.169	209	42.8%	42.8%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE22N1320#1	6.169	650	42.8%	42.8%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE22N592#1	2.177	120	60.8%	60.8%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE22N608#1	16.662	1334	53.2%	53.2%	2.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C108#1	15.3	444	80.8%	80.8%	2.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C118#1	15.87	461	80.8%	80.8%	2.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C32#1	33.1	1500	47.5%	47.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C32#2	15.74	571	66.5%	66.5%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C370#1	16.71	607	82.7%	82.7%	2.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C472#1	14.48	573	80.8%	80.8%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C48#1	2.26	123	80.8%	80.8%	1.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C506#1	9.33	406	76.0%	76.0%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C54#1	1.42	139	67.5%	67.5%	1.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2C634#1	14.39	522	80.8%	80.8%	2.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2N60#1	0.5	60	67.5%	67.5%	1.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2N724#1	14.229	502	47.5%	47.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE2N782#1	8.918	502	47.5%	47.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE34N240#1	4.829	886	76.0%	76.0%	0.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C100#1	4.48	390	63.7%	63.7%	2	0.02	0.05	0.1	0.05	5%	5	2	2

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JCE3C108#1	1.9	296	63.7%	63.7%	2.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C1416#1	13.46	533	52.3%	52.3%	0	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C1420#1	27.58	924	42.8%	42.8%	0	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C1438#1	57.38	1785	47.5%	47.5%	0	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C146#1	2.6	234	68.4%	68.4%	2.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C1500#1	11.88	752	28.5%	28.5%	0	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C1508#1	30.66	1335	38.0%	38.0%	0	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C1522#1	11.88	493	38.0%	38.0%	0	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C181#1	10.24	686	68.4%	68.4%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C872#1	0.13	25	68.4%	68.4%	2.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C922#1	4.7	372	59.9%	59.9%	2.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C940#1	6.25	495	59.9%	59.9%	2.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3C960#1	6.62	501	59.9%	59.9%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE3N940#1	7.86	250	76.0%	76.0%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE4C1260#1	10.323	887	76.0%	76.0%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE4C174#1	4.62	447	61.8%	61.8%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE4C192#1	28.486	886	76.0%	76.0%	0.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE4C268#1	9.64	560	76.0%	76.0%	0.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE4C416#1	16.582	250	76.0%	76.0%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE4C659#1	29.55	613	66.5%	66.5%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE4N426#1	7	250	76.0%	76.0%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56C1470#1	25.657	540	72.2%	72.2%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56C1602#1	23.43	1000	61.8%	61.8%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56C1630#1	14.235	400	71.3%	71.3%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56C268#1	25	350	74.1%	74.1%	1.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56C326#1	33.65	500	71.3%	71.3%	0	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56C5032#1	30.5	1050	71.3%	71.3%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56C814#1	3.025	200	71.3%	71.3%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56G10069#1	3.163	280	73.2%	73.2%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56G9925#1	3.89	600	66.5%	66.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56G9954#1	2.894	205	56.1%	56.1%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56G9954#2	1.387	189	76.0%	76.0%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56G9955#1	1.866	250	76.0%	76.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56G9958#1	3.717	339	74.1%	74.1%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1036#1	2.133	330	70.3%	70.3%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N104#1	2.274	194	70.3%	70.3%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1046#1	4.043	335	60.8%	60.8%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N106#1	7	250	64.6%	64.6%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1098#1	4.278	210	56.1%	56.1%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1196#1	6.604	690	66.5%	66.5%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1232#1	28.413	700	50.4%	50.4%	2.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1326#1	6.983	390	50.4%	50.4%	2.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1378#1	3.454	242	66.5%	66.5%	1.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1396#1	5.437	260	69.4%	69.4%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1420#1	5.977	240	72.2%	72.2%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2

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JCE56N1506#1	9.951	690	65.6%	65.6%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N151#1	4.226	340	71.3%	71.3%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1676#1	4.741	314	59.9%	59.9%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1676#2	2.434	333	75.1%	75.1%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1776#1	3.297	500	58.9%	58.9%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1784#1	1.032	220	52.3%	52.3%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1806#1	5.268	368	66.5%	66.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1874#1	7.179	280	52.3%	52.3%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1874#2	1.967	186	52.3%	52.3%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1929#1	13.42	530	53.2%	53.2%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1960#1	5.164	600	71.3%	71.3%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N1971#1	2.837	250	68.4%	68.4%	0.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2004#1	5.768	240	52.3%	52.3%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2008#1	3.843	150	66.5%	66.5%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2286#1	1.5	250	63.7%	63.7%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2334#1	5.659	360	60.8%	60.8%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2588#1	2.57	320	63.7%	63.7%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2610#1	6.617	390	57.0%	57.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2634#1	4.035	200	55.1%	55.1%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2678#1	9.074	300	60.8%	60.8%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N2716	3.064	280	66.5%	66.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N3274#1	1.965	272	60.8%	60.8%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N3339#1	1.868	200	75.1%	75.1%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N360#1	4.699	400	74.1%	74.1%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N366#1	2.102	250	76.0%	76.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N374#1	3.292	370	72.2%	72.2%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N374#2	2.055	110	78.9%	78.9%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N444#1	2.948	300	52.3%	52.3%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N496#1	5.39	420	53.2%	53.2%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N550#1	4.403	271	53.2%	53.2%	1.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N564#1	5.28	460	64.6%	64.6%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N572#1	3.423	425	65.6%	65.6%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N70#1	7	460	64.6%	64.6%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N734#1	4.003	430	47.5%	47.5%	3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N824#1	6.004	440	72.2%	72.2%	2.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N882#1	5.746	315	58.0%	58.0%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N90#1	3.051	319	60.8%	60.8%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N916#1	2.204	300	54.2%	54.2%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N934#1	3.119	515	58.0%	58.0%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N934#2	3.309	350	57.0%	57.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N934#3	3.844	400	57.0%	57.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N956#1	0.898	220	75.1%	75.1%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE56N988#1	3.375	260	56.1%	56.1%	3.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE5C1642#1	15.938	400	55.1%	55.1%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCE5C1650#1	10.801	350	70.3%	70.3%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2

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JCE5C2190#1	7.984	350	71.3%	71.3%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE5C2262#1	9	322	57.0%	57.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE5C2360#1	24	830	62.7%	62.7%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE5C2380#1	43	1500	57.0%	57.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE5C2532#1	4.666	370	62.7%	62.7%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE6C1004#1	11.806	350	67.5%	67.5%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE6C1004#2	3.717	200	67.5%	67.5%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE6C748#1	24.59	1150	70.3%	70.3%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCE6C8040#1	11	600	68.4%	68.4%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCE6N854#1	10.74	640	67.5%	67.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCRE10&9C#1	5.544	300	91.2%	91.2%	1.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCRE17C#1	1.9	559	57.0%	57.0%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCrE18OLD#1	11.46	998	19.0%	19.0%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCRE8(STORM)#1	3.28	357	82.7%	82.7%	1.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCRW10C#1	6	145.2	76.0%	76.0%	1.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCRW1C	2.98	709	47.5%	47.5%	2.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCRW7C	16	830	66.5%	66.5%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW10C234#1	16.287	861	66.5%	66.5%	2.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW10C32#1	28.43	619	71.3%	71.3%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW10C76#1	43.73	952	65.6%	65.6%	1.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW10CD10#1	20.262	937	71.3%	71.3%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW11C26#1_2	30	1131	67.5%	67.5%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCW11C328#1	16.72	1324	69.4%	69.4%	3.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW11C38#1	27.61	1604	75.1%	75.1%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW11C484#1	9.364	291	67.5%	67.5%	3.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW11C52#1	35.69	2073	71.3%	71.3%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW11N430#1	8.209	203	69.4%	69.4%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW11N496#1	2.103	341	78.9%	78.9%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW12C170#1	25.58	1486	73.2%	73.2%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCW12C180#1	12.972	1113	72.2%	72.2%	8	0.02	0.05	0.1	0.05	5%	5	2	2
JCW12C190#1	5.399	303	68.4%	68.4%	3.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW12C34#1	10.7	500	80.8%	80.8%	2.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCW12C52#1	12.123	850	71.3%	71.3%	1.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW12N204#1	9.29	500	76.0%	76.0%	5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C20#1	3.2	230	19.0%	19.0%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C204#1	37.96	781	74.1%	74.1%	1.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C226#1	39	1266	66.5%	66.5%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C26#1	1	250	65.6%	65.6%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C26_1#1	1.5	300	23.8%	23.8%	5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C32#1	0.6	185	65.6%	65.6%	5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C541#1	2.8	300	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C550#1	4	400	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C554#1	1.9	190	54.2%	54.2%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C560#1	1.32	233	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C567#1	0.45	100	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2

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JCW13C569#1	1.8	120	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C572#1	2	200	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C590#1	3.8	477	62.7%	62.7%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C600#1	2.4	240	62.7%	62.7%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C604#1	2.1	225	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C618#1	1	200	59.9%	59.9%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C66#1	27.9	938	67.5%	67.5%	2.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C672#1	1.93	275	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13C692#1	1.1	233	28.5%	28.5%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13N104#1	12.501	700	61.8%	61.8%	2.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCW13N290#1	8.928	335	50.4%	50.4%	0.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C110#1	19.973	1000	40.9%	40.9%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C110.1#1	85	1500	59.9%	59.9%	1.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C110.2#1	9.11	661	67.5%	67.5%	4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C218#1	2.93	319	76.0%	76.0%	8.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C44#1	3.475	156	42.8%	42.8%	4.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C628#1	3.97	433	82.7%	82.7%	1.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C74#1	1.2	210	80.8%	80.8%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C74.1#1	60	1000	64.6%	64.6%	2.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1C92#1	3.51	382	80.8%	80.8%	0.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N370#1	7.95	577	48.5%	48.5%	8.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N40#1	5.49	255	42.8%	42.8%	6.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N443#1	9.686	400	19.0%	19.0%	4.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N463#1	4.548	247	42.8%	42.8%	3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N468#1	5.078	285	61.8%	61.8%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N522#1	5.08	235	48.5%	48.5%	4.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N530#1	5.227	261	45.6%	45.6%	5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N540#1	4.602	256	42.8%	42.8%	4.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N561#1	4.22	247	60.8%	60.8%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW1N594#1	2.746	379	76.0%	76.0%	3.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCW2C204#1	10.07	439	77.9%	77.9%	2.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW2C224#1	8.24	598	68.4%	68.4%	5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW2C32#1	7.33	580	64.6%	64.6%	6	0.02	0.05	0.1	0.05	5%	5	2	2
JCW2C344#1	17.4	892	80.8%	80.8%	3.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCW2C52#1	13.74	855	78.9%	78.9%	2.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW2C546#1	20.15	878	80.8%	80.8%	4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW2C64#1	13.19	766	80.8%	80.8%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW2G9028#1	3.66	399	84.6%	84.6%	7.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C106#1	7.16	445	38.0%	38.0%	3.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C18#1	19.29	934	76.0%	76.0%	3.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C218#1	1.547	480	71.3%	71.3%	3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C48#1	6.4	400	44.7%	44.7%	2.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C58#1	5.04	250	53.2%	53.2%	1.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C58#2	1.503	400	77.9%	77.9%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C64#1	9.389	440	77.0%	77.0%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
JCW3C64#2	2.204	175	77.9%	77.9%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C70#1	4.938	500	78.9%	78.9%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW3C76#1	14.5	870	71.3%	71.3%	1.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C110#1	2.554	200	82.7%	82.7%	0.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C124#1	2.773	200	72.2%	72.2%	0.2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C174#1	40.32	878	80.8%	80.8%	3.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C206#1	0.75	200	63.7%	63.7%	1.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C228#1	2.42	240	82.7%	82.7%	1.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C228#2	2.36	520	77.0%	77.0%	0.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C26#1	9.21	401	80.8%	80.8%	3.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C294#1	1.07	400	74.1%	74.1%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW4C50#1	2.78	500	82.7%	82.7%	2.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW5C20#1	48.256	1194	83.6%	83.6%	1.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW5NMH3#1	1.38	46.1	90.3%	90.3%	0.1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW6C#1	40	1000	57.0%	57.0%	0.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCW6C230#1	15.35	669	76.0%	76.0%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW6C434#1	21.67	993	71.3%	71.3%	1.6	0.02	0.05	0.1	0.05	5%	5	2	2
JCW6C48#1	18.82	745	65.6%	65.6%	1.8	0.02	0.05	0.1	0.05	5%	5	2	2
JCW6C50#1	20.84	648	74.1%	74.1%	1.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C166#1	6.986	350	28.5%	28.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C210#1	17.523	500	66.5%	66.5%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C254#1	10.614	200	66.5%	66.5%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C268#1	32.76	673	66.5%	66.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C308#1	7.335	200	66.5%	66.5%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C32#1	4.712	176	28.5%	28.5%	0.7	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C48#1	5.554	250	28.5%	28.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C50#1	7.451	300	28.5%	28.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C52#1	6.706	300	28.5%	28.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C54#1	6.095	250	28.5%	28.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C58#1	8.541	300	28.5%	28.5%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW7C60#1	47.5	1294	66.5%	66.5%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C20#1	19.761	1000	80.8%	80.8%	1.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C46#1	20.301	1225	80.8%	80.8%	2.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C46#2	11.13	1225	80.8%	80.8%	2.5	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C530#1	12.815	770	80.8%	80.8%	3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C540#1	36.903	670	28.5%	28.5%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C568#1	30.907	1150	47.5%	47.5%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C628#1	15.083	546	80.8%	80.8%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C66#1	83.36	2074.9	80.8%	80.8%	0.3	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C686#1	11.888	546	80.8%	80.8%	2	0.02	0.05	0.1	0.05	5%	5	2	2
JCW8C750#1	8.06	300	80.8%	80.8%	1	0.02	0.05	0.1	0.05	5%	5	2	2
JCW9C180#1	15.44	791	80.8%	80.8%	0.9	0.02	0.05	0.1	0.05	5%	5	2	2
JCW9C250#1	14.98	768	82.7%	82.7%	2.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW9C260#1	16.35	838	80.8%	80.8%	2.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW9C52#1	35.28	1336	80.8%	80.8%	1.7	0.02	0.05	0.1	0.05	5%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
JCW9C72#1	2.5	305	80.8%	80.8%	3.4	0.02	0.05	0.1	0.05	5%	5	2	2
JCW9G9003#1	12.77	695	78.9%	78.9%	1	0.02	0.05	0.1	0.05	5%	5	2	2
KE_CS28#1	73.374	3948.6	31.5%	13.2%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
KE_CS31#1	153.857	6157.3	35.7%	17.1%	8.4	0.02	0.05	0.1	0.05	25%	5	2	2
KE_CS33#1	258.72	8410.5	56.8%	43.2%	3.4	0.02	0.05	0.1	0.05	25%	5	2	2
KE_CS34#1	664.027	1481	46.9%	23.5%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
KE_CS37#1	92.534	4538.4	54.1%	39.0%	3.4	0.02	0.05	0.1	0.05	25%	5	2	2
NB_MH 6-11	55.014	332.2	48.3%	20.1%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NB_MH 6-8	25.683	210.3	60.1%	40.6%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Out 003	59.275	347.4	64.5%	49.9%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Out 005	13.11	140.5	60.8%	42.1%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Out 006	29.911	230.4	47.7%	4.8%	6.1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Out 007	11.484	129.7	52.6%	27.0%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Out 008	3.99	68.8	49.1%	21.3%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Out 010	5.45	82.9	63.9%	48.4%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-1	2.461	51.5	56.3%	33.5%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-10	65.527	368.9	54.5%	30.7%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-2	16.907	163.6	60.1%	40.6%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-3	5.736	85.5	53.9%	29.5%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-4	4.554	74.5	53.4%	28.3%	3.7	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-5	5.204	80.7	51.9%	25.8%	4.5	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-6	7.475	100.3	57.2%	35.0%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-7	168.621	650.5	53.7%	29.3%	5.1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-8	151.341	609.6	58.7%	37.8%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 3-9	13.166	140.8	51.0%	24.6%	5.3	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 4-1	84.981	431.2	57.7%	36.2%	7.6	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 4-2/3	2.986	57.8	57.6%	36.1%	7.5	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 4-4	16.162	159.3	43.9%	14.7%	9.8	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 4-5	10.806	125.1	36.8%	6.4%	4.4	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 5-1	8.004	104.5	41.0%	4.1%	5.3	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 5-2	178.124	672.2	41.5%	4.2%	4.7	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 6-1	25.432	209.1	40.4%	10.3%	6.1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 6-2	15.013	152.4	56.8%	34.7%	5.5	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 6-2A	64.495	365.4	46.3%	17.8%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 6-2B	7.955	104.1	63.9%	48.4%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 6-5/6	88.502	441.8	54.4%	30.6%	5	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 6-7	12.64	137.4	39.1%	8.7%	6.5	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 7-1	6.154	89.2	59.1%	39.0%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 7-3	84.264	429	50.6%	23.5%	7.4	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 7-4,5	14.124	146.9	61.3%	43.4%	3.2	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 8-1	2.937	57.2	60.6%	41.9%	7.9	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 8-2	1.684	41	49.7%	22.3%	7.3	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 9-1	24.379	203.8	61.2%	48.0%	4.1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 9-1A	14.72	150.6	58.7%	43.2%	4.1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 9-2	5.366	82.2	63.0%	12.6%	3.5	0.02	0.05	0.1	0.05	25%	5	2	2

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NB_Reg 9-3	43.389	288.1	59.7%	11.9%	4.1	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 9-5	10.361	122	45.0%	9.0%	10.2	0.02	0.05	0.1	0.05	25%	5	2	2
NB_Reg 9-8	46.462	300.1	52.7%	33.7%	7.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A10#1	13.722	1444	58.0%	44.7%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A12#1	59.702	3489.1	42.6%	24.3%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A22#1	56.026	3358.6	44.9%	26.9%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A3#1	43.67	2892.2	50.4%	33.8%	5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A4#1	22.597	1947.8	50.3%	33.7%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A5#1	21.189	1874.1	46.1%	28.1%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A6#1	11.925	1327.4	52.4%	36.7%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A7#1	14.154	1471.1	54.4%	39.7%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_4A8#1	12.906	1391.9	54.3%	39.1%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A10#1	19.913	1805.5	65.4%	56.9%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A11#1	34.55	2513	56.5%	42.4%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A2#1	119.554	5292.5	64.7%	55.6%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A20#1	17.566	1674.7	64.6%	55.6%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A21#1	23.675	2003.1	58.1%	45.3%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A22#1	10.936	1260.2	63.4%	53.9%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A24#1	28.685	2247.6	65.2%	56.7%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A26#1	83.373	4263.2	62.4%	51.8%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A27#1	22.131	1923.6	65.0%	56.6%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A28#1	17.819	1689.1	64.9%	55.8%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A32#1	31.849	2393.2	64.6%	55.6%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A33#1	9.902	1187.3	64.5%	55.5%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A34#1	12.48	1364.1	64.8%	55.7%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A4#1	39.794	2735.3	65.1%	56.6%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_A8#1	18.305	1716.6	64.8%	55.7%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F12#1	25.355	2087.2	62.0%	51.5%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F14#1	21.772	1904.8	58.8%	45.9%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F16#1	17.272	1657.8	55.7%	41.2%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F17#1	22.035	1918.6	65.2%	56.7%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F18#1	22.967	1966.9	63.4%	53.9%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F19#1	20.045	1812.7	62.9%	52.8%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F5#1	4.982	786.3	65.7%	57.8%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F6#1	11.891	1325.1	63.1%	53.0%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F7#1	28.989	2261.8	58.6%	45.7%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F8#1	22.405	1937.9	57.9%	44.6%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_F9#1	21.685	1900.3	63.7%	54.1%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB12#1	58.193	3435.9	33.2%	14.6%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB13#1	38.641	537	51.5%	7.2%	10	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB14#1	21.85	382	48.2%	5.8%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB17#1	30.577	467	41.6%	3.7%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB18#1	5.558	168	45.5%	5.0%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB20#1	34.543	502	45.3%	5.0%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB21#1	7.113	195	39.4%	3.2%	5	0.02	0.05	0.1	0.05	25%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
NE_HB22#1	39.407	544	33.6%	2.0%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB3#1	31.74	2388.3	49.3%	32.5%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB4#1	66.353	3717.4	49.0%	31.9%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB5#1	24.621	2050.7	52.0%	35.9%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB8#1	5.604	169	50.0%	6.5%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_HB9#1	8.015	209	51.5%	7.2%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR10#1	8.65	1094.8	60.3%	48.2%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR11#1	30.654	2338.9	62.7%	52.7%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR12#1	29.609	2290.7	51.7%	35.7%	0.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR13#1	5.815	862.7	56.1%	42.1%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR15#1	10.303	1215.9	51.8%	35.7%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR16#1	42.116	2830	57.4%	44.2%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR4#1	33.737	2477.3	54.0%	38.9%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR5#1	33.433	2463.9	52.9%	37.6%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR6#1	32.693	2431.1	58.9%	46.5%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR7#1	53.165	3254.6	61.9%	51.4%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_IR8#1	24.916	2065.4	60.0%	48.0%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_J10#1	24.684	2053.9	65.7%	57.8%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_J2FIX#1	15.151	1532.4	39.1%	20.3%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_J3#1	21.239	1876.7	62.0%	51.5%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_J5#1	10.476	1228.1	64.9%	56.5%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_J9#1	15.725	1567	66.3%	58.3%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M10#1	8.859	1665.9	61.5%	50.4%	2.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M100#1	56.528	5064.9	52.6%	36.8%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M101#1	27.238	3268.2	49.6%	32.7%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M103#1	7.653	1525.8	53.4%	37.9%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M104#1	24.659	3078.9	60.6%	49.1%	3.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M106#1	7.226	1474.2	65.2%	56.7%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M107#1	28.902	3386.7	58.4%	45.6%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M108#1	34.992	3798.3	57.6%	44.4%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M109#1	9.341	1719.8	53.4%	37.9%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M11#1	14.696	2257.1	58.5%	45.6%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M110#1	10.17	1809.8	46.1%	28.6%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M111#1	6.719	1411.2	55.2%	40.8%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M112#1	15.52	2332.1	47.3%	29.8%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M114#1	1.268	518.8	61.6%	50.5%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M115#1	41.409	4202.1	50.8%	34.5%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M13#1	16.725	2439.2	56.9%	43.2%	3.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M14#1	27.537	3289.8	56.0%	42.0%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M15#1	9.31	1716.3	52.0%	35.9%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M16#1	65.8	5548.2	55.3%	40.9%	6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M18#1	15.555	2335.2	50.8%	34.5%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M19#1	12.258	2024.3	44.4%	26.2%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M23#1	21.884	2866.1	46.7%	29.0%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M26#1	25.292	3126.2	47.9%	30.7%	3.2	0.02	0.05	0.1	0.05	25%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
NE_M27#1	29.359	3418.7	48.3%	30.9%	3.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M28#1	47.567	4566.6	52.8%	37.0%	3.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M29#1	35.557	3835	54.6%	39.9%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M3#1	10.767	1872.8	62.6%	52.0%	6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M31#1	11.804	1979	51.4%	35.5%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M32#1	8.322	1604.6	54.9%	40.1%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M35#1	36.18	3875.3	54.2%	39.0%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M36#1	30.914	3526.2	48.9%	31.8%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M37#1	138.618	8675.7	25.6%	8.7%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M39#1	20.729	2774.4	57.2%	43.5%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M40#1	18.653	2604.2	55.5%	41.1%	6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M41#1	33.146	3676.8	39.3%	20.4%	7.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M45#1	45.007	4417.5	36.0%	17.3%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M46#1	10.416	1835.9	29.5%	11.5%	10	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M48#1	39.009	4054.2	28.1%	10.4%	4.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M49#1	31.416	3560.4	59.7%	47.8%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M5#1	16.95	2458.8	55.1%	40.2%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M50#1	16.137	2387.3	57.7%	44.4%	1.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M51#1	26.749	3233	60.3%	48.2%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M52#1	22.743	2933.1	55.3%	40.9%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M53#1	9.281	1713	39.4%	20.9%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M54#1	27.97	3320.7	30.0%	12.0%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M60#1	35.84	3853.4	52.1%	35.9%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M68#1	2.835	840.9	61.9%	51.4%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M7#1	46.374	4497.6	61.8%	50.7%	3.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M71#1	36.962	3925.2	54.3%	39.1%	2.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M79#1	7.869	1551.6	48.3%	30.9%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M8#1	17.014	2464.4	40.9%	22.5%	5.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M80#1	10.043	1796.1	55.3%	40.9%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M82#1	12.109	2009.4	52.6%	36.8%	3.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M83#1	16.664	2433.8	56.6%	42.5%	3.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M87#1	26.736	3232.1	56.7%	43.1%	5.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M89#1	33.99	3732.8	49.0%	31.9%	5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M91#1	18.54	2594.7	59.1%	46.7%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M92#1	6.197	1344.5	60.5%	49.0%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M93#1	6.723	1411.8	58.3%	45.5%	3.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M94#1	11.101	1907.4	59.8%	47.8%	4.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M95#1	37.525	3961.1	51.2%	34.8%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_M98#1	26.424	3209.3	55.2%	40.8%	5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD1#1	2.497	104	30.0%	6.0%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD100#1	19.982	362	50.6%	17.2%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD102#1	16.692	325	49.1%	16.2%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD103#1	21.131	374	47.2%	14.6%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD104#1	24.686	411	48.8%	16.1%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD105#1	15.065	305	48.8%	16.1%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2

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NE_PD106#1	31.659	477	45.8%	14.2%	7.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD107#1	17.067	329	44.6%	13.4%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD108#1	16.817	326	48.7%	15.6%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD109#1	13.078	281	50.4%	17.1%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD11#1	12.149	268	53.0%	18.6%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD110#1	27.113	434	45.1%	13.5%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD111#1	9.128	226	39.7%	10.3%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD112#1	25.951	423	43.5%	12.6%	4.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD113#1	13.441	285	49.7%	16.4%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD115#1	54.083	658	48.7%	15.6%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD117#1	36.403	519	55.7%	20.6%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD118#1	21.753	381	54.2%	19.5%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD12#1	23.088	395	52.1%	18.2%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD13#1	20.258	365	58.5%	22.8%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD14#1	11.028	253	55.8%	20.6%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD15#1	73.946	793	61.0%	25.0%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD19#1	9.615	233	62.9%	26.4%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD20#1	9.747	235	64.7%	27.8%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD23#1	36.207	517	46.0%	14.3%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD24#1	29.168	454	51.2%	17.4%	5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD26#1	15.96	316	49.4%	16.3%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD27#1	14.534	299	50.2%	16.6%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD28#1	11.827	264	52.7%	18.4%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD3#1	26.186	426	48.9%	16.1%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD30#1	28.111	444	52.7%	18.4%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD31#1	22.056	384	59.4%	23.8%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD32#1	4.483	148	57.8%	22.5%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD33#1	7.075	194	57.1%	21.7%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD34#1	5.913	174	49.9%	16.5%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD36#1	24.583	410	50.5%	17.2%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD38#1	17.603	335	56.3%	21.4%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD39#1	17.26	331	48.6%	15.6%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD40#1	15.807	314	49.3%	16.3%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD41#1	17.89	339	48.1%	15.4%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD43#1	32.871	488	51.1%	17.4%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD44#1	36.637	521	51.0%	17.3%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD45#1	11.569	261	50.1%	16.5%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD46#1	14.564	299	46.6%	14.4%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD47#1	17.365	333	55.5%	20.5%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD49#1	39.879	548	50.0%	16.5%	3.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD5#1	28.543	448	56.7%	21.5%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD51#1	20.426	367	45.2%	13.6%	5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD52#1	25.617	420	44.1%	12.8%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD56#1	25.066	414	55.5%	20.5%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD57#1	29.178	454	55.3%	20.5%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
NE_PD58#1	32.365	483	63.9%	27.5%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD6#1	23.718	401	49.3%	16.3%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD60#1	14.336	296	50.9%	17.3%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD61#1	12.464	273	49.4%	16.3%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD62#1	8.071	210	46.6%	14.4%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD64#1	15.433	310	49.5%	16.3%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD65#1	11.055	254	53.4%	19.2%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD66#1	26.16	425	51.8%	18.1%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD67#1	16.433	322	41.4%	11.6%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD69#1	7.806	206	50.3%	17.1%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD7#1	10.427	245	46.6%	14.4%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD70#1	13.524	286	49.9%	16.5%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD70#2	15.625	312	52.6%	18.4%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD72#1	18.496	345	51.1%	17.4%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD73#1	15.698	313	48.6%	15.6%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD75#1	21.082	374	51.1%	17.4%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD77#1	11.654	262	55.5%	20.5%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD78#1	20.924	372	53.2%	18.6%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD79#1	23.019	394	52.6%	18.4%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD80#1	35.313	509	23.1%	3.5%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD81#1	19.227	353	54.1%	19.5%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD82#1	29.081	453	45.0%	13.5%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD83#1	19.264	354	52.4%	18.3%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD87#1	15.593	312	53.2%	18.6%	3.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD89#1	66.632	745	25.3%	4.3%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD9#1	38.546	537	44.3%	13.3%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD91#1	17.606	335	52.4%	18.3%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD92#1	15.993	317	49.4%	16.3%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD93#1	13.052	280	55.6%	20.6%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD94#1	18.643	347	46.2%	14.3%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD95#1	30.557	467	46.1%	14.3%	3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD96#1	20.451	367	49.2%	16.2%	4.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD97#1	41.152	558	52.3%	18.3%	3.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD98#1	40.013	549	51.1%	17.4%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_PD99#1	21.008	373	49.0%	16.2%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_Q10#1	14.151	1470.9	34.9%	16.4%	5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_Q11#1	17.637	1678.7	21.8%	6.3%	4.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_Q13#1	63.369	3616.2	33.3%	14.7%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_Q14#1	32.221	2409.9	59.3%	46.8%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_Q15#1	14.901	1517.2	53.2%	37.8%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_Q3#1	30.712	2341.6	59.8%	47.8%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_Q5#1	24.844	2061.8	52.2%	36.5%	5.6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_Q7#1	80.616	4178.1	64.2%	55.2%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM10#1	20.822	185.4	66.4%	18.6%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM11#1	18.191	171	63.1%	16.4%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2

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NE_RM12#1	13.897	145.5	64.9%	17.5%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM14#1	39.23	271.2	66.9%	18.7%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM17#1	15.548	155.6	63.9%	16.6%	2.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM19#1	15.691	156.5	65.6%	18.4%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM21#1	16.486	161.2	62.1%	15.5%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM23#1	28.045	221.7	65.9%	18.5%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM24#1	29.066	226.5	64.1%	17.3%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM25#1	37.077	262.1	54.3%	10.9%	7.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM27#1	9.738	117.5	58.2%	13.4%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM27#2	34.463	250.9	58.6%	13.5%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM28#1	7.865	103.4	62.6%	15.7%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM32#1	11.101	127.1	62.2%	15.6%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM34#1	10.409	122.3	63.6%	16.5%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM36#1	14.223	147.5	64.6%	17.4%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM37#1	12.69	137.7	61.7%	15.4%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM4#1	24.685	205.3	53.5%	10.7%	2.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_RM5#1	21.645	189.8	56.0%	12.3%	2.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S11#1	10.846	1254	60.9%	49.3%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S14#1	29.895	2304	55.9%	41.9%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S16#1	40.672	2771.4	58.3%	45.5%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S18#1	17.732	1684.1	60.4%	48.3%	7.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S22#1	14.409	1487	50.3%	33.7%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S23#1	19.767	1797.6	65.6%	57.1%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S3#1	21.486	1889.8	57.0%	43.3%	5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S34#1	54.391	3299.4	54.9%	40.1%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S37#1	28.026	2216.4	56.1%	42.1%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S42#1	6.712	94	59.2%	14.2%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S43#1	41.327	279.8	58.6%	13.5%	3.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S45#1	38.286	267.2	45.1%	6.8%	3.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S47#1	26.497	214.3	55.1%	11.6%	3.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S5#1	8.937	1116.4	62.6%	52.0%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S55#1	13.901	145.5	51.0%	9.2%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S57#1	34.399	2506.4	56.2%	42.2%	1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S8#1	16.457	1610.4	54.7%	39.9%	6	0.02	0.05	0.1	0.05	25%	5	2	2
NE_S9#1	12.614	1372.9	56.0%	42.0%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V11#1	21.406	1885.6	48.8%	31.7%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V12#1	6.485	921	49.5%	32.7%	4.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V13#1	53.261	3258.1	44.1%	26.0%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V14#1	23.828	2010.8	43.1%	24.6%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V18#1	16.464	1610.8	44.2%	26.1%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V22#1	26.647	2150.4	40.5%	21.9%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V26#1	23.607	1999.6	33.2%	14.6%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V27#1	154.667	6176.7	31.3%	13.1%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V28#1	43.629	2890.6	53.4%	37.9%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_V29#1	27.719	2201.9	49.7%	32.8%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2

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NE_V8#1	17.617	1677.6	51.3%	34.9%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH10#1	30.985	2354	59.9%	47.9%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH12#1	19.799	1799.3	53.8%	38.7%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH13#1	14.194	1473.6	56.9%	43.2%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH14#1	7.648	1016.8	43.5%	25.2%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH15#1	19.985	1809.4	50.9%	34.6%	4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH20#1	22.177	1926	56.6%	42.5%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH22#1	15.697	1565.3	44.6%	26.3%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH24#1	14.896	1516.9	51.2%	34.8%	6.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH25#1	32.247	2411.1	47.7%	30.5%	6.3	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH3#1	28.999	2262.3	61.5%	50.4%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH4#1	10.466	1227.4	65.8%	57.9%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH6#1	19.497	1782.8	63.6%	54.1%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WH9#1	10.729	1245.8	58.7%	45.8%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WV1#1	105.79	4918	36.7%	18.0%	2	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WV2#1	43.004	2865.7	55.7%	41.2%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WV4#1	56.007	3357.9	63.7%	54.1%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WV5#1	25.074	2073.3	43.3%	25.1%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
NE_WV6#1	75.262	4009.3	58.5%	45.6%	2	0.02	0.05	0.1	0.05	25%	5	2	2
PT_003A	14.14	1470.2	52.3%	25.4%	1.6	0.02	0.05	0.1	0.05	25%	5	2	2
PT_005A	14.444	1489.1	45.3%	18.7%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
PT_009A	19.047	1758	51.9%	7.7%	3.1	0.02	0.05	0.1	0.05	25%	5	2	2
PT_010A	99.484	4740	55.5%	6.2%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2
PT_010A_US	7.39	996.1	38.0%	11.4%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
PT_012A_1	31.491	2377.1	65.1%	4.2%	0	0.02	0.05	0.1	0.05	25%	5	2	2
PT_012A_2	24.923	2065.8	62.1%	10.3%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
PT_013A	110.543	5049.4	55.0%	8.1%	2.8	0.02	0.05	0.1	0.05	25%	5	2	2
PT_014A	22.692	1952.7	54.0%	13.3%	2.6	0.02	0.05	0.1	0.05	25%	5	2	2
PT_015A	35.705	2563.1	47.5%	6.2%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
PT_017A	30.028	2310.2	47.1%	16.1%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
PT_021A	7.44	1000.1	44.3%	9.2%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
PT_021A_US	10.127	1203.4	36.8%	15.0%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
PT_023A	29.831	2301.1	59.3%	19.0%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
PT_024A	90.563	4480.1	54.0%	17.9%	3.4	0.02	0.05	0.1	0.05	25%	5	2	2
PT_025A_US1	41.682	2812.5	45.5%	19.3%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2
PT_025A_US2	37.717	2648.8	39.2%	24.6%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
PT_025A_US3	25.674	2102.9	40.5%	23.9%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
PT_026A	53.548	3268.6	40.1%	12.7%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
PT_026A_US1	111.123	5134.7	21.9%	1.4%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
PT_026A_US2	21.657	1898.9	19.8%	1.3%	4.2	0.02	0.05	0.1	0.05	25%	5	2	2
PT_032A	31.639	2383.8	49.3%	17.0%	3.1	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_028A_A1-1	179.089	6744.7	40.8%	4.9%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_028A_A1-3	214.013	7505.6	40.3%	2.6%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_028A_A1-5	94.821	4605.4	31.3%	2.0%	5.2	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_028A_A1-6	7.28	987.2	44.7%	2.9%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
PT_I_028A_A1-9	9.426	1152.7	53.6%	3.5%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_030A_V2-1b	453.207	11773.4	52.8%	5.8%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-1	31.995	2399.8	47.5%	8.4%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-4	14.507	1493	33.9%	12.7%	4	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-6a	8.666	1096	54.6%	4.0%	1	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-6b	3.21	604	44.2%	7.1%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-7a	8.201	1060.3	48.5%	7.1%	1	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-7b	17.191	1653.1	39.0%	11.7%	3	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-8a	98.83	4721.3	57.4%	3.7%	2.3	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-8b	77.16	4069.7	41.7%	9.3%	2	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-8c	15.123	1530.7	54.1%	3.5%	1	0.02	0.05	0.1	0.05	25%	5	2	2
PT_I_031A_V1-9	191.81	7028.2	51.8%	3.4%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
{022d7196-d998-4033-8558-fcb3cd6432ad}	3.242	212	67.1%	38.5%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
{02ba9454-285e-4250-8c28-e87dc75f8915}	5.345	272.2	42.3%	4.7%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
{03533f01-b4ce-4a22-8438-fdf698344e26}	9.342	359.9	48.5%	8.0%	6.5	0.02	0.05	0.1	0.05	25%	5	2	2
{03be8ec3-71d2-483f-9e87-2ea3e756c36b}	2.9	200.5	64.0%	19.1%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
{06b89f93-26c8-48dd-ba90-e8dccc53cb3f}	0.405	74.9	54.0%	45.1%	4.4	0.02	0.05	0.1	0.05	25%	5	2	2
{072c7985-b21f-4f05-ad41-1f618dfdd102}	1.115	124.4	51.3%	15.0%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{07fb050f-8b40-4154-8184-860310db3e9c}	85.11	1086.3	54.4%	16.2%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{08cc1c62-469b-419b-906b-a380377def00}	14.562	449.3	56.1%	16.7%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
{0a0daee0-48eb-4af3-a06b-0b5255f2d03b}	1.804	158.2	54.1%	39.8%	5.2	0.02	0.05	0.1	0.05	25%	5	2	2
{0a873310-4d87-4f83-8abe-8fec4d60630e}	0.327	67.3	63.8%	45.5%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{0af64b8c-28ef-467a-9e7c-d6332a5da63d}	2.099	170.6	48.2%	27.7%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
{0e6e0503-a848-4a5f-a6f1-1a0ed3d91ee4}	6.54	301.1	63.1%	36.2%	2.3	0.02	0.05	0.1	0.05	25%	5	2	2
{0ec9cb7d-a234-46ad-8ee7-c396f313c08a}	23.916	575.9	41.9%	12.3%	3.4	0.02	0.05	0.1	0.05	25%	5	2	2
{122f6717-dc7f-4837-a02f-4ad23594fdc6}	0.821	106.7	57.4%	13.1%	1	0.02	0.05	0.1	0.05	25%	5	2	2
{141d2160-e275-4791-a38e-69bba571cdd4}	0.627	93.3	40.3%	20.1%	3.5	0.02	0.05	0.1	0.05	25%	5	2	2
{14939660-5f9e-49bb-8762-a6256c8e9d50}	0.795	105	58.6%	9.7%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{197dfd02-021b-4a0a-878f-cd5d63f65886}	1.232	130.7	62.1%	45.7%	1	0.02	0.05	0.1	0.05	25%	5	2	2
{1b2e86c6-c622-46a0-a621-96a0e89db433}	1.528	145.5	65.0%	37.4%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{1dcc2367-31d0-482d-a068-cceb5a29aaef}	1.441	141.4	57.4%	33.0%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{217f103b-603a-4f43-b80c-5ccd2bfac3ea}	4.442	248.2	60.7%	30.3%	2.3	0.02	0.05	0.1	0.05	25%	5	2	2
{21da9e9d-1356-4b4b-b135-9202db2c8dce}	22.732	561.4	48.8%	14.6%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2
{230cffbe-38e0-4913-9dc4-abe9bc18168e}	1.063	121.4	55.5%	40.2%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
{233260db-85dd-4a02-b067-8cbe152d50ff}	87.837	1103.6	56.0%	12.1%	3.1	0.02	0.05	0.1	0.05	25%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
{235dc662-af33-4245-a0a5-0770ec517348}	1.609	149.4	61.1%	13.9%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
{245fcdaf-e12b-40f0-9dc3-fa0846ebae90}	2.89	200.2	52.0%	15.2%	3.4	0.02	0.05	0.1	0.05	25%	5	2	2
{265b9ce0-f691-4bf7-bda7-7f3bc75b0ea4}	1.106	123.8	68.7%	50.6%	0.5	0.02	0.05	0.1	0.05	25%	5	2	2
{26dd38b8-a28c-4ac1-bef5-d7216d3bd547}	0.834	107.5	66.6%	33.2%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
{29cc6252-d413-4a2a-a99d-9f55ed6a8696}	37.055	716.8	49.6%	14.8%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{2acf3fe8-ab61-4294-9341-ec21991c859d}	2.837	198.3	50.5%	25.2%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
{2c5df7b7-41a4-434a-9018-a7444838cbe4}	0.59	90.5	63.6%	45.4%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
{2d0ed345-ac4b-4ab0-8a6b-9403a85283dd}	3.6	223.4	43.6%	31.6%	1.3	0.02	0.05	0.1	0.05	25%	5	2	2
{2e0aba76-d69a-4e14-9642-1705b40c2f61}	8.156	336.3	65.8%	55.0%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
{2e3170fc-5cd3-4a67-add5-b5ee527190ad}	15.766	467.6	61.6%	31.5%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
{31450336-880b-4ab9-b283-00a62c4144cd}	2.279	177.8	58.8%	43.3%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
{32a6ff7a-62fe-4393-a8d8-6c5b959a72d3}	2.326	179.6	60.8%	44.8%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
{32c84cd4-7067-4f1d-8b9a-7aa93f80da1a}	0.318	66.4	64.5%	53.9%	4.2	0.02	0.05	0.1	0.05	25%	5	2	2
{35df1a51-fbc3-49c0-a42f-1934b097bde6}	5.332	271.9	44.1%	32.4%	4.1	0.02	0.05	0.1	0.05	25%	5	2	2
{37227722-265c-4814-bd73-96959934a7f9}	6.415	298.2	39.3%	8.5%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2
{3c161c73-bc52-4398-826c-250fe5aae41c}	2.64	191.3	68.1%	50.1%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{3e7e2a80-e682-4469-9b85-9a837a283b81}	2.647	191.6	61.8%	18.4%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{3fb85c1f-2c28-41f3-b260-a9ca06334b07}	121.784	1299.5	49.9%	26.6%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{40181e28-01e1-45c3-9b22-413be97d8669}	1.879	161.4	51.4%	36.1%	1	0.02	0.05	0.1	0.05	25%	5	2	2
{402ee7f1-f73a-490e-a844-9ae8a7f7db63}	0.818	106.5	57.5%	6.3%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{407dfbf3-4655-40e7-92a5-9ace36b0b018}	1.523	145.3	64.0%	13.8%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
{40c9a62d-abb9-4b97-ae0c-69fad9ce0ce9}	76.326	970.7	32.3%	17.2%	3.2	0.02	0.05	0.1	0.05	25%	5	2	2
{4100a136-b68c-4321-8322-c67588a9671c}	0.579	89.6	50.6%	14.8%	4.5	0.02	0.05	0.1	0.05	25%	5	2	2
{42063e92-fa59-49e8-922e-7ced1c964ef4}	76.674	1064.5	45.1%	24.0%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
{42184cb7-0884-4ad7-a7ca-7717f443562f}	1.185	128.2	59.0%	31.4%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
{44675404-65e1-4285-a879-41e92d572321}	35.894	705.5	55.7%	29.7%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
{45e8daa7-a1cb-4c4e-b571-3cc696e64ad0}	0.523	85.1	47.1%	13.8%	4.5	0.02	0.05	0.1	0.05	25%	5	2	2
{47838e8c-72fd-4b5e-801c-4993b871e18d}	11.094	392.2	65.4%	7.2%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
{48660930-969f-4e40-9fd9-c6b4e4a0af65}	6.59	302.3	62.4%	35.9%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
{48f890a1-1795-4f46-b350-594dd39b2d87}	40.046	745.2	53.0%	12.1%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{4a6bca9c-8f06-4ce0-9693-2e4d0f0587ef}	74.602	1017.1	46.7%	10.6%	3.1	0.02	0.05	0.1	0.05	25%	5	2	2
{4bd99177-1665-427c-a67b-0991e848cc5a}	6.824	307.6	61.6%	43.3%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
{4e254db7-fa52-4fce-97f3-c9daee7ea1d8}	0.761	102.7	68.3%	36.0%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{4f9b4631-57e7-4785-9b4f-a4aaa9967c12}	0.701	98.6	57.0%	9.4%	6.3	0.02	0.05	0.1	0.05	25%	5	2	2
{4fc1b3b3-70c0-43a6-ae6a-27ff8f24e005}	0.77	103.4	55.9%	16.7%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{5050028f-ac4e-4944-b57c-e8422a92f5eb}	2.078	169.7	60.0%	42.8%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
{50d40316-95bb-4b78-8684-f3dfa729b3f0}	56.335	883.8	100.0%	23.0%	1	0.02	0.05	0.1	0.05	0%	5	2	2
{51892345-7ca9-4af9-a05a-d336fab14cf1}	2.399	182.4	50.9%	25.4%	0.3	0.02	0.05	0.1	0.05	25%	5	2	2
{53eb1778-ac36-41b8-900c-2203547974ce}	2.075	169.6	52.3%	15.6%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2
{53fe7fa4-39a1-43a9-8459-80e45818fe63}	0.585	90.1	62.3%	33.1%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{55aa31d3-9613-4559-86c1-c7ee61a85f3a}	2.889	200.1	65.5%	14.1%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
{56728f77-2ab2-421a-bd9e-70e7edd8c6b3}	4.741	256.4	49.4%	36.4%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
{5855b344-ba16-44ac-b224-25894221bfdb}	1.942	164.1	45.4%	13.3%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{5c0544ec-0a03-4d42-8591-a4791950a7b7}	7.937	331.7	49.3%	8.1%	1	0.02	0.05	0.1	0.05	25%	5	2	2
{5dafc15d-27cc-4a4c-b9cc-855f7eed1316}	2.899	200.5	23.9%	11.9%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{601de21b-9976-4033-b90f-7b22e8552128}	2.713	194	40.2%	8.7%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{6122f895-7a89-435c-af8d-1b649ad008f0}	3.817	230.1	31.2%	16.6%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2
{62994278-d3fd-4319-9393-6214810e2077}	3.647	268.1	34.8%	18.5%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
{64fc2055-935e-4997-90b8-08932ce5e3a4}	1.723	154.6	48.9%	14.3%	2.8	0.02	0.05	0.1	0.05	25%	5	2	2
{6899eb3d-a4fa-4241-bc77-7871cb4ed74a}	0.563	88.4	62.3%	35.8%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{68e6efcd-6ba8-46a9-a849-e51c74d8c6d7}	2.171	173.5	43.9%	9.5%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
{6b991c51-7aa7-4cc8-b5fd-c1692cdec045}	2.696	193.4	62.2%	51.9%	2.3	0.02	0.05	0.1	0.05	25%	5	2	2
{6e19b036-715f-42fa-896f-137407dff20b}	7.281	317.7	43.2%	31.8%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
{6e6907c9-04b3-42fe-9724-a5510bb27940}	331.736	2144.7	56.2%	6.2%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
{7109da36-feac-457f-b8de-61bac527a454}	3.318	214.5	58.2%	48.6%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
{71e93b23-1207-4e50-bcd2-1c3243ec1d04}	3.218	211.2	59.6%	31.5%	3.2	0.02	0.05	0.1	0.05	25%	5	2	2
{7233df0e-9bce-4dd5-8598-0701f89bb563}	9.802	368.7	65.8%	14.2%	1.7	0.02	0.05	0.1	0.05	25%	5	2	2
{75c3a74c-fc34-48ba-9d17-19d8ac5a2a9b}	1.103	123.7	55.2%	16.2%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{766c0833-1bd1-4be1-82d5-df04482e06ca}	7.073	313.2	52.0%	38.2%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
{771bf7a2-0c94-4aa9-b82b-eb8d73c54f4c}	2.952	202.3	29.7%	8.9%	3.7	0.02	0.05	0.1	0.05	25%	5	2	2
{77c2dfef-a5fc-4f5c-8c76-4818627f8585}	8.06	334.3	62.2%	43.7%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
{77ec1b6b-61eb-4a96-8288-7b4ee42fbf4a}	0.669	96.3	60.0%	43.5%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{77f20508-47eb-4d76-bffa-90eb2adf10a1}	1.942	164.1	67.4%	34.4%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
{77f9c1e0-2ad0-4211-942f-bf31a1ccd8e6}	0.462	80	51.0%	8.4%	5	0.02	0.05	0.1	0.05	25%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
{788d4217-5a71-47cd-bffe-0de3512ef840}	67.244	965.6	47.5%	10.8%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2
{7fc897bc-fc16-4f2b-b8cd-9b251e481fb4}	0.773	103.5	65.6%	47.6%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{812f1ca7-87bf-4ec7-a7c1-915e3aa16a3e}	10.032	373	53.9%	15.8%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
{812fb8b7-0dc7-4e7e-b916-9f19bd402ee0}	4.077	237.8	24.3%	2.3%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
{814d152b-087b-4867-ae61-c96f13ad1675}	0.676	1064.5	53.0%	28.2%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
{814f0c64-403c-42c4-8ce7-b7bc98941b75}	1.695	153.3	61.0%	35.0%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
{8420cb77-d2bf-4447-a8c3-135e39fbbab2}	21.721	548.8	52.4%	15.6%	2.1	0.02	0.05	0.1	0.05	25%	5	2	2
{8460c431-4e07-4200-97ff-366c5e2eb3a6}	43.856	779.8	54.1%	38.6%	1.8	0.02	0.05	0.1	0.05	25%	5	2	2
{84ccdb2c-555e-4416-a92b-2102d8810549}	0.44	78.1	55.9%	41.1%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{864061b2-f343-46e0-8dde-56e8614088b0}	1.927	163.5	55.2%	11.9%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
{874ec50f-a2e0-446b-8ecc-059c11e2807e}	2.59	189.5	40.5%	9.2%	2.9	0.02	0.05	0.1	0.05	25%	5	2	2
{88780532-47cc-4236-bba5-e94cda659ab1}	1.392	138.9	48.0%	14.3%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{8c4c8f34-6966-43d2-a97b-58b1e680b365}	2.548	188	44.9%	2.9%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{8caba47e-bd9b-4bb4-9137-2029024c3f22}	51.919	848.5	50.1%	25.0%	2.3	0.02	0.05	0.1	0.05	25%	5	2	2
{8d09eaff-1a07-4d67-95f1-ee291d96d92b}	1.661	151.8	61.5%	45.3%	2	0.02	0.05	0.1	0.05	25%	5	2	2
{902ae9d4-0639-4822-8274-68193c8ca77e}	4.688	255	65.3%	45.9%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{91b4aa15-8c1b-4e6a-9c43-5458ed071dcc}	2.922	201.3	54.6%	16.0%	5.4	0.02	0.05	0.1	0.05	25%	5	2	2
{91f7174f-b8ee-4ad4-8ed5-7a25f4aee76c}	0.135	43.2	0.0%	0.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
{932fe77d-45eb-4188-9275-7609420af1cb}	3.277	213.1	36.7%	4.0%	5.5	0.02	0.05	0.1	0.05	25%	5	2	2
{94c09d88-a4c9-4ea4-b486-d48011805d5d}	1.284	133.4	57.8%	30.8%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{9528247b-16b1-4f91-92fe-f2b24693b2bb}	1.659	151.7	64.4%	47.4%	3.5	0.02	0.05	0.1	0.05	25%	5	2	2
{9911c0d1-cbed-46c4-9cf4-410b5aeab701}	2.412	182.9	59.4%	43.7%	2.6	0.02	0.05	0.1	0.05	25%	5	2	2
{9ba11db2-4202-4c42-9296-cbe4b5101762}	46.346	801.6	56.1%	12.8%	2	0.02	0.05	0.1	0.05	25%	5	2	2
{9c3abcad-45f2-4b7d-b249-005fb925b141}	33.584	682.4	56.0%	6.2%	2.6	0.02	0.05	0.1	0.05	25%	5	2	2
{9ec6b10c-43e0-40b5-a04c-296f39105f14}	0.278	62.1	0.0%	0.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
{9f05728c-2fc2-40d7-96c7-9d435028d197}	0.694	98.1	67.7%	56.5%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{a1d747c9-68e9-4265-aadb-f25380ab64ce}	1.205	129.3	40.9%	21.8%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{a4ca6120-6064-42ee-ae88-5de915da57db}	6.102	290.9	45.4%	13.5%	3	0.02	0.05	0.1	0.05	25%	5	2	2
{a6cd0422-8642-44ed-b3f9-d83494af24bb}	1.176	127.7	36.2%	7.8%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
{ad4a7d5d-b4ac-4687-b030-51bf264cd4e0}	1.324	135.5	32.9%	17.5%	1	0.02	0.05	0.1	0.05	25%	5	2	2
{ad638dd8-6ac0-4312-affe-fc4f1938dc8b}	9.867	369.9	36.6%	18.3%	5.6	0.02	0.05	0.1	0.05	25%	5	2	2
{ae9cff20-0b69-4c22-8e46-1312f5d1e202}	1.124	124.8	58.7%	41.9%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2

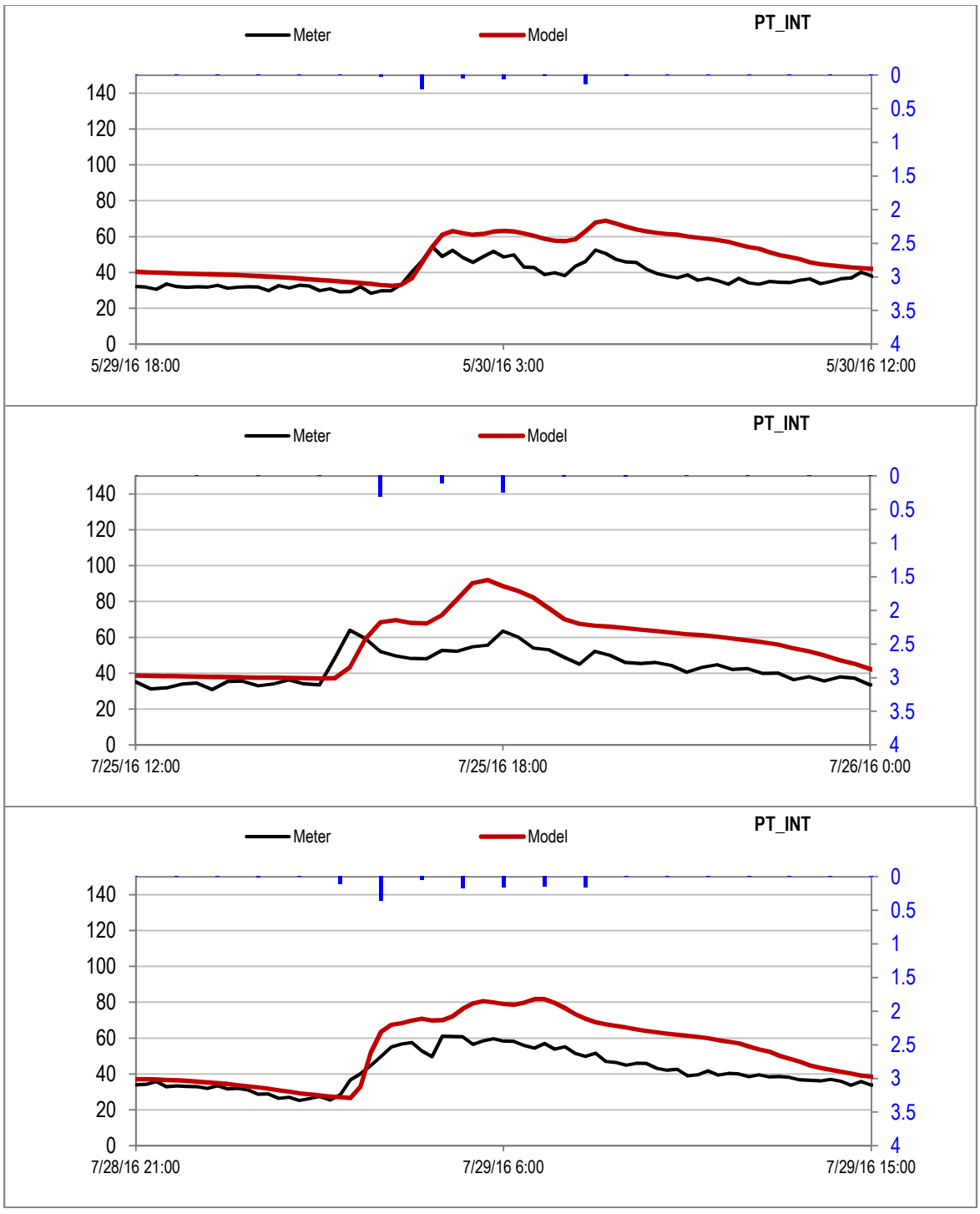
Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
{b128fd5f-71ae-4b15-8739-da060d8ad338}	1.615	149.6	45.4%	10.3%	3.7	0.02	0.05	0.1	0.05	25%	5	2	2
{b44e1335-c55d-46f8-8f72-856fddf35b11}	3.051	205.7	55.6%	29.6%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2
{b45efd80-3293-4b78-a37f-7449093948af}	19.364	518.2	54.5%	38.3%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{b463ea69-b463-48df-b8a8-d10e772848b0}	67.809	969.6	53.4%	28.4%	1	0.02	0.05	0.1	0.05	25%	5	2	2
{b5cf924b-39f0-48ce-9069-d9a5d9d4b53f}	129.262	1338.8	42.5%	4.1%	3.3	0.02	0.05	0.1	0.05	25%	5	2	2
{b6b33c9a-8a22-47c3-8d51-8c3f9104d92c}	39.837	743.2	40.1%	9.1%	4.8	0.02	0.05	0.1	0.05	25%	5	2	2
{b7026465-57f8-460c-9bd3-d10888a11ae8}	17.012	485.7	30.6%	6.6%	2.5	0.02	0.05	0.1	0.05	25%	5	2	2
{b7adbc18-a2b5-4958-9373-6cbc492ec075}	38.572	731.3	49.1%	24.5%	2.6	0.02	0.05	0.1	0.05	25%	5	2	2
{bc5bfa08-5165-4732-8264-3a6f25199921}	0.455	79.5	48.0%	24.0%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{beb7bdc3-aea5-43df-9702-359097df8822}	2.984	203.4	53.3%	11.5%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
{beef1350-0ecb-4bac-afba-faa619918725}	1.802	158.1	60.8%	34.9%	1.9	0.02	0.05	0.1	0.05	25%	5	2	2
{c0d33f42-355a-4240-a2db-ec14bfac587d}	0.574	89.2	53.3%	37.4%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{c0e6c754-56ad-49b3-a893-466da624049f}	1.086	122.7	62.1%	31.0%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{c5abd834-714c-4293-85e7-8a541e894561}	34.066	687.3	51.0%	26.9%	2	0.02	0.05	0.1	0.05	25%	5	2	2
{c8370e38-ac69-4500-bec6-220a93dcf6a9}	2.025	167.6	65.1%	47.9%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
{cbb5f9ba-bd8a-493f-9b43-fb915667c1a0}	1.017	118.7	55.3%	11.9%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{cc4dca10-1a7b-49fe-a293-ac8a3e7d87c6}	0.323	66.9	0.0%	0.0%	0	0.02	0.05	0.1	0.05	0%	5	2	2
{cc9aca9a-60ec-4cf0-aa0e-856a3d06cff2}	1.528	145.6	1.4%	0.1%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{cd60b6d1-dba0-4fab-82b6-ea176ff27f9f}	1.278	133.1	47.9%	25.5%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
{cd7ff27e-c0e6-4602-ab67-9b72c6627732}	1.537	146	47.9%	7.9%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{cda91ad0-a9aa-4f48-9232-ddcb846ac598}	10.072	373.7	54.2%	16.2%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
{cdcea2a8-a3d1-42ba-8241-7a1e2665a9f8}	11.617	401.3	51.9%	15.5%	0.4	0.02	0.05	0.1	0.05	25%	5	2	2
{ce1c0c5f-e968-4146-999f-a82a301752e9}	0.848	108.4	49.8%	11.3%	5.1	0.02	0.05	0.1	0.05	25%	5	2	2
{ce9da6fc-256c-4992-b384-aeb54728bcc8}	0.257	59.7	45.8%	3.0%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{cefb6757-5553-45b6-8014-603cdc94f29b}	2.214	175.2	28.0%	14.9%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
{cf960007-f1ef-47ad-96d4-c80b03c44ba1}	0.883	110.7	63.3%	45.9%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
{d2497c99-31c6-4291-860b-3315f21d2d49}	1.14	125.7	61.1%	13.9%	2.7	0.02	0.05	0.1	0.05	25%	5	2	2
{db681d0b-981b-42ea-bf93-151cab5035c1}	17.187	488.2	53.2%	15.6%	3.7	0.02	0.05	0.1	0.05	25%	5	2	2
{dc6fe25a-f503-45f4-9a50-c6aa0043862c}	0.838	107.8	69.5%	35.5%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{dd20e886-d072-4e3d-bee2-1523a6c8d8ec}	8.095	335	23.4%	17.2%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{de422b2a-6ca5-46f9-b66b-cade305614bc}	1.453	142	61.4%	32.7%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
{deeb0643-63e7-4412-a3ab-80be4d8dd993}	3.69	226.2	54.8%	6.0%	2.4	0.02	0.05	0.1	0.05	25%	5	2	2

Subcatchment ID	Total area (acre)	Width (ft)	% imperv.	Effective % Imperv.	Slope (%)	Manning's N_ pervious	Manning's N_ impervious	Depression Storage_ Pervious (in)	Depression Storage_ impervious (in)	% of Impervious without Depression Storage	Horton initial (in/hr)	Horton limiting (in/hr)	Horton decay (1/hour)
{e147699b-8cd0-4c68-af1d-8fca70900cfb}	24.712	585.4	47.4%	14.1%	2	0.02	0.05	0.1	0.05	25%	5	2	2
{e2135597-687b-4d94-93c2-034632d8d8d0}	1.076	122.1	43.9%	25.2%	2.6	0.02	0.05	0.1	0.05	25%	5	2	2
{e266efd5-a26d-4769-8e6a-ae66970d8b37}	8.306	339.4	53.3%	28.4%	1.2	0.02	0.05	0.1	0.05	25%	5	2	2
{e2bdcb6a-6917-4e63-9008-ab1741739883}	0.778	103.9	55.5%	12.0%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
{e3b75612-a6a9-4c5d-9351-4e822b3f7c6b}	2.057	168.9	48.8%	14.6%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
{e4248cf4-fecd-4f07-9456-eeb2c66e5729}	47.181	808.8	61.3%	45.1%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{e49b25c2-4ad3-46d3-8875-5d04f21a89d9}	2.054	168.8	20.3%	1.9%	2.6	0.02	0.05	0.1	0.05	25%	5	2	2
{e6354b82-0a46-4609-86f6-68be6c6e3931}	64.657	946.8	55.1%	40.5%	2.3	0.02	0.05	0.1	0.05	25%	5	2	2
{e6e4ec23-799e-4bdc-a20b-28eebd8b0093}	19.836	524.4	51.5%	15.4%	0.6	0.02	0.05	0.1	0.05	25%	5	2	2
{e713c73b-5449-488e-9c5d-1cf6e6bdc6c2}	0.519	84.8	45.0%	31.6%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{e7a44f3a-308a-4130-9427-8ea80f34818e}	0.97	116	58.1%	13.2%	0.2	0.02	0.05	0.1	0.05	25%	5	2	2
{eabf784f-f4c1-4fd8-8459-72ccb8b55277}	16.312	475.6	46.2%	13.5%	2.3	0.02	0.05	0.1	0.05	25%	5	2	2
{ed324ed2-0dc4-459c-aecc-f04e5838e618}	2.382	181.7	46.4%	10.6%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{ed997efb-dada-44af-aa27-b67b68f665de}	0.666	96.1	59.3%	43.6%	3.4	0.02	0.05	0.1	0.05	25%	5	2	2
{ee45e3f9-7cd2-4eb2-8cc7-9e374c8d7b6a}	4.439	352.9	12.3%	6.6%	4.2	0.02	0.05	0.1	0.05	25%	5	2	2
{eeae12a8-0a7d-4d40-8aad-aee9fa5394e2}	3.565	222.3	37.6%	21.6%	1.6	0.02	0.05	0.1	0.05	25%	5	2	2
{f0519079-2372-427e-aec8-b1e5b656361f}	1.66	151.7	52.1%	29.9%	3.5	0.02	0.05	0.1	0.05	25%	5	2	2
{f0be5f9d-e8c7-4a4c-865c-d40b48067164}	4.142	239.7	53.8%	16.0%	0.7	0.02	0.05	0.1	0.05	25%	5	2	2
{f381a02c-48f7-48dc-8cea-b64b52000fd2}	1.141	125.8	39.8%	4.4%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{f3b930c7-86c3-4416-9ad7-ec0025aa3b76}	1.741	155.4	63.4%	45.2%	0.9	0.02	0.05	0.1	0.05	25%	5	2	2
{f56951cb-9c12-4192-8e0a-1cadfd74b0bb}	74.376	1015.5	59.8%	44.0%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2
{f60b7ea9-3cf4-4d79-9d47-cbd7ac2f7795}	0.968	115.9	66.0%	48.6%	0	0.02	0.05	0.1	0.05	25%	5	2	2
{f8de6ed5-ca93-4506-ad88-34be21be58ae}	0.979	116.5	64.5%	46.1%	1.1	0.02	0.05	0.1	0.05	25%	5	2	2
{f9391633-df99-46d6-ac9f-cc68297c43eb}	1.782	157.2	58.2%	29.1%	1.4	0.02	0.05	0.1	0.05	25%	5	2	2
{fcde0ea1-8c19-4d75-9e24-0152cde8330f}	1.424	140.5	63.5%	46.0%	0.8	0.02	0.05	0.1	0.05	25%	5	2	2
{ff31184a-5c61-4f35-9ffe-19a854cc7cf8}	0.969	115.9	62.5%	35.9%	1.5	0.02	0.05	0.1	0.05	25%	5	2	2

Note: JCMUA Subcatchments included in table are reflective of current PVSC Sewer District Hydrologic and Hydraulic model. Refer to separate JCMUA System Characterization Report for additional details of JCMUA Hydrologic and Hydraulic model.

APPENDIX D

H&H Modeling Calibration Plots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Meter
Model
140
120
100
80
60
40
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1
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3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
PT_INT
Meter
Model
7/25/16 12:00
7/25/16 18:00
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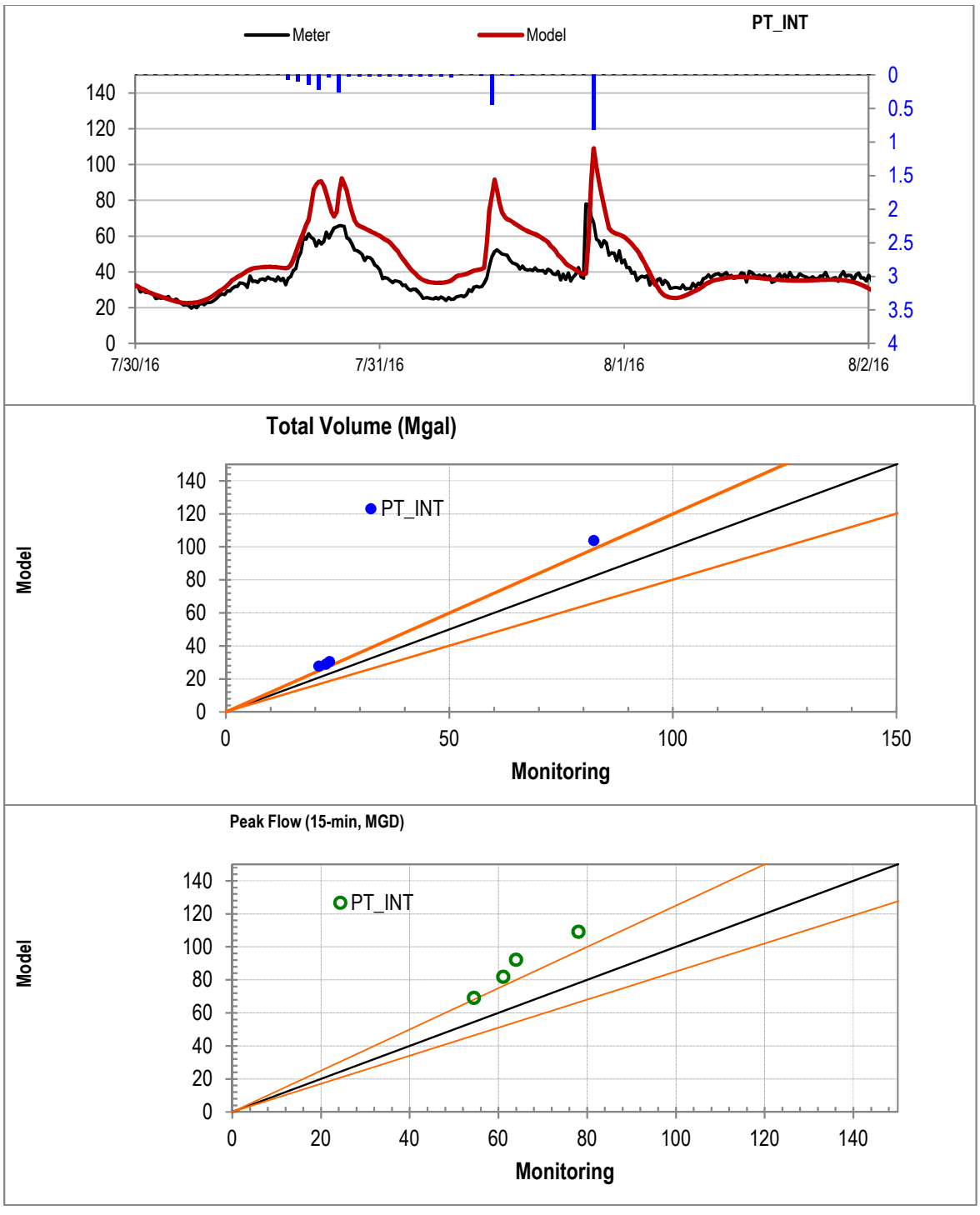
PT_INT
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00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Model
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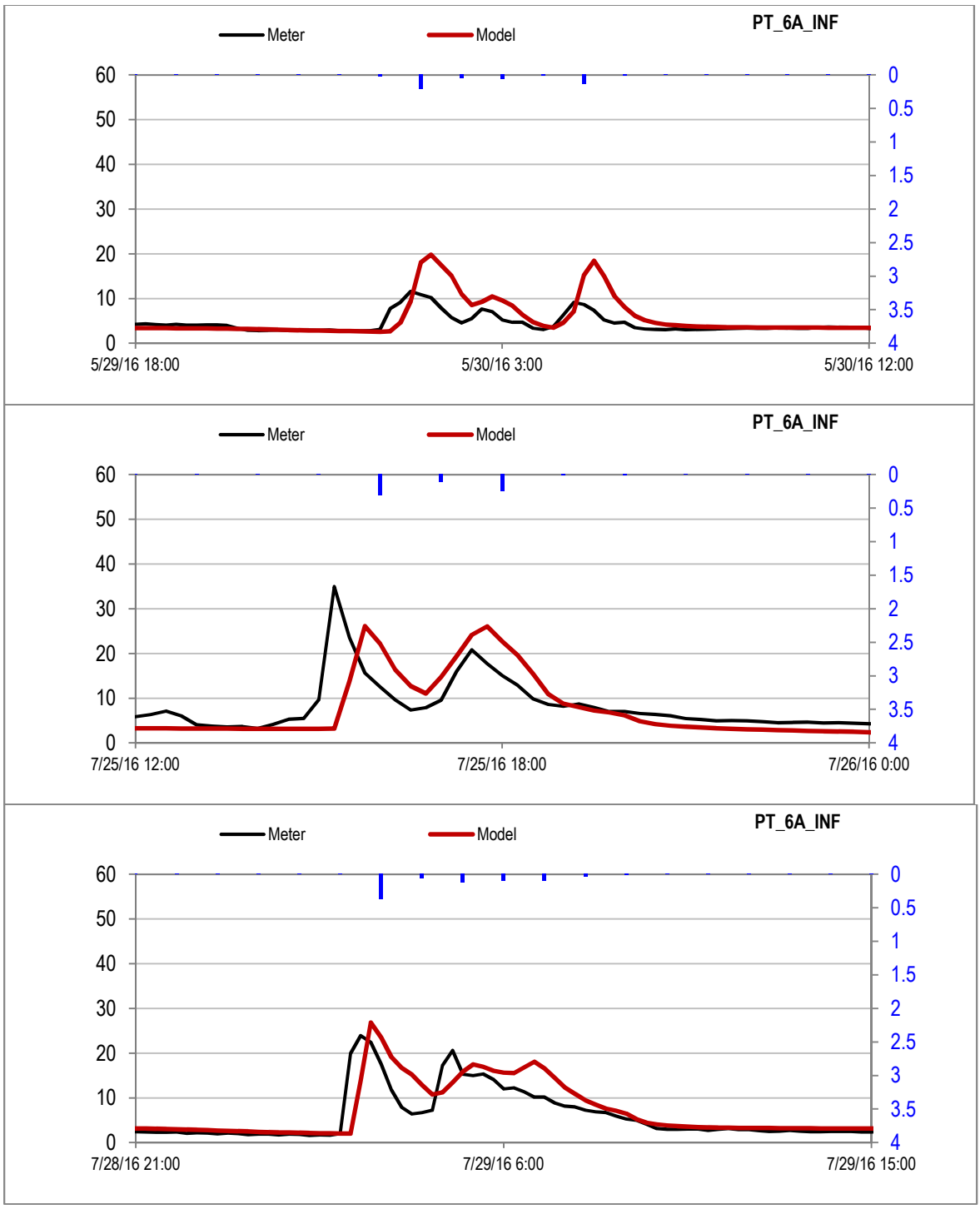
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
PT_INT
0
50
100
150
Monitoring
Peak Flow (15-min, MGD)
Model
PT_INT
0
20
40
60
80
100
120
140
Monitoring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Meter
Model
60
50
40
30
20
10
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0
0.5
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1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
PT_6A_INF
Meter
Model
7/25/16 12:00
7/25/16 18:00
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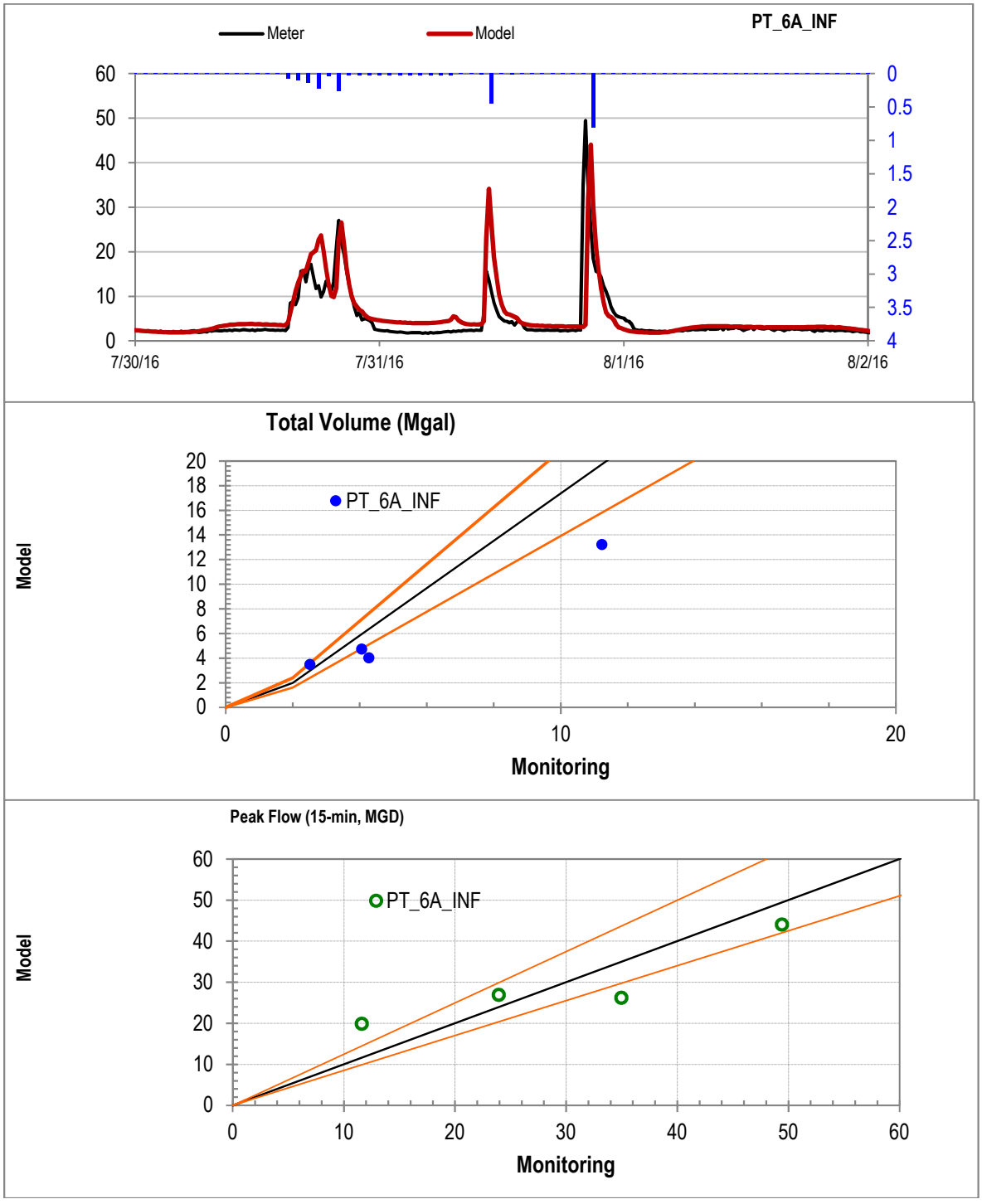
PT_6A_INF
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00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Meter
Model
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50
40
30
20
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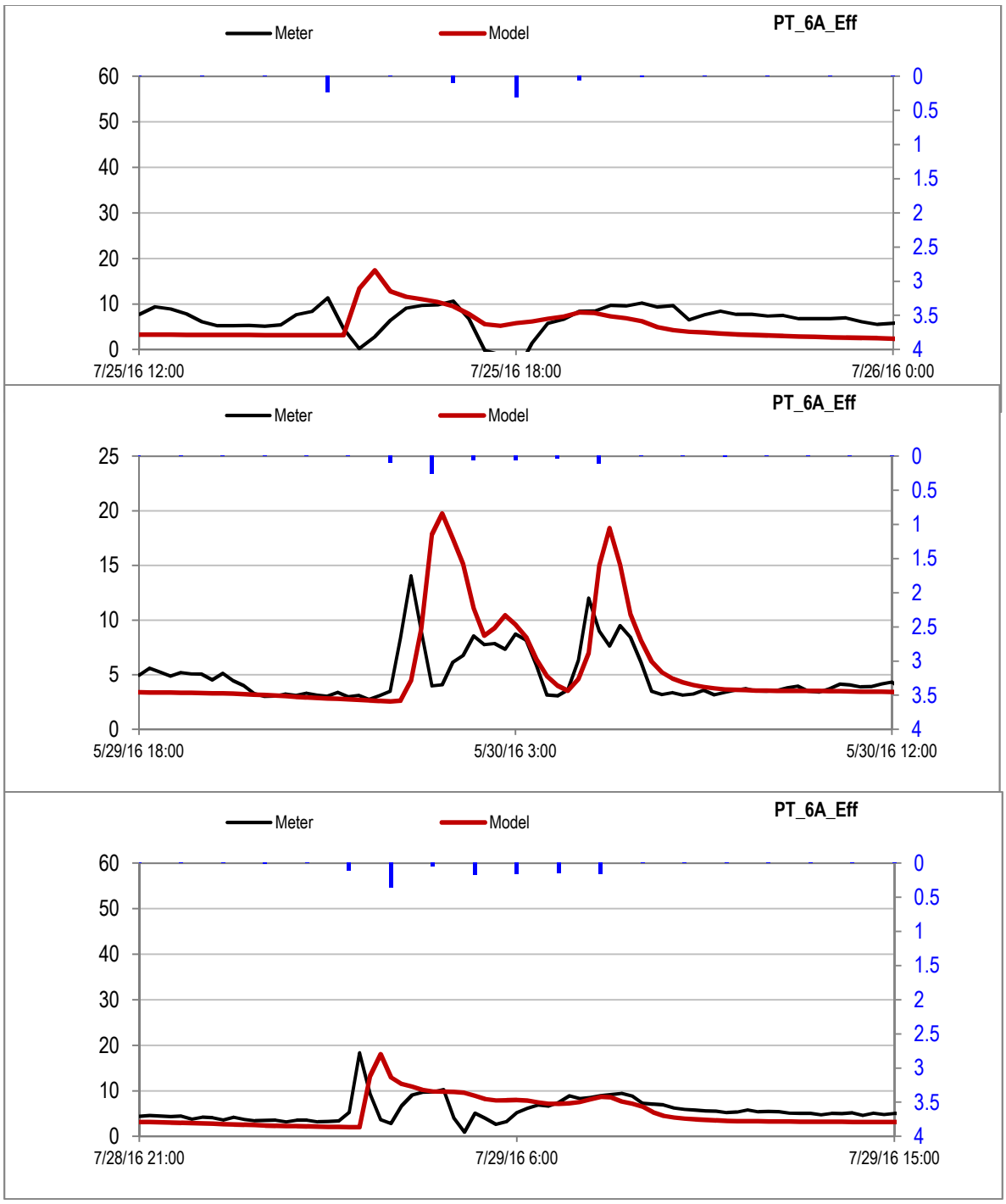
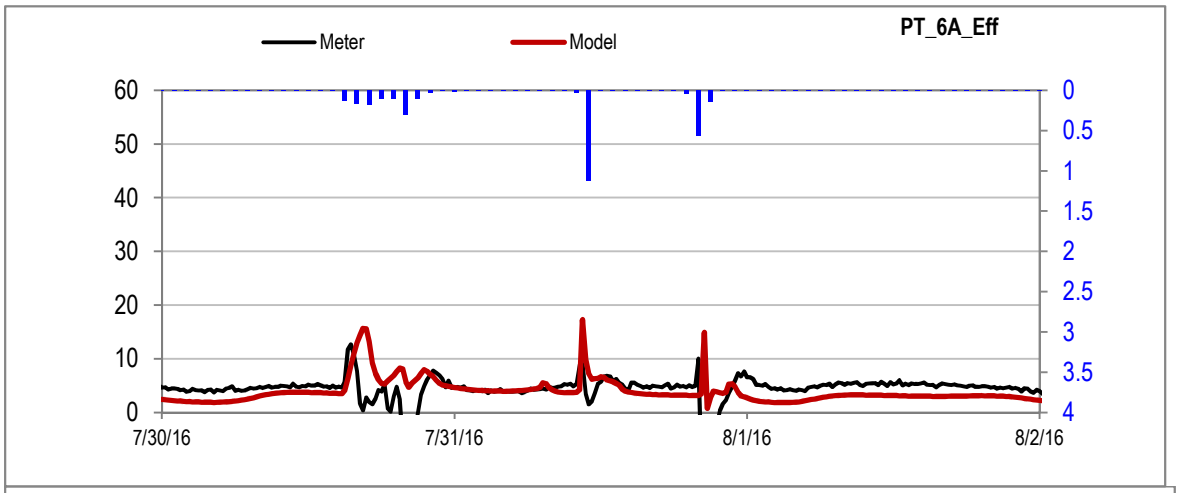
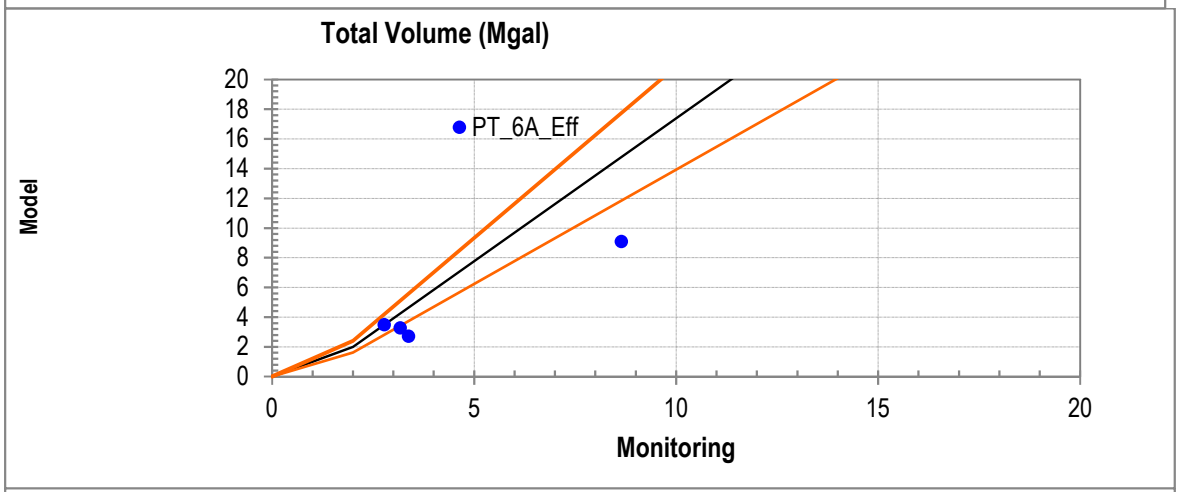
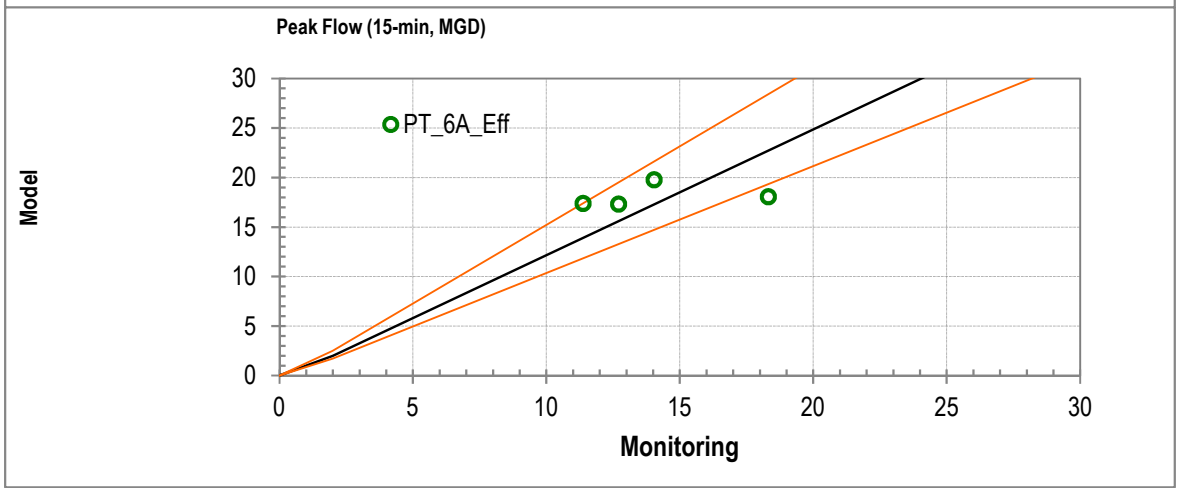
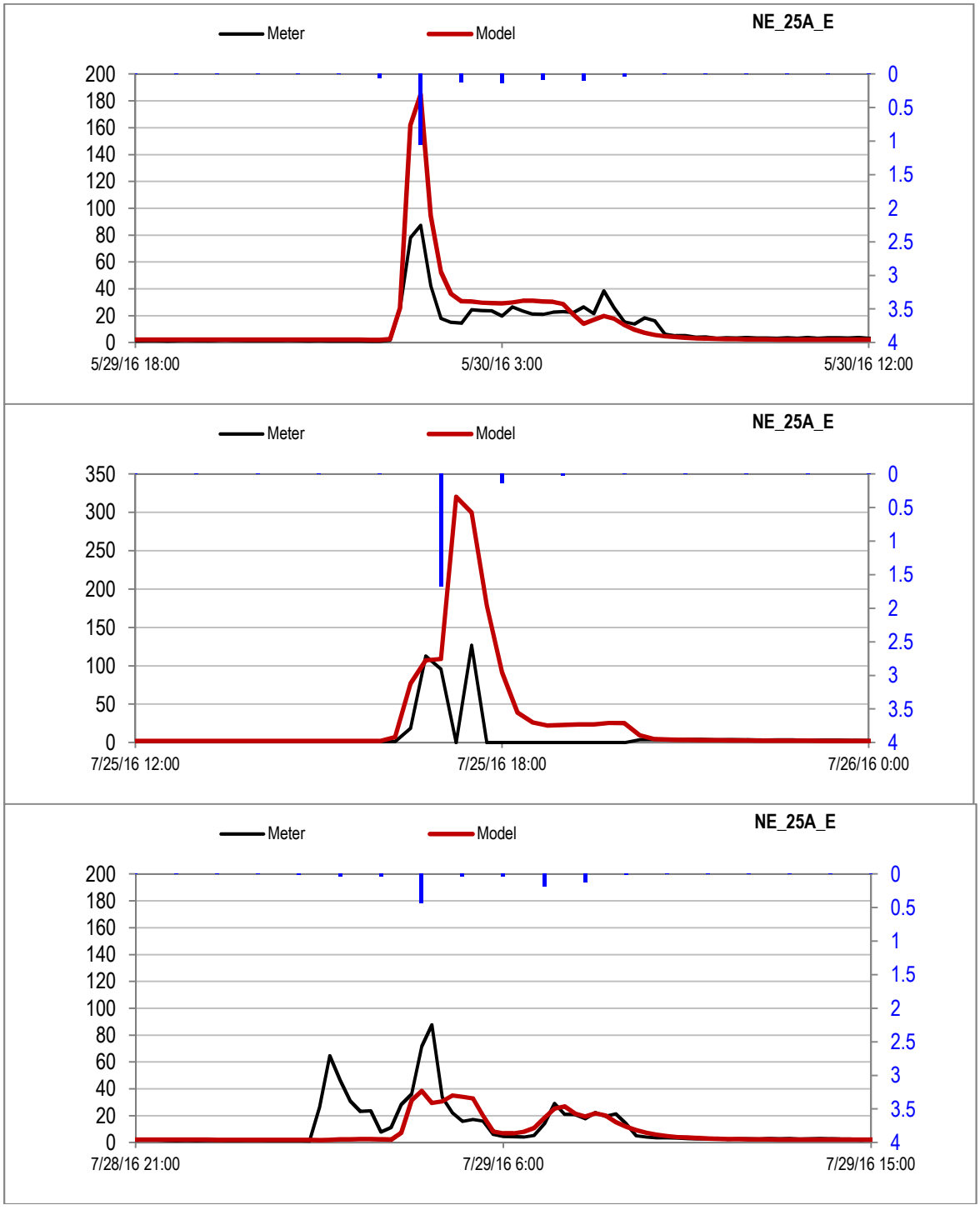
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
PT_6A_INF
20
18
16
14
12
10
8
6
4
2
0
0
10
20
Monitoring
Peak Flow (15-min, MGD)
Model
PT_6A_INF
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Monitoring

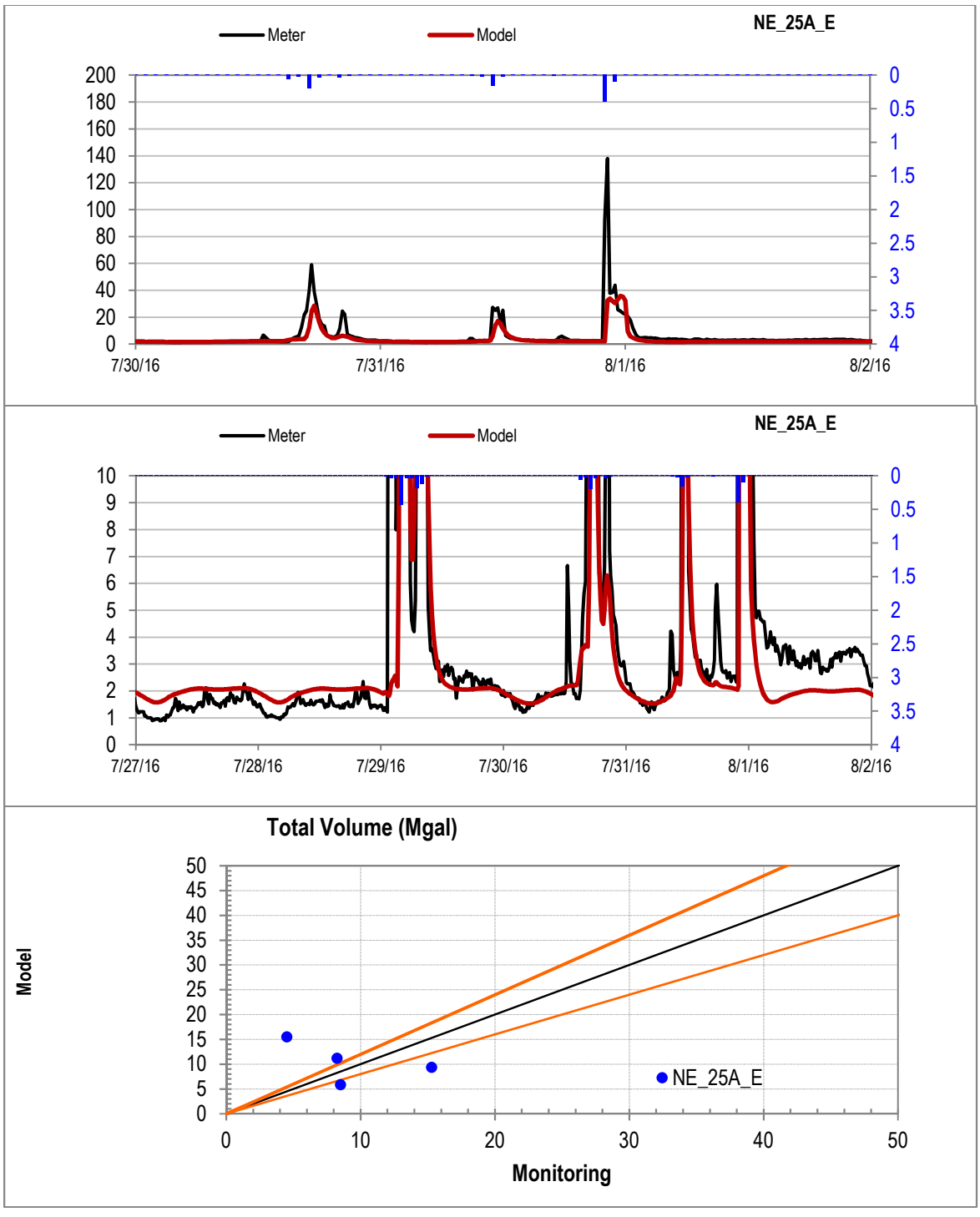

Meter
Model
PT_6A_Eff
60
50
40
30
20
10
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
Meter
Model
PT_6A_Eff
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Meter
Model
PT_6A_Eff
60
50
40
30
20
10
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

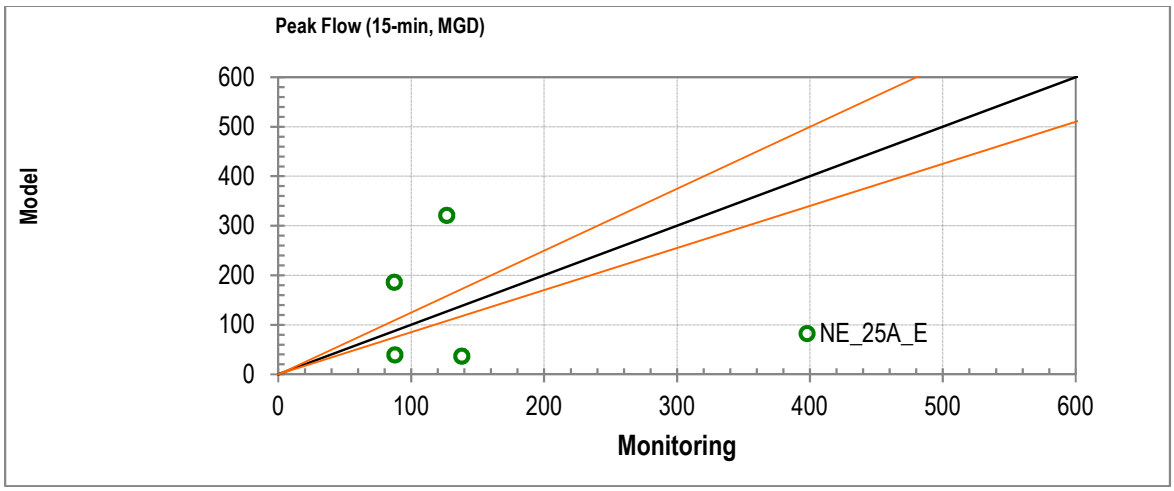

PT_6A_Eff
Meter
Model
60
50
40
30
20
10
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

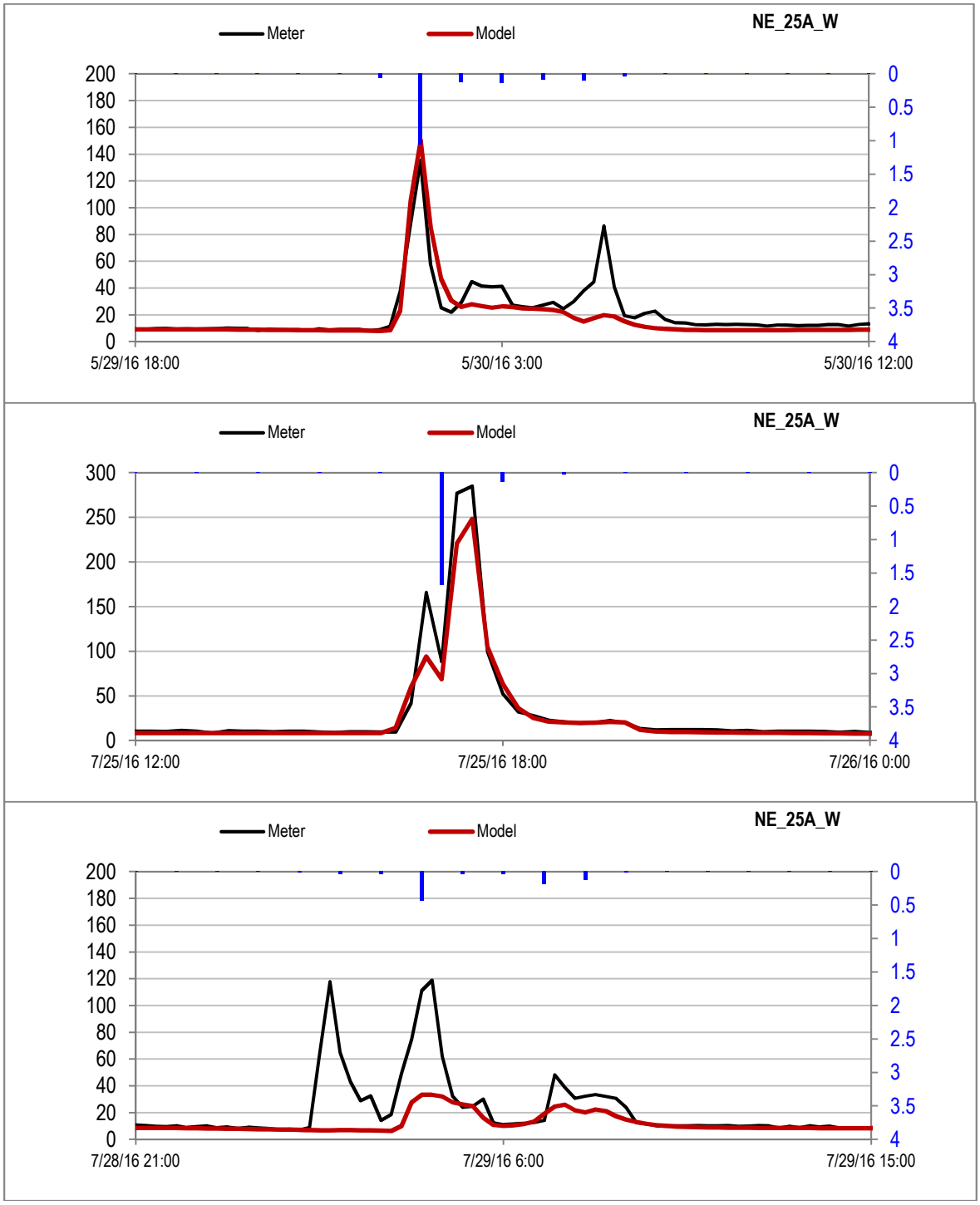

Total Volume (Mgal)
Model
PT_6A_Eff
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Monitoring

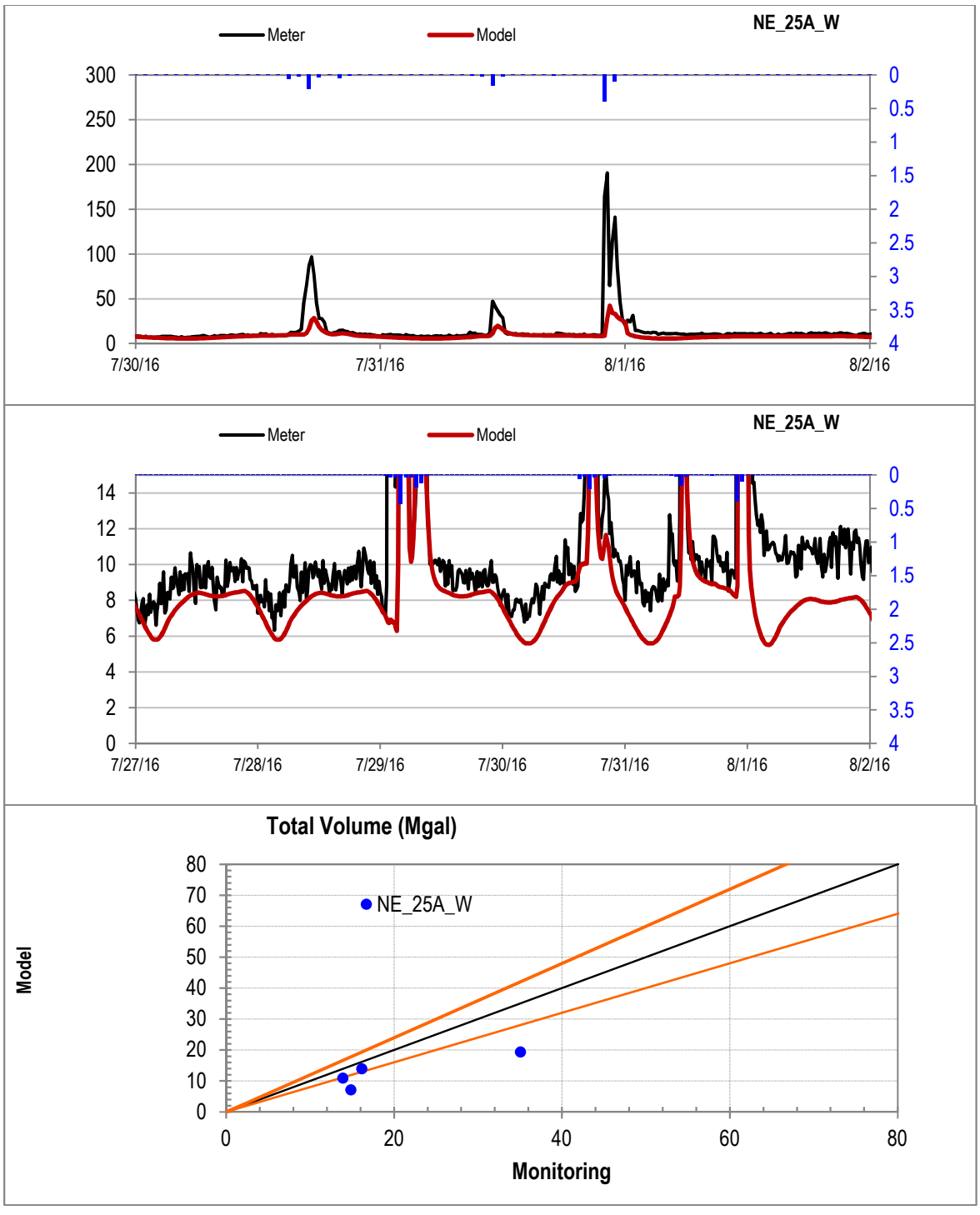

Peak Flow (15-min, MGD)
Model
PT_6A_Eff
30
25
20
15
10
5
0
0
5
10
15
20
25
30
Monitoring

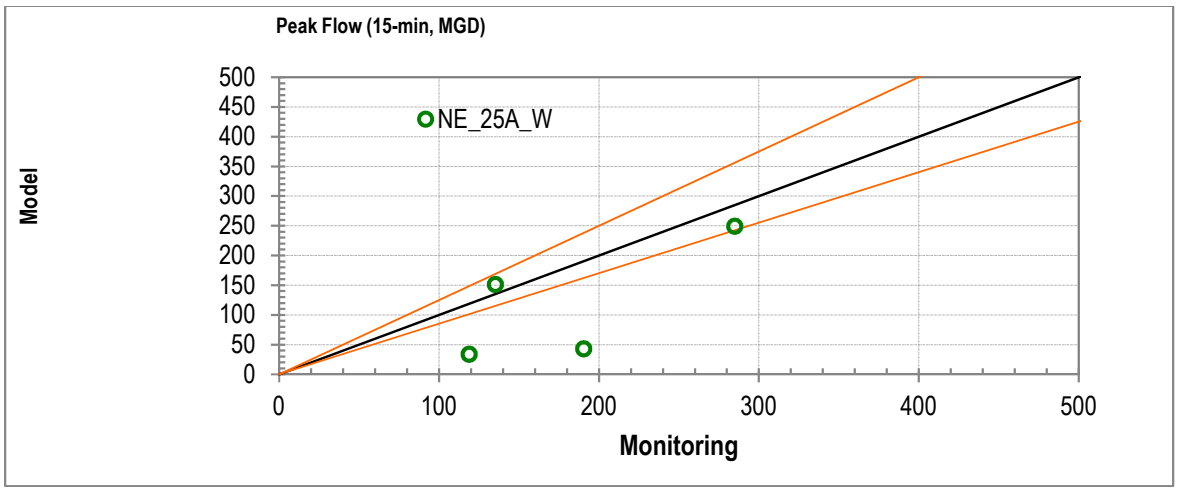

NE_25A_E
Meter
Model
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NE_25A_E
Meter
Model
350
300
250
200
150
100
50
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NE_25A_E
Meter
Model
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

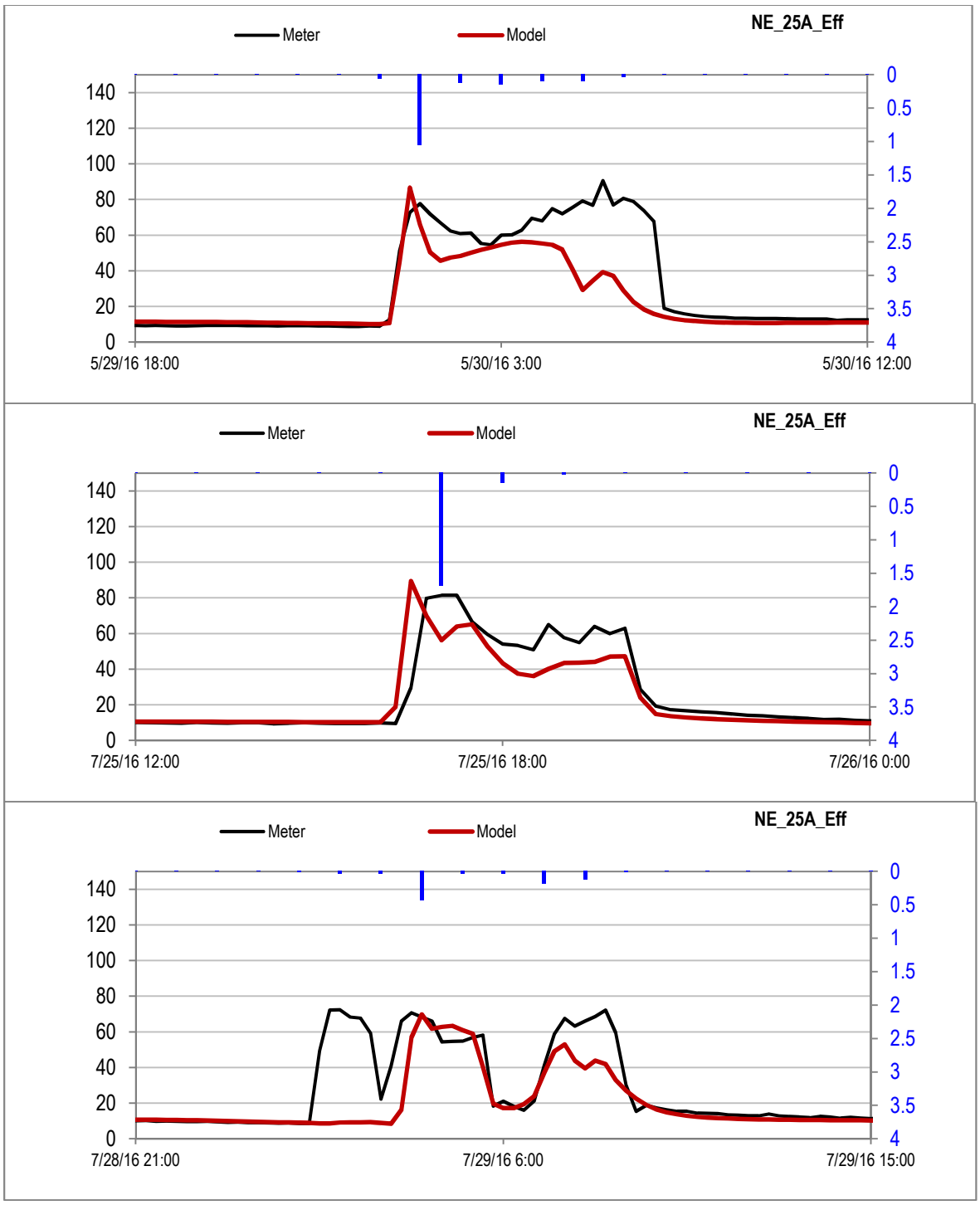

Meter
Model
NE_25A_E
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Meter
Model
NE_25A_E
10
9
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/27/16
7/28/16
7/29/16
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
50
45
40
35
30
25
20
15
10
5
0
0
10
20
30
40
50
Monitoring
NE_25A_E

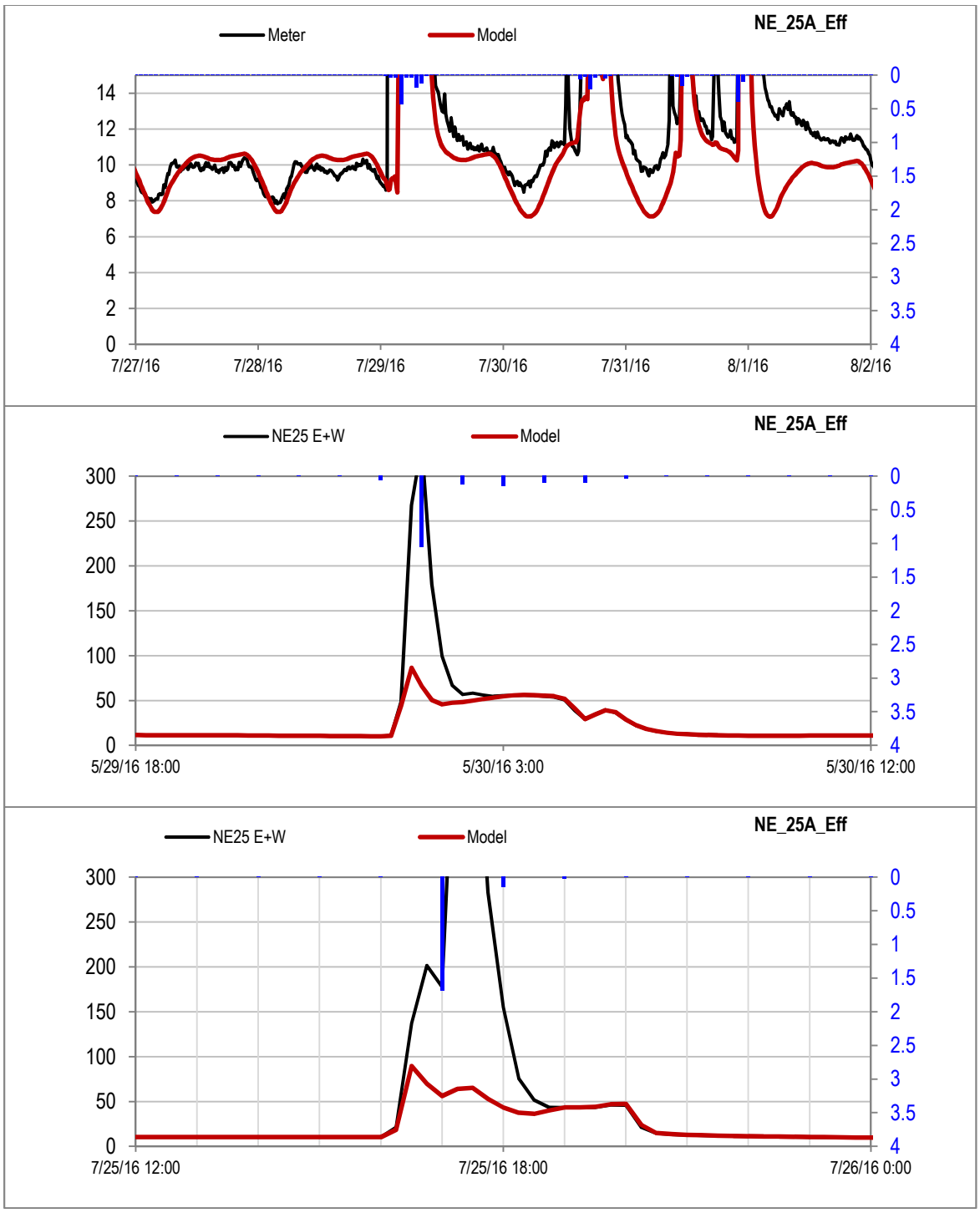

Peak Flow (15-min, MGD)
Model
Monitoring
0
100
200
300
400
500
600
NE_25A_E

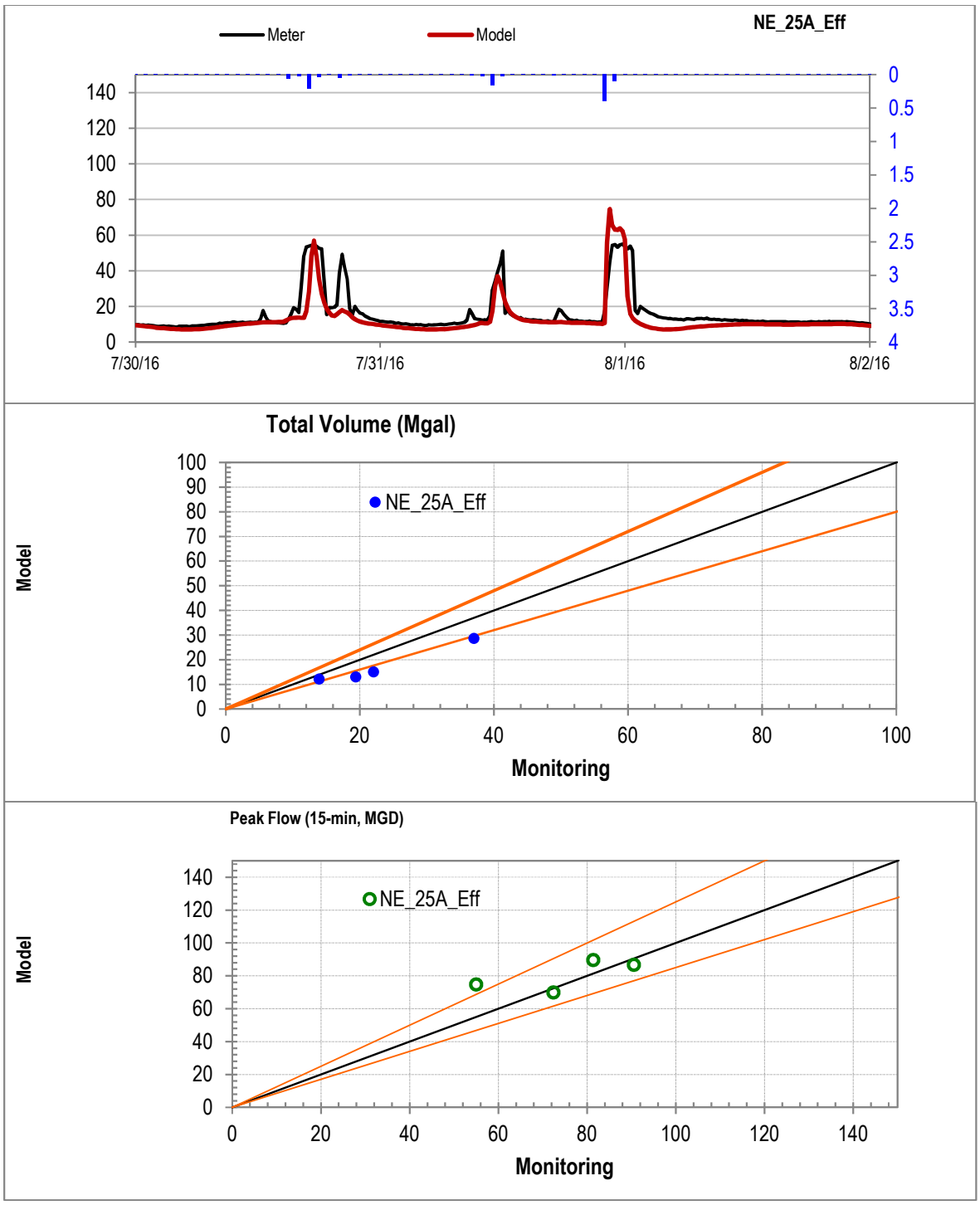

NE_25A_W
Meter
Model
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NE_25A_W
Meter
Model
300
250
200
150
100
50
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NE_25A_W
Meter
Model
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

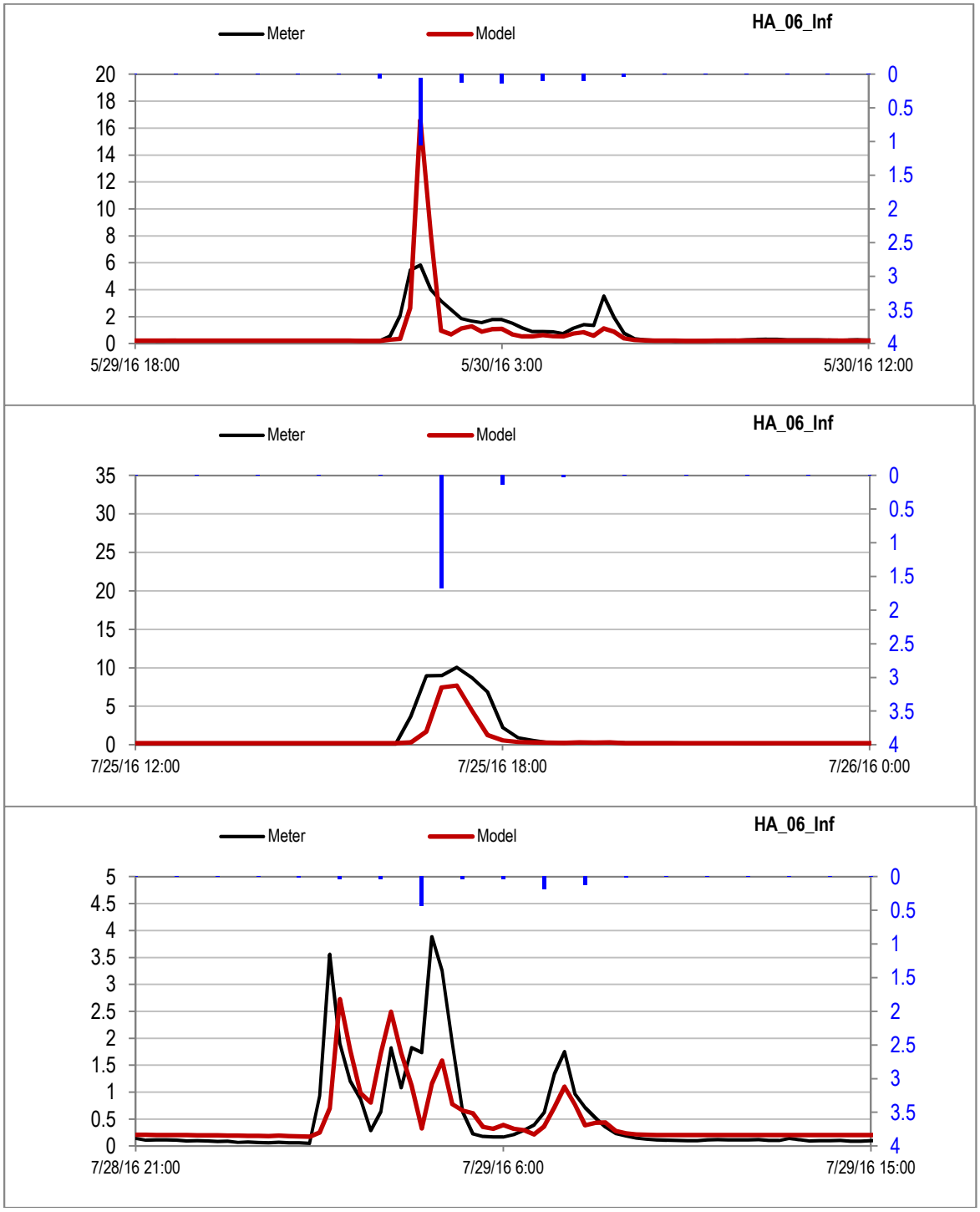

NE_25A_W
Meter
Model
300
250
200
150
100
50
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
NE_25A_W
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/27/16
7/28/16
7/29/16
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
NE_25A_W
80
70
60
50
40
30
20
10
0
0
20
40
60
80
Monitoring

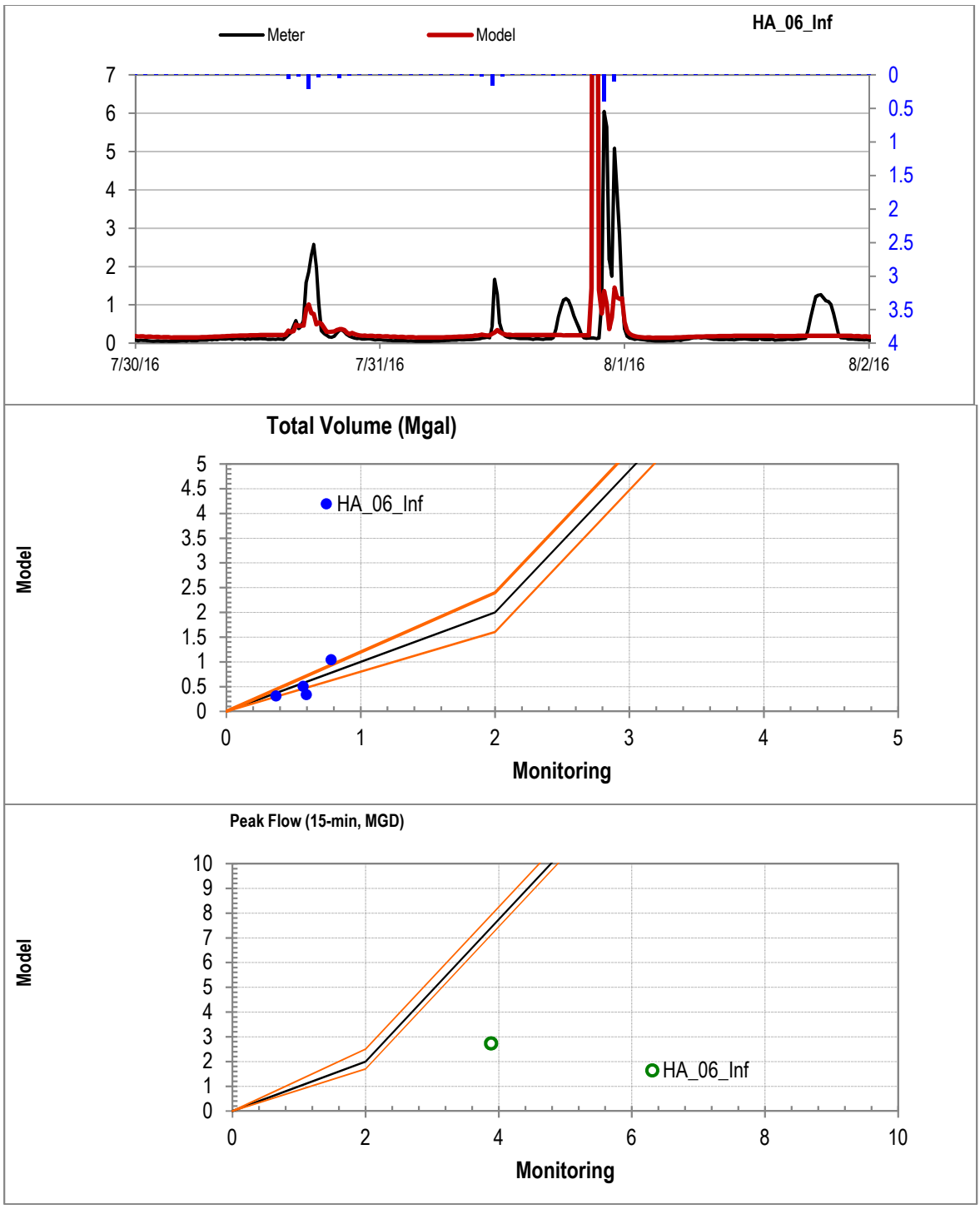

Peak Flow (15-min, MGD)
Model
Monitoring
NE_25A_W
0
50
100
150
200
250
300
350
400
450
500
0
100
200
300
400
500

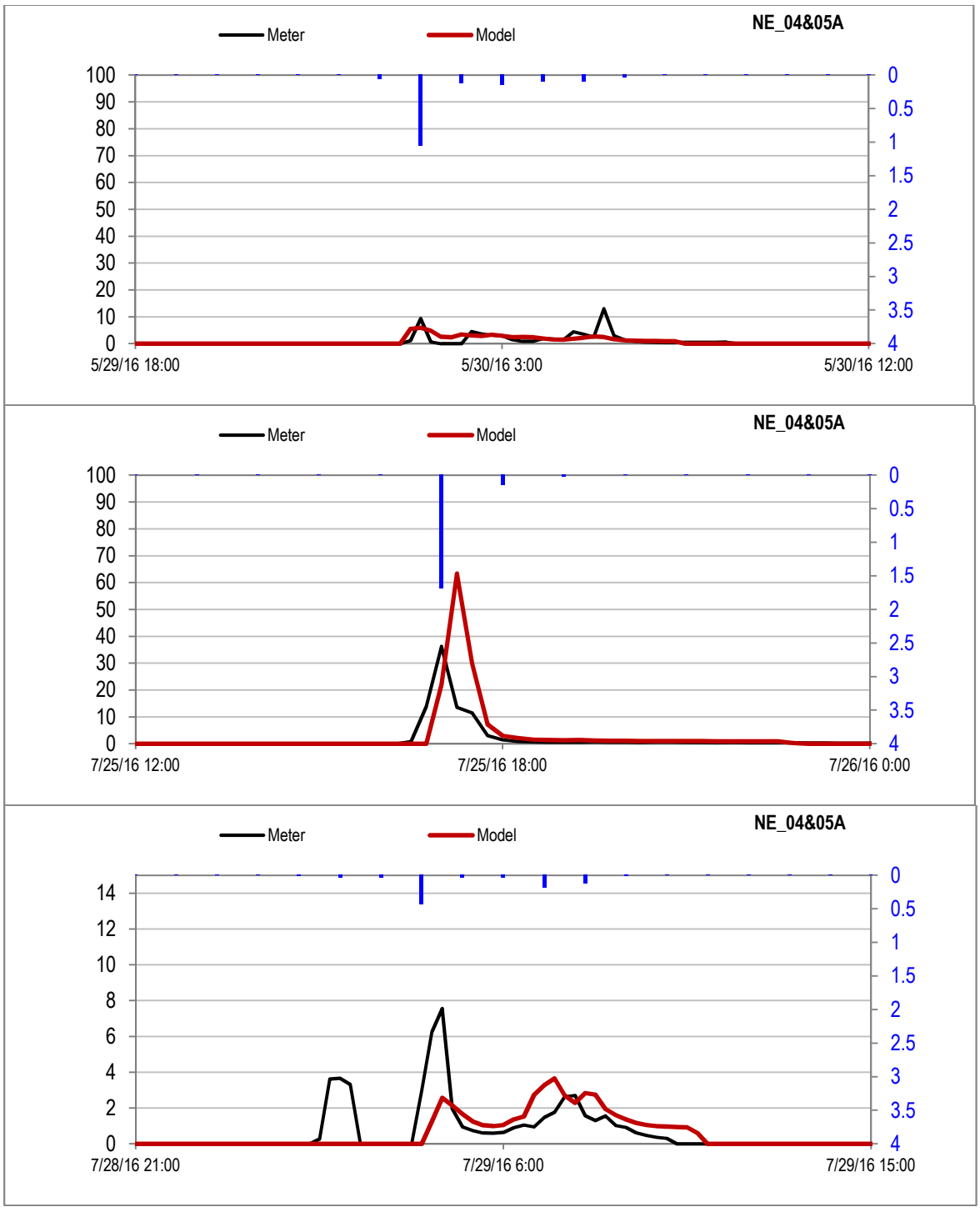

NE_25A_Eff
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NE_25A_Eff
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NE_25A_Eff
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

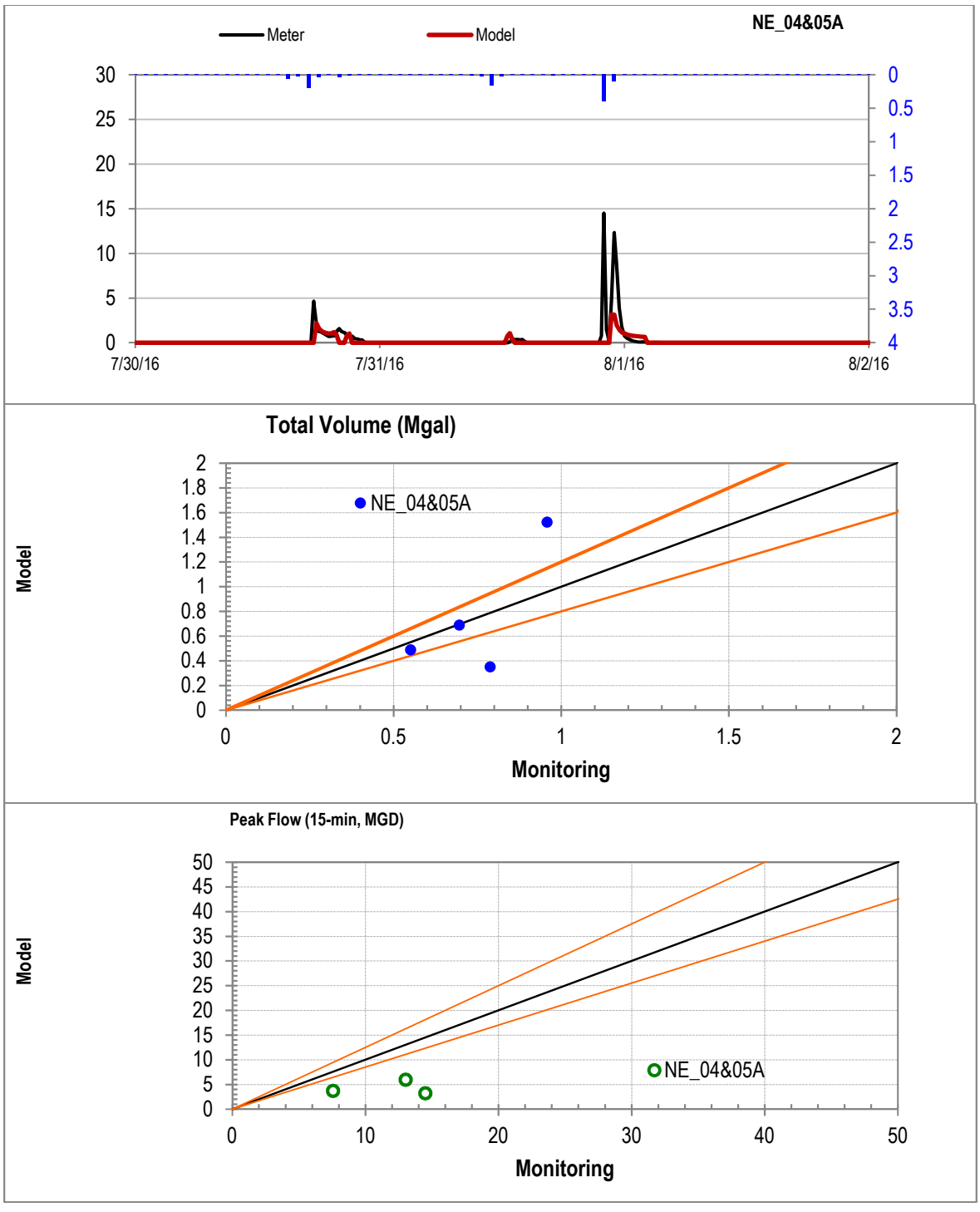

NE_25A_Eff
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/27/16
7/28/16
7/29/16
7/30/16
7/31/16
8/1/16
8/2/16
NE_25A_Eff
NE25 E+W
Model
300
250
200
150
100
50
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NE_25A_Eff
NE25 E+W
Model
300
250
200
150
100
50
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00

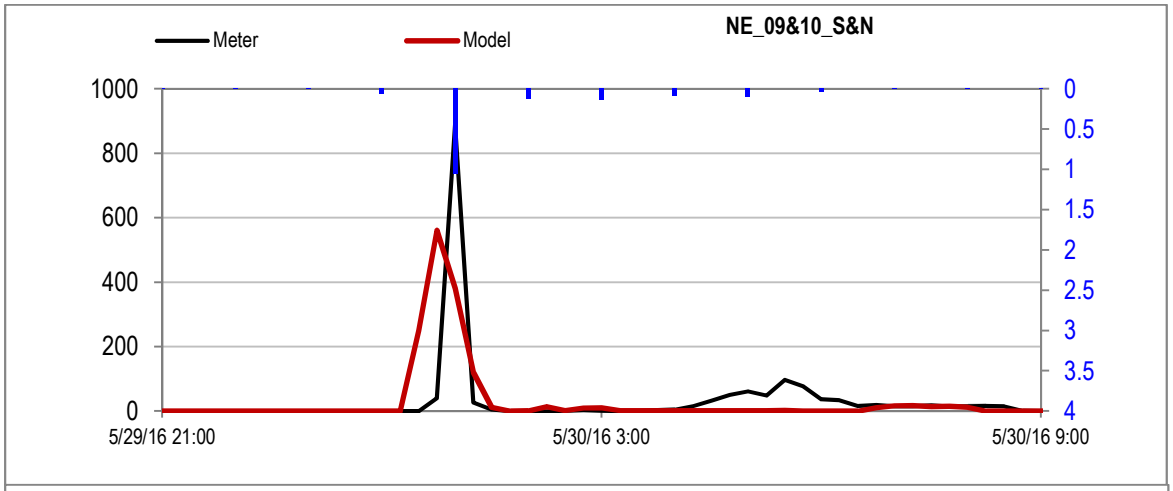

NE_25A_Eff
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
NE_25A_Eff
Monitoring
Peak Flow (15-min, MGD)
Model
NE_25A_Eff
Monitoring

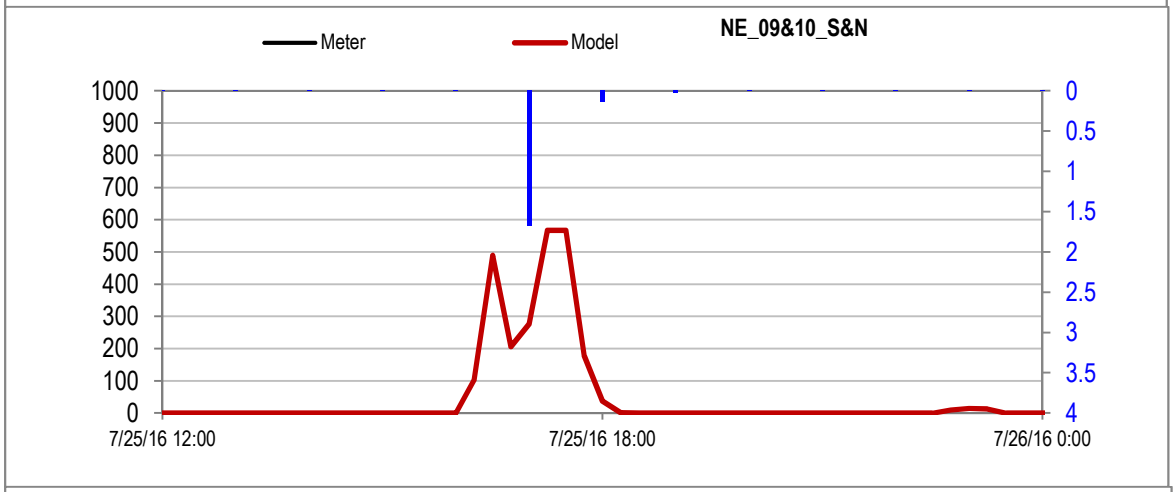

HA_06_Inf
Meter
Model
20
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
HA_06_Inf
Meter
Model
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
HA_06_Inf
Meter
Model
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

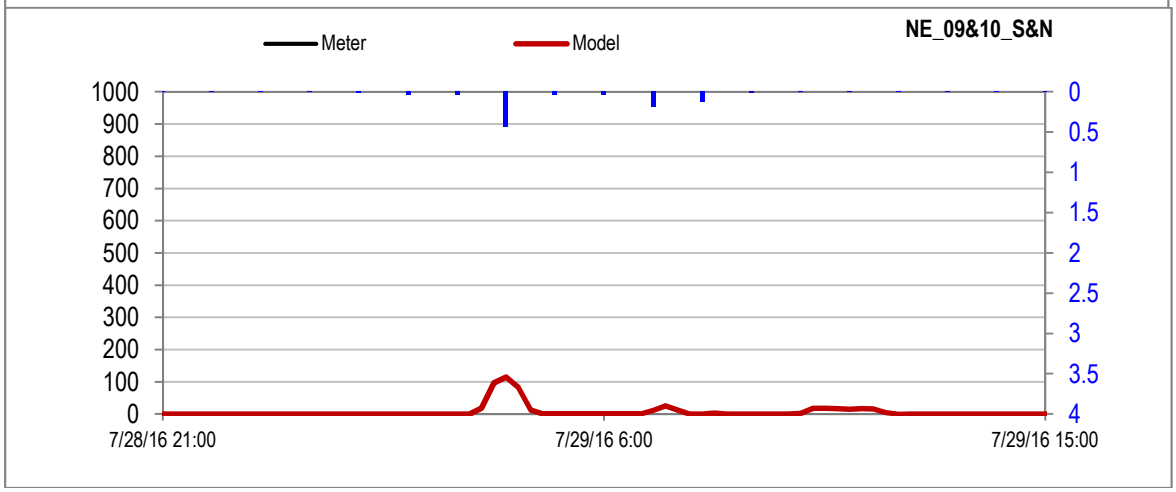

HA_06_Inf
Meter
Model
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
HA_06_Inf
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Monitoring
Peak Flow (15-min, MGD)
Model
10
9
8
7
6
5
4
3
2
1
0
HA_06_Inf
0
2
4
6
8
10
Monitoring

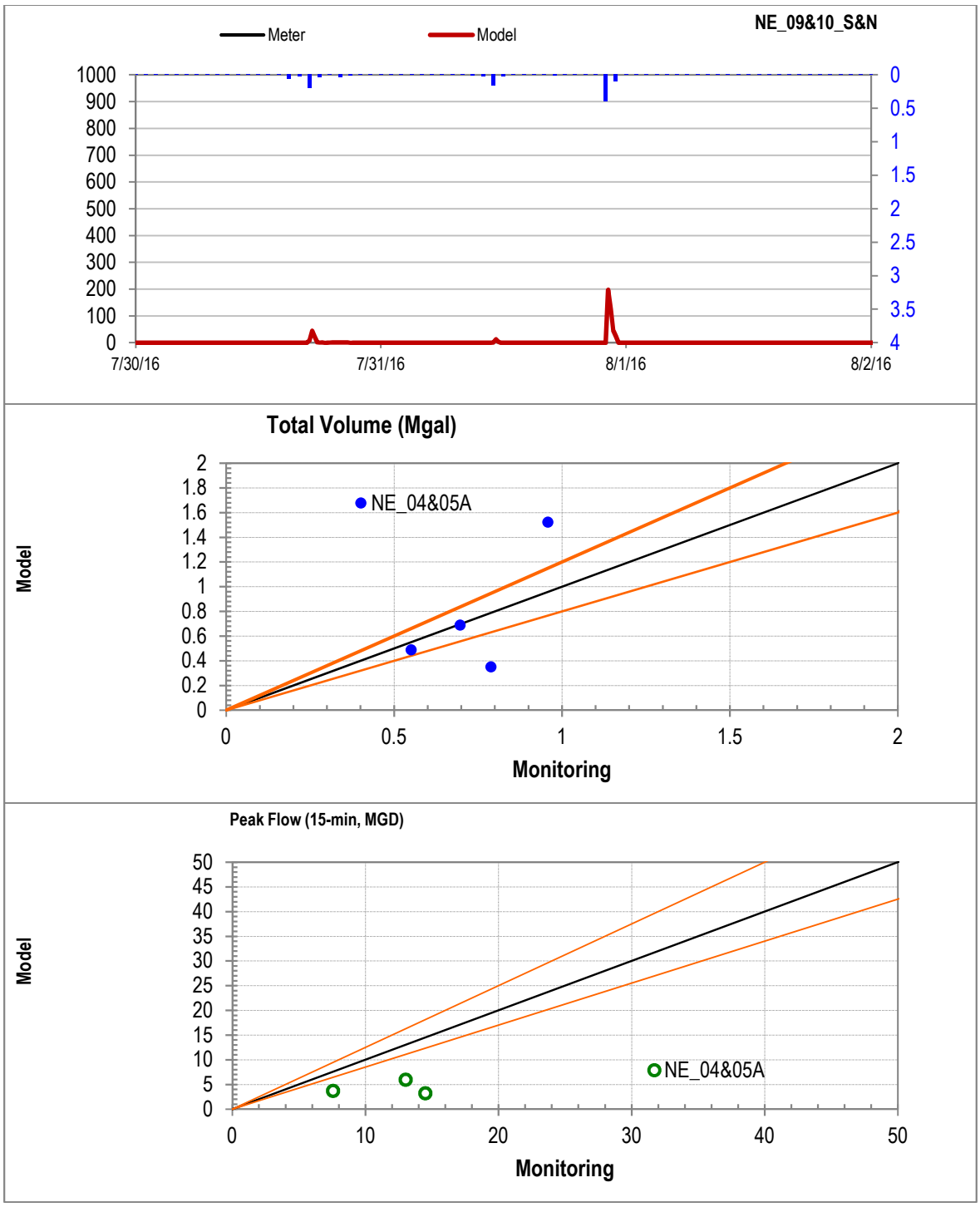

NE_04&05A
Meter
Model
100
90
80
70
60
50
40
30
20
10
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NE_04&05A
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NE_04&05A
Meter
Model
14
12
10
8
6
4
2
0
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

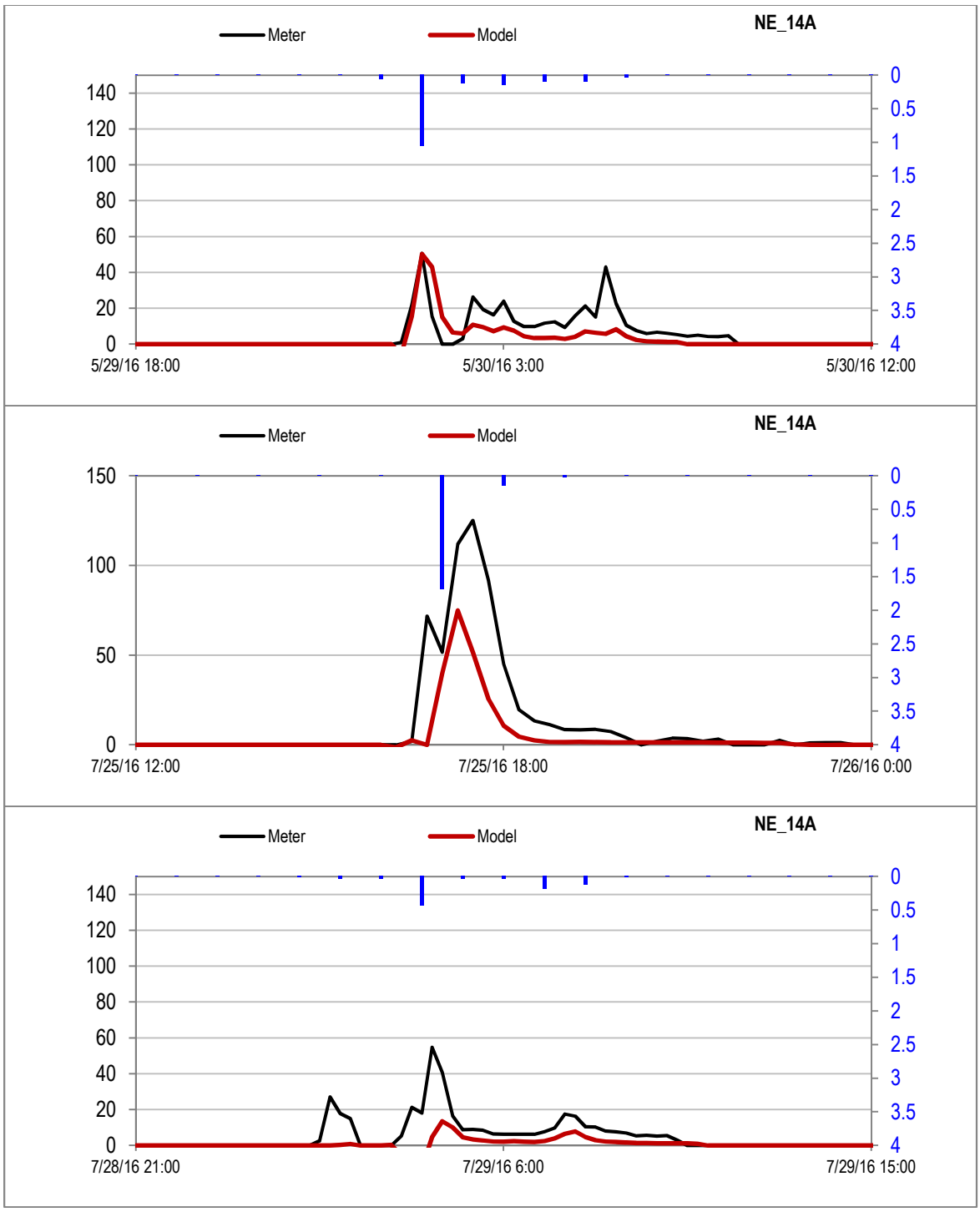

NE_04&05A
Meter
Model
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
NE_04&05A
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
Monitoring
Peak Flow (15-min, MGD)
Model
NE_04&05A
50
45
40
35
30
25
20
15
10
5
0
0
10
20
30
40
50
Monitoring

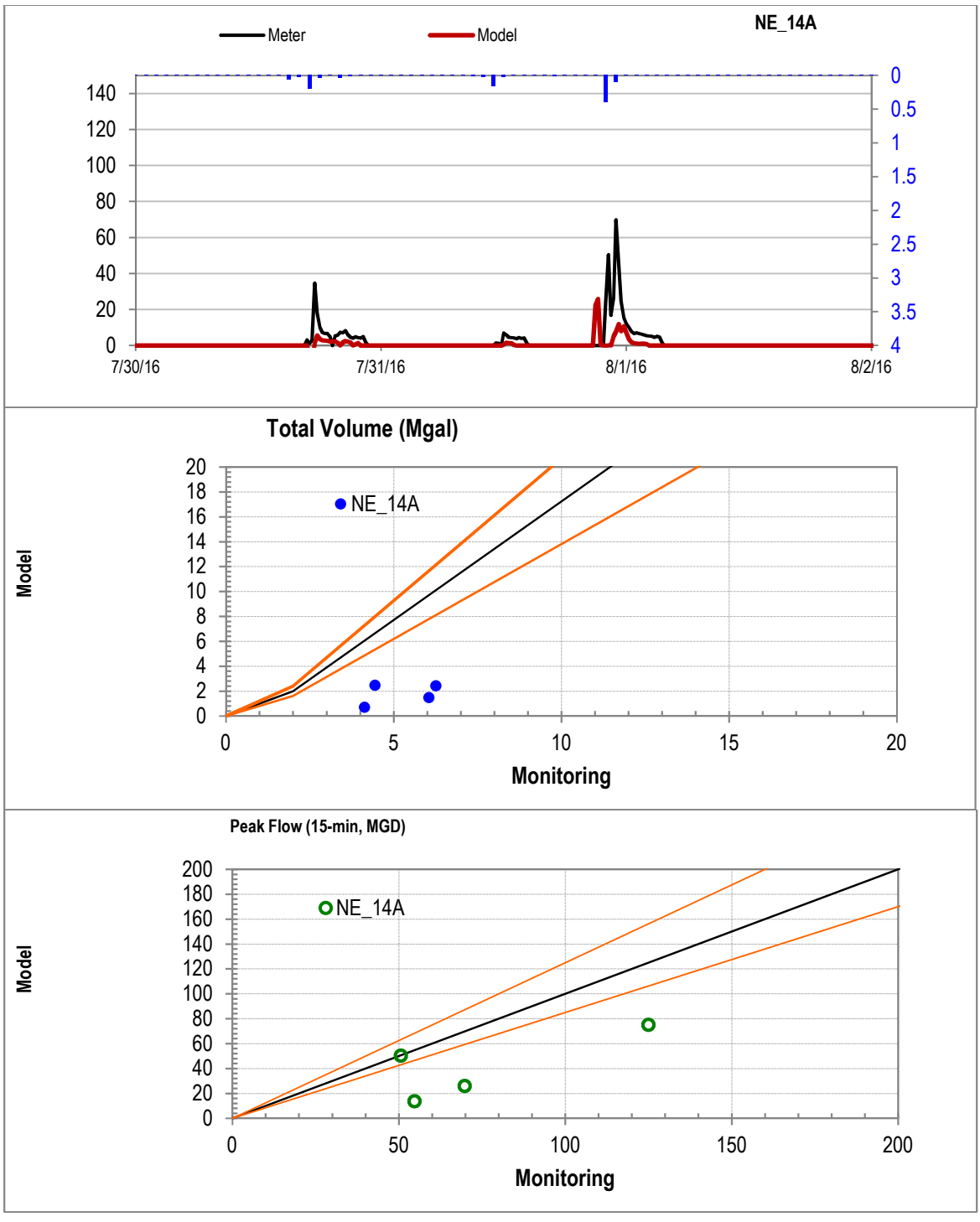

NE_09&10_S&N
Meter
Model
1000
800
600
400
200
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 21:00
5/30/16 3:00
5/30/16 9:00

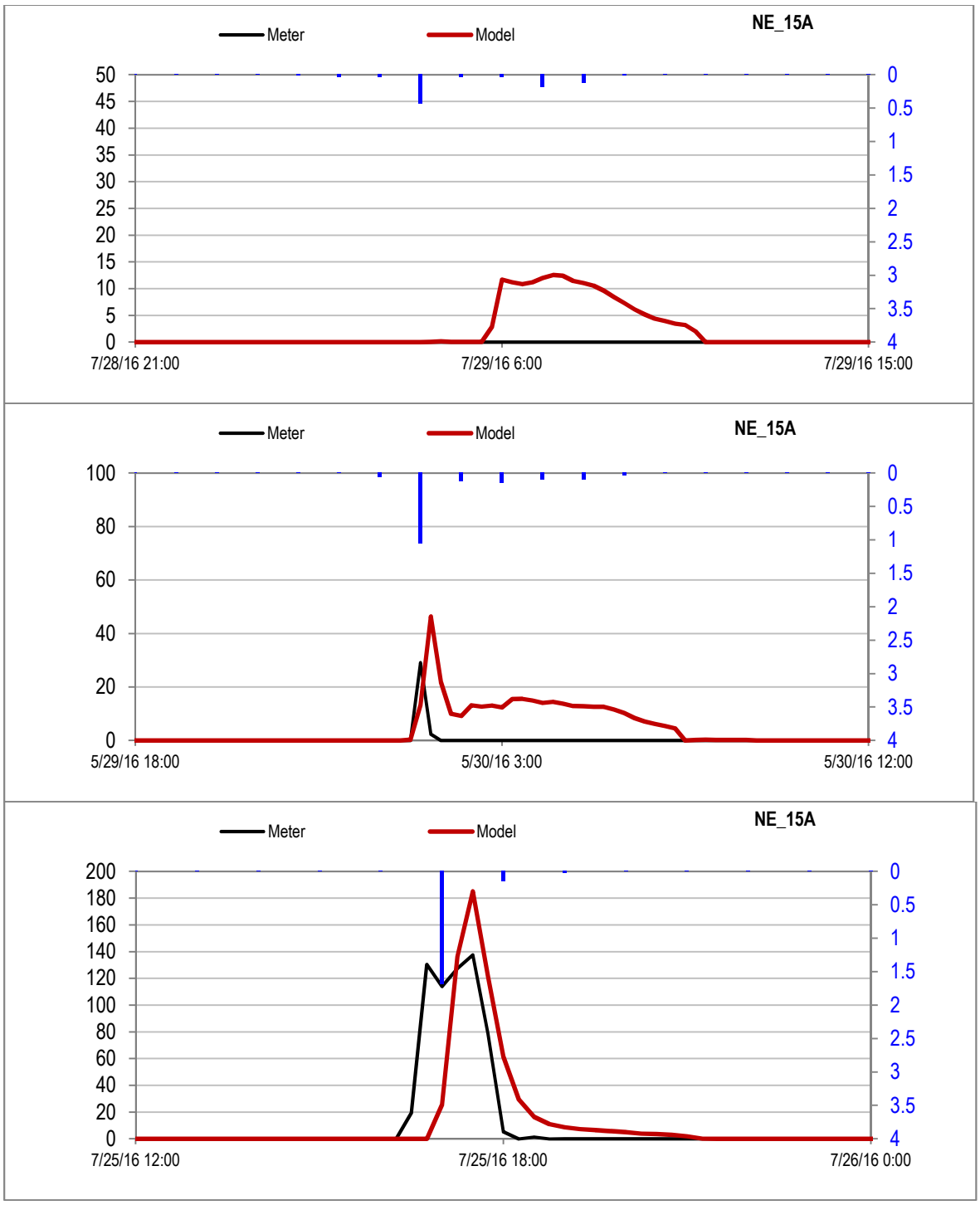

NE_09&10_S&N
Meter
Model
1000
900
800
700
600
500
400
300
200
100
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00

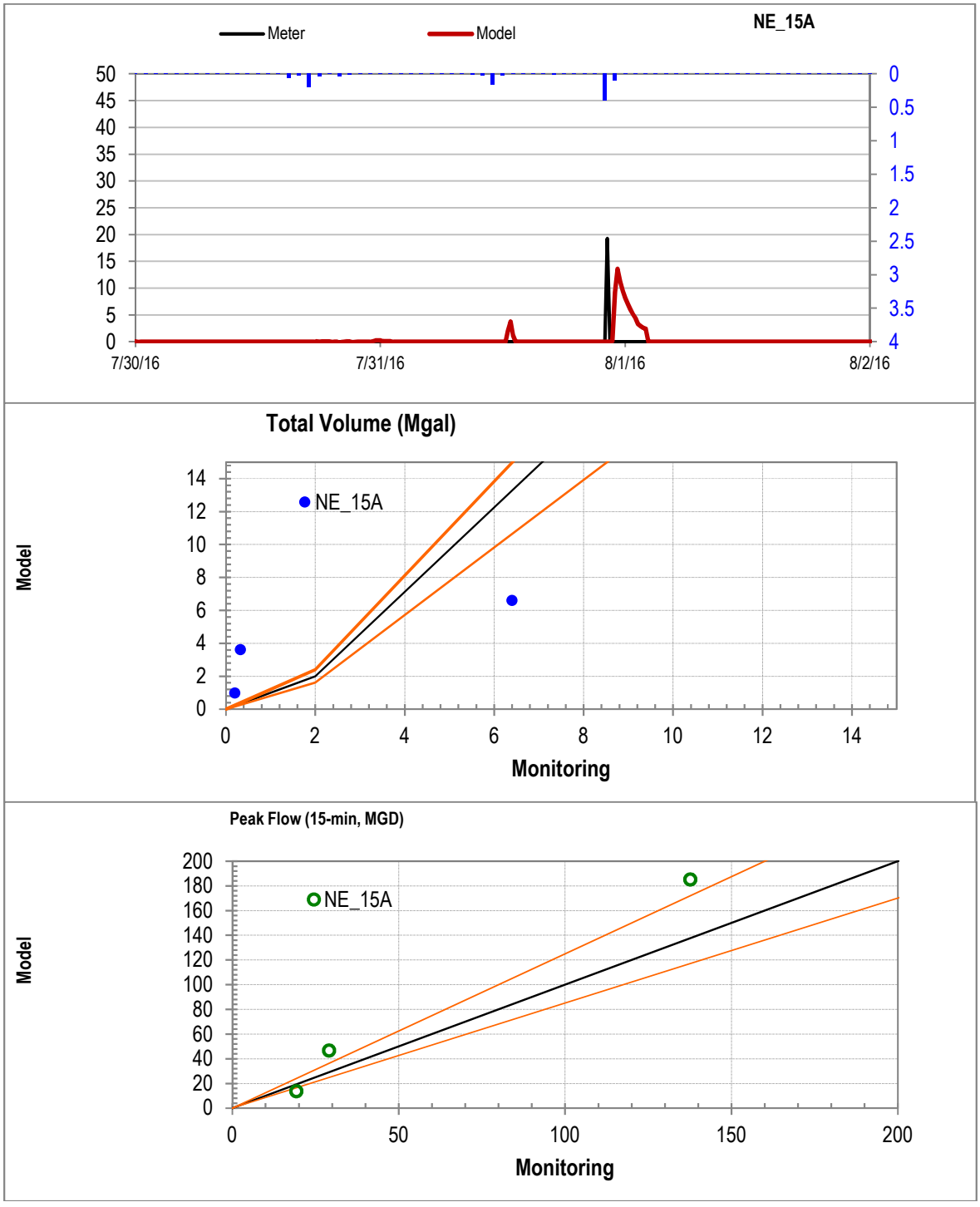

NE_09&10_S&N
Meter
Model
1000
900
800
700
600
500
400
300
200
100
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

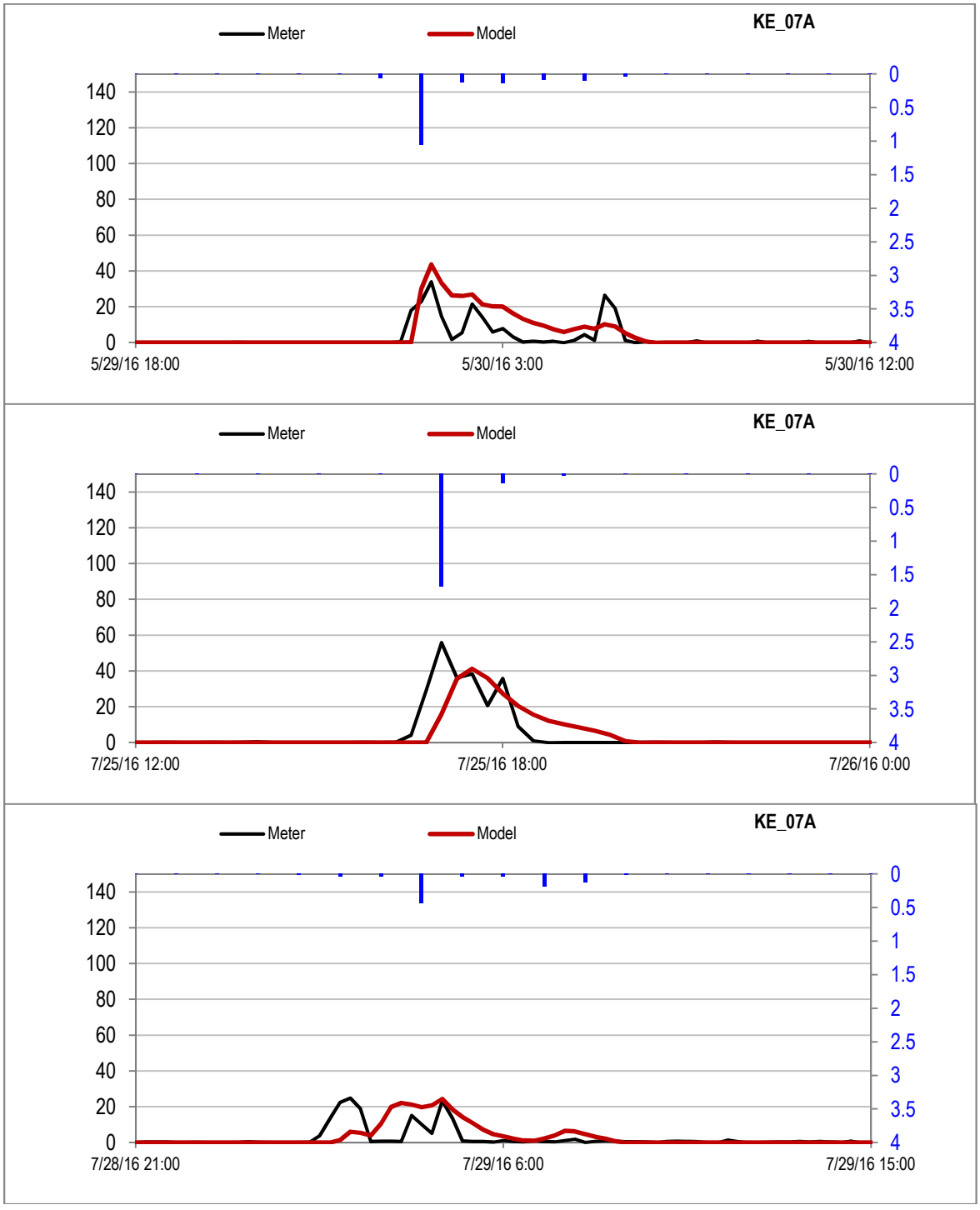

NE_09&10_S&N
Meter
Model
1000
900
800
700
600
500
400
300
200
100
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
NE_04&05A
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
Monitoring
Peak Flow (15-min, MGD)
Model
NE_04&05A
50
45
40
35
30
25
20
15
10
5
0
0
10
20
30
40
50
Monitoring

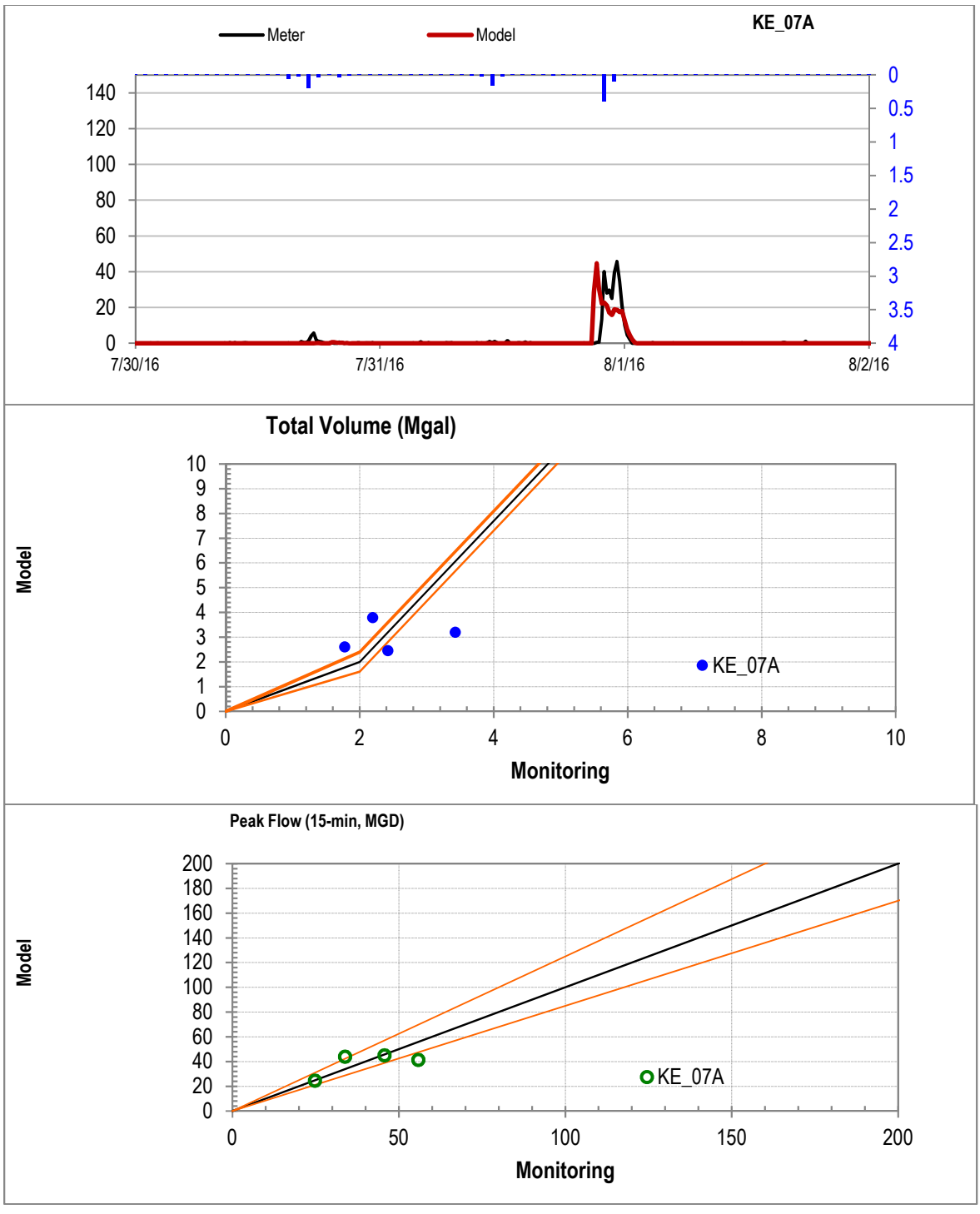

NE_14A
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NE_14A
Meter
Model
150
100
50
0
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NE_14A
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

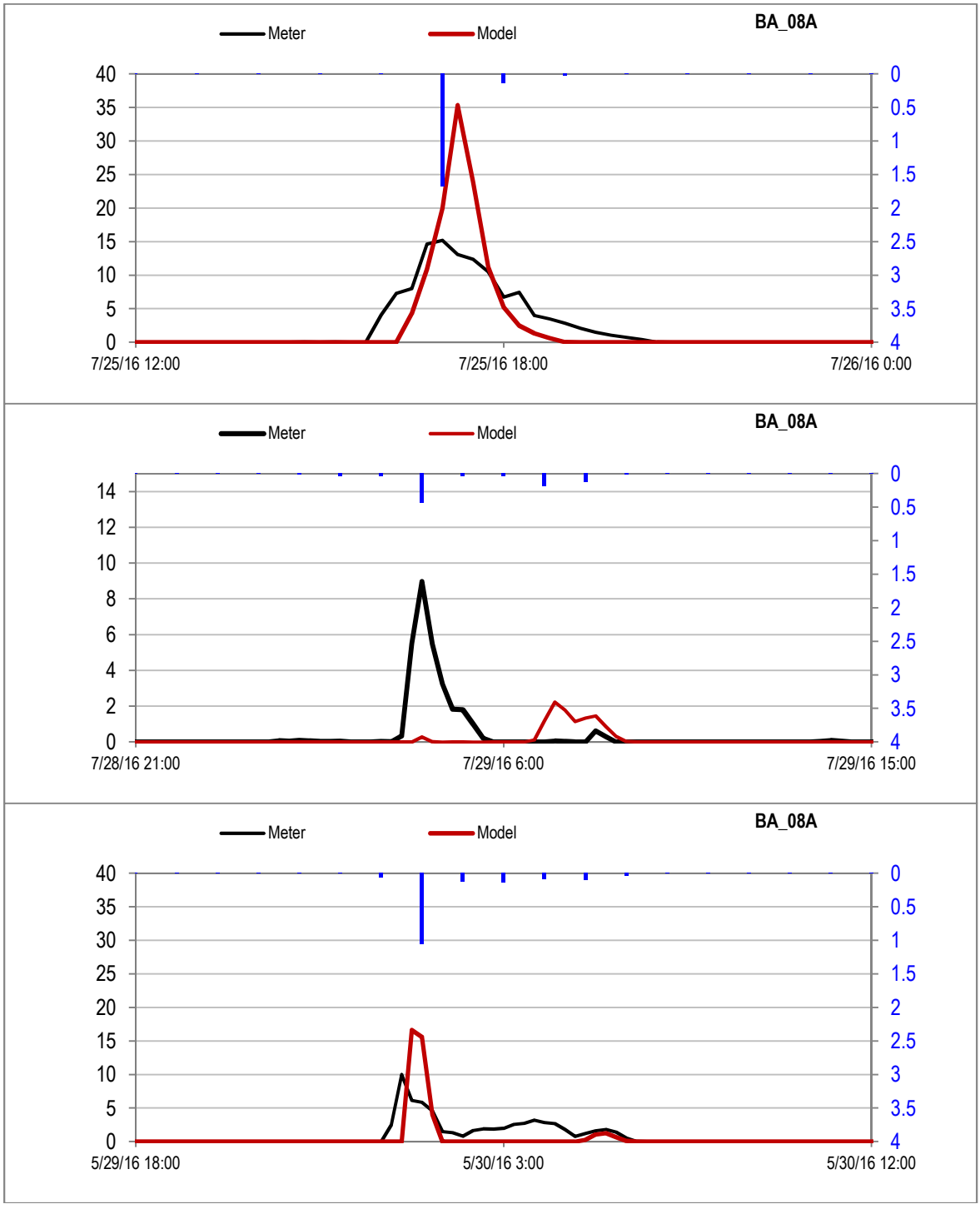

NE_14A
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
NE_14A
Monitoring
Peak Flow (15-min, MGD)
Model
NE_14A
Monitoring

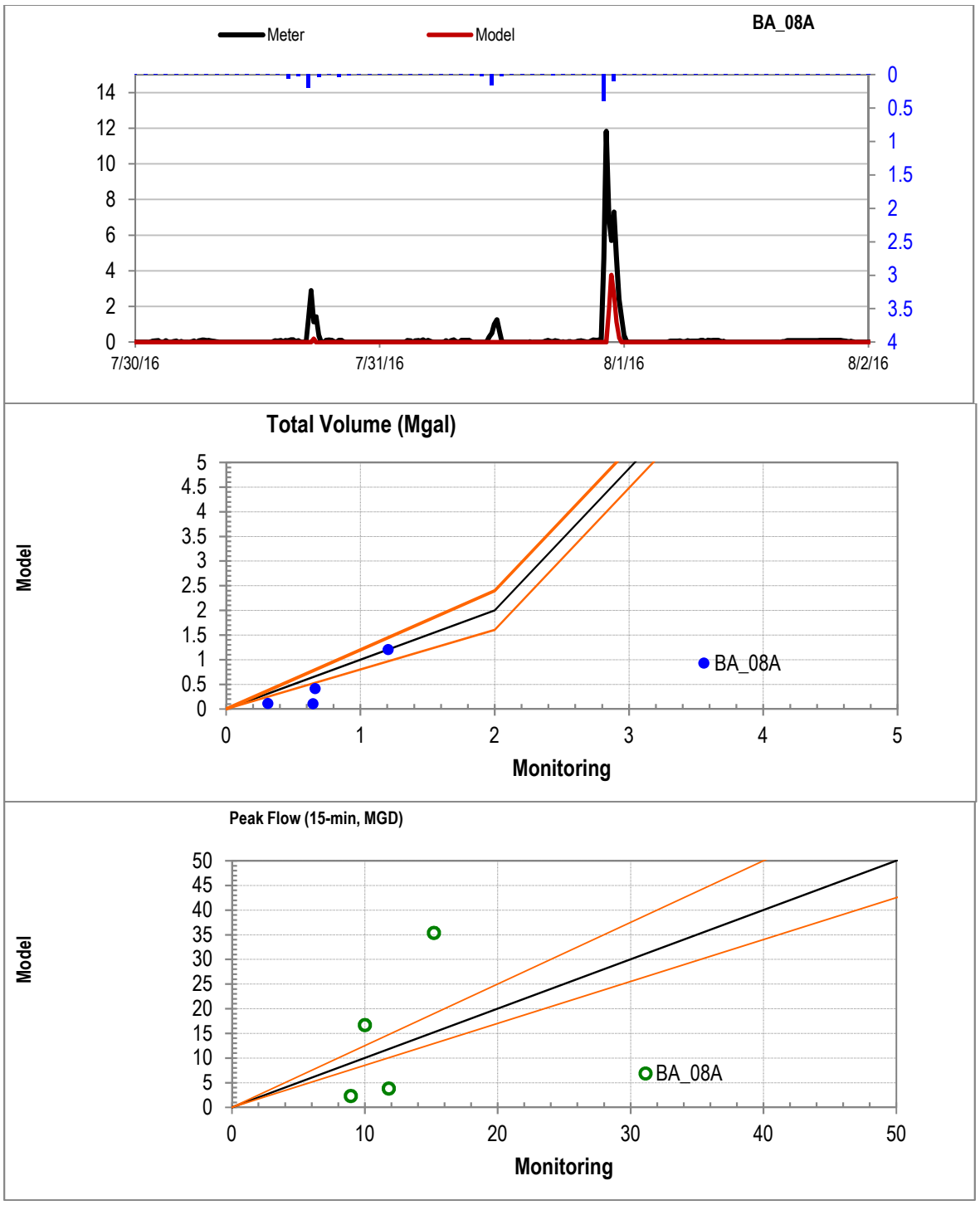

NE_15A
Meter
Model
50
45
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00
NE_15A
Meter
Model
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NE_15A
Meter
Model
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00

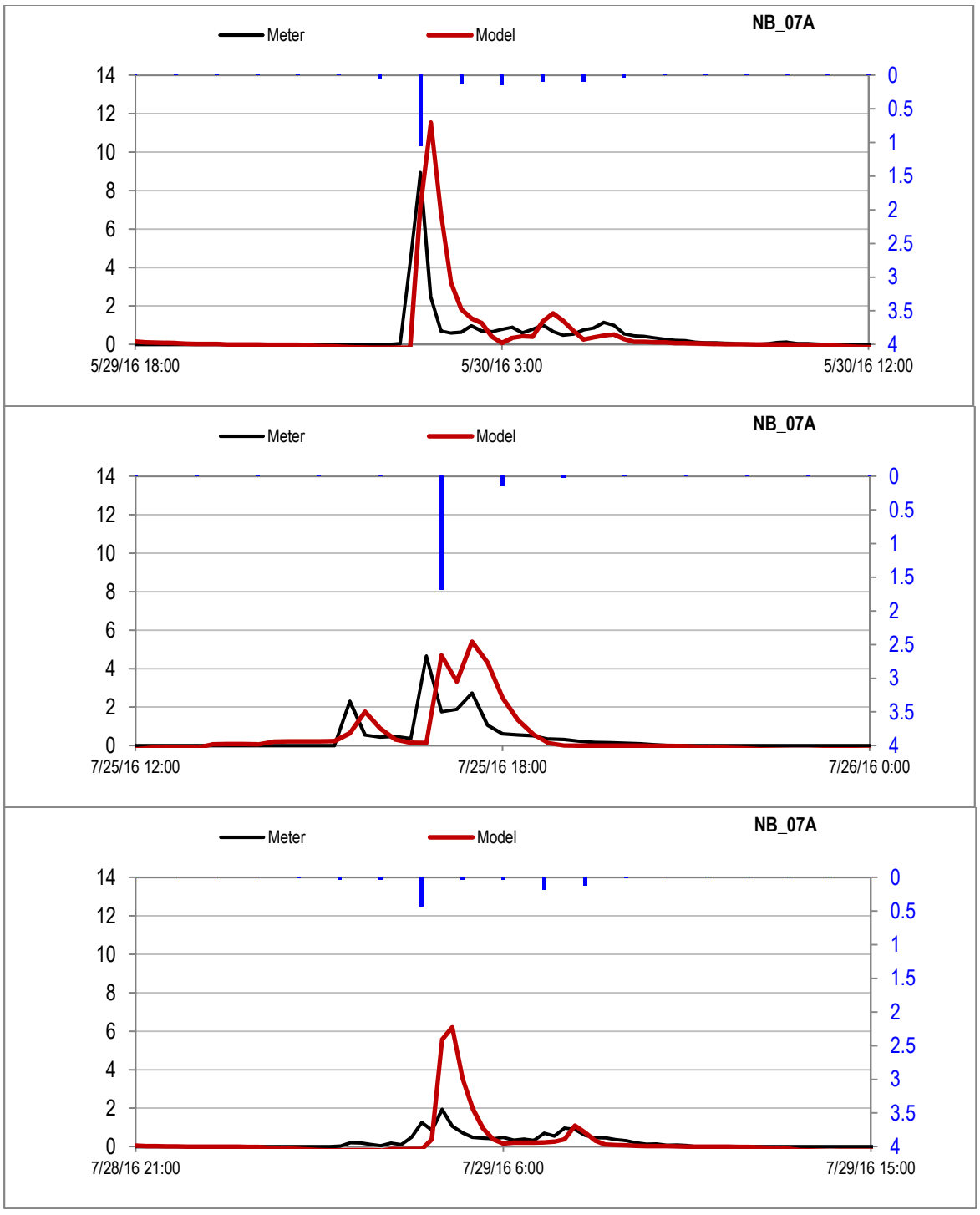

Meter
Model
NE_15A
50
45
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
NE_15A
14
12
10
8
6
4
2
0
0
2
4
6
8
10
12
14
Monitoring
Peak Flow (15-min, MGD)
Model
NE_15A
200
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
Monitoring

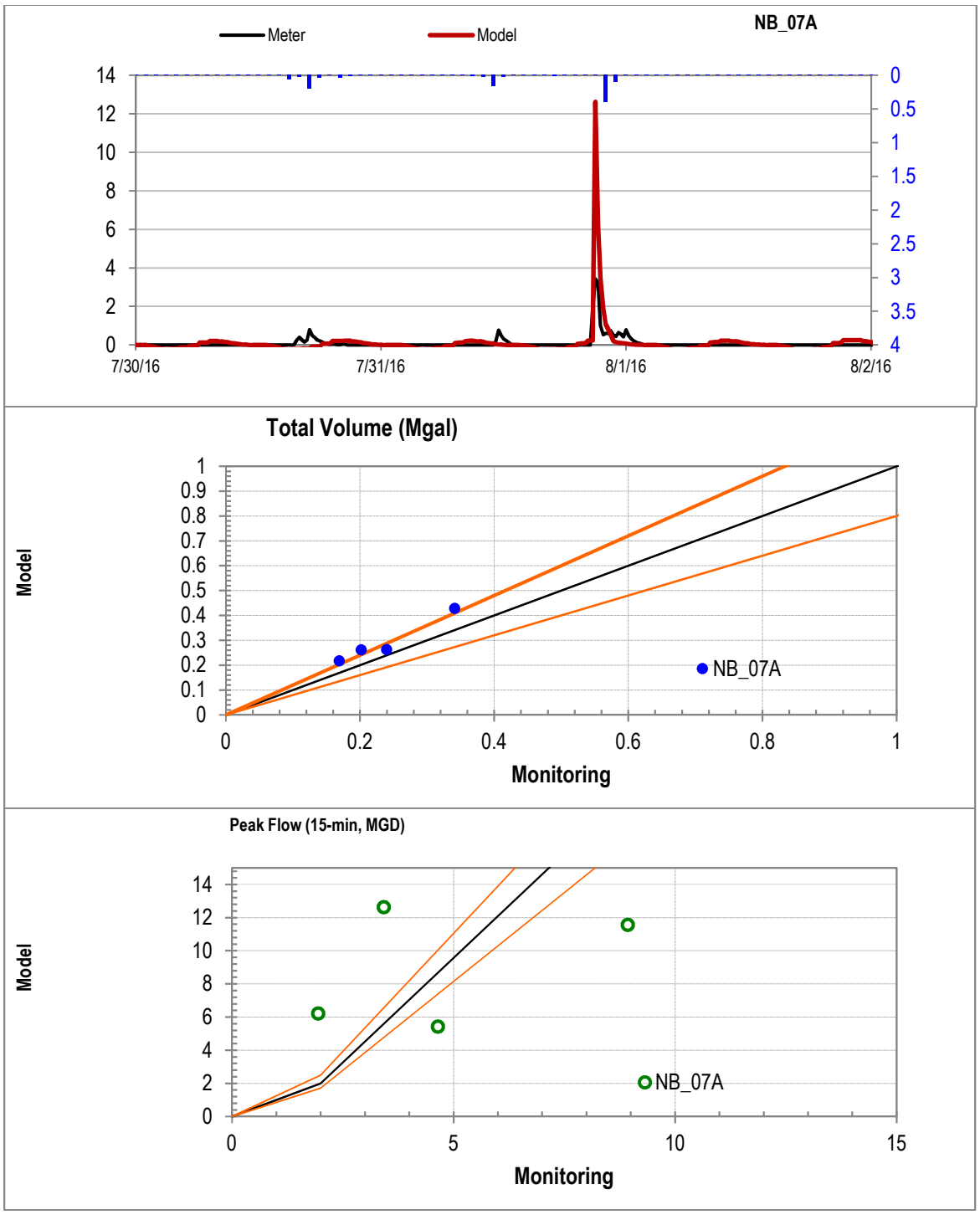

KE_07A
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
KE_07A
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
KE_07A
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

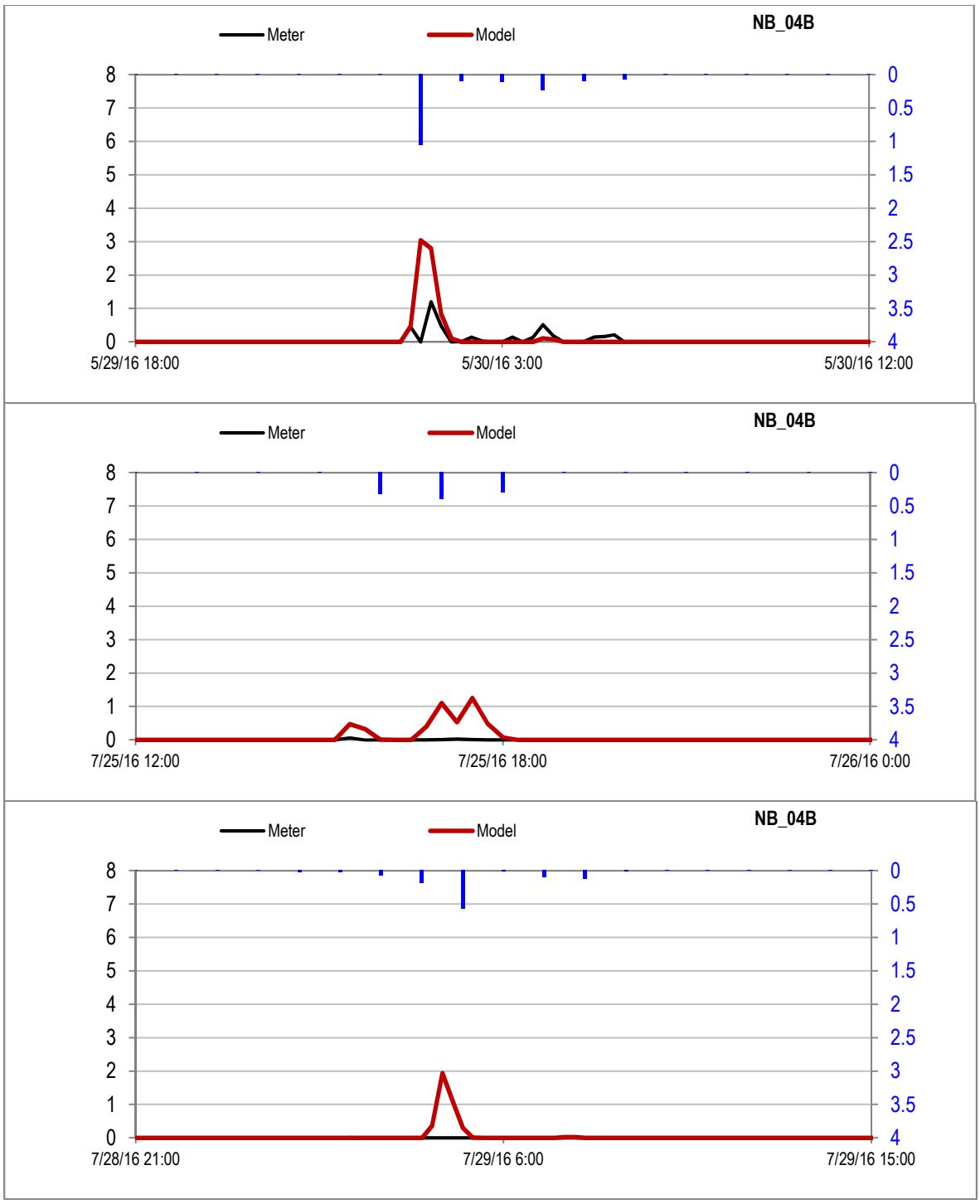

KE_07A
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring
KE_07A
Peak Flow (15-min, MGD)
Model
200
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
Monitoring
KE_07A

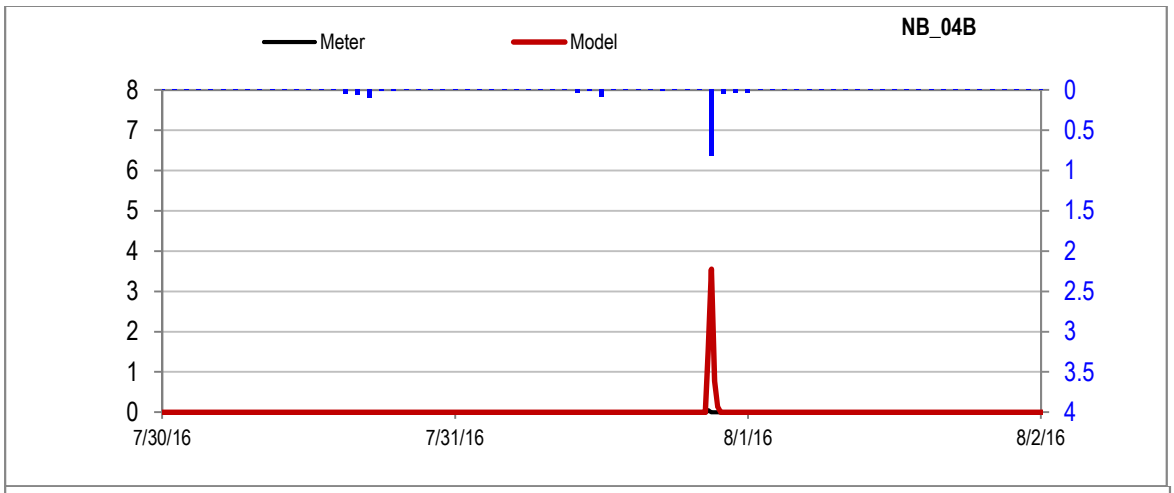

BA_08A
Meter
Model
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
BA_08A
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00
BA_08A
Meter
Model
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00

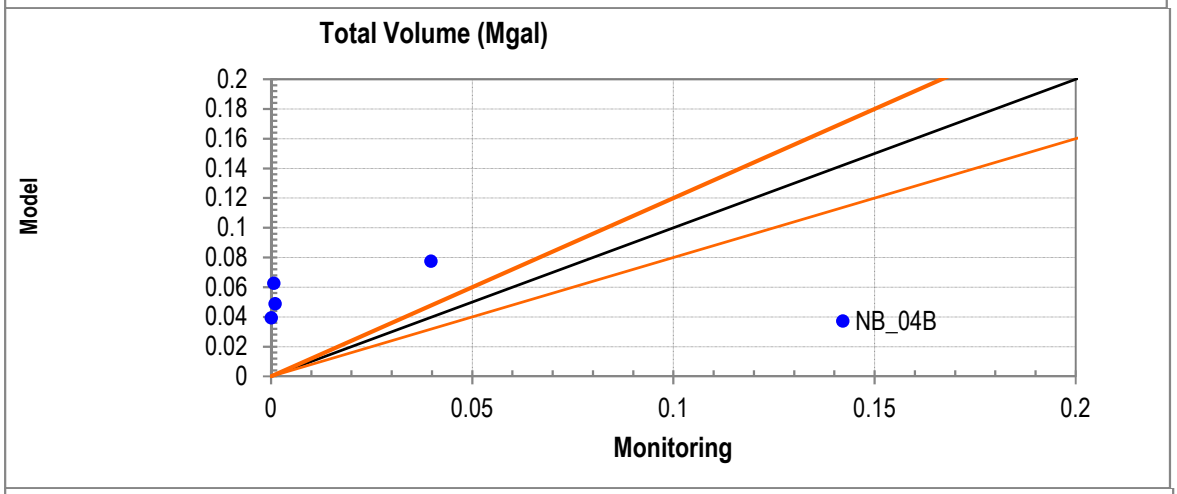

BA_08A
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
BA_08A
Monitoring
Peak Flow (15-min, MGD)
Model
50
45
40
35
30
25
20
15
10
5
0
0
10
20
30
40
50
BA_08A
Monitoring

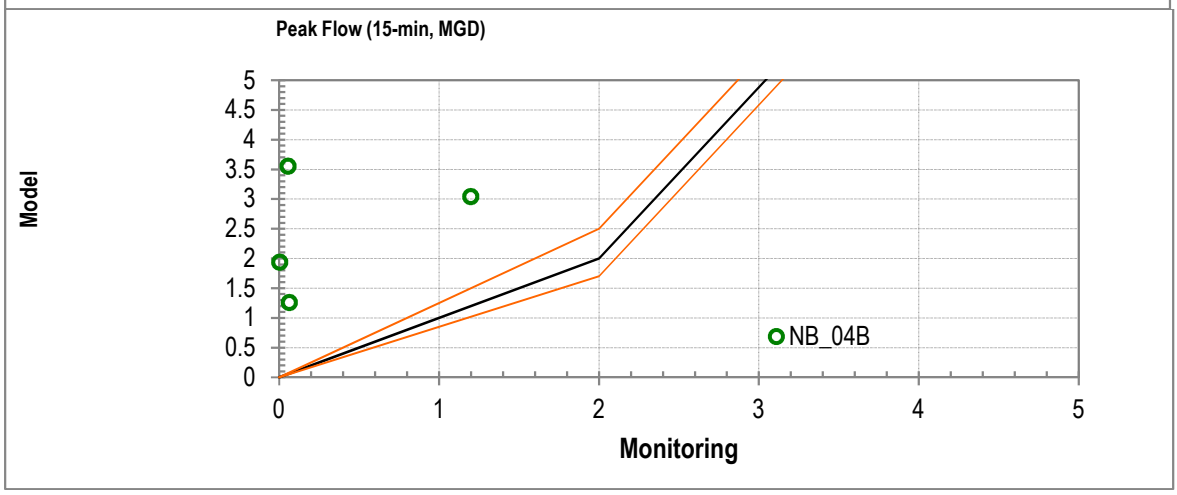

NB_07A
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NB_07A
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NB_07A
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

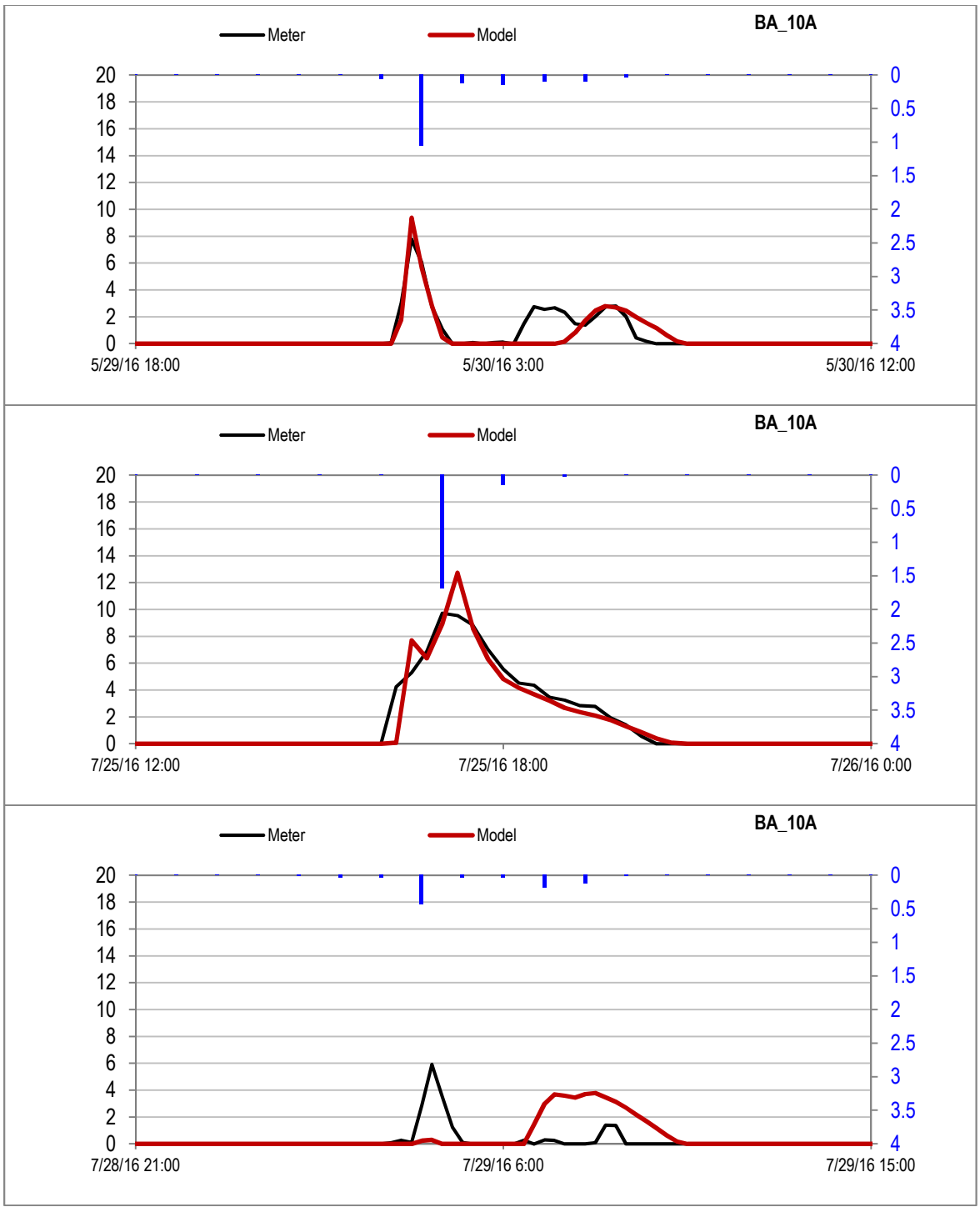

NB_07A
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.2
0.4
0.6
0.8
1
NB_07A
Monitoring
Peak Flow (15-min, MGD)
Model
14
12
10
8
6
4
2
0
0
5
10
15
NB_07A
Monitoring

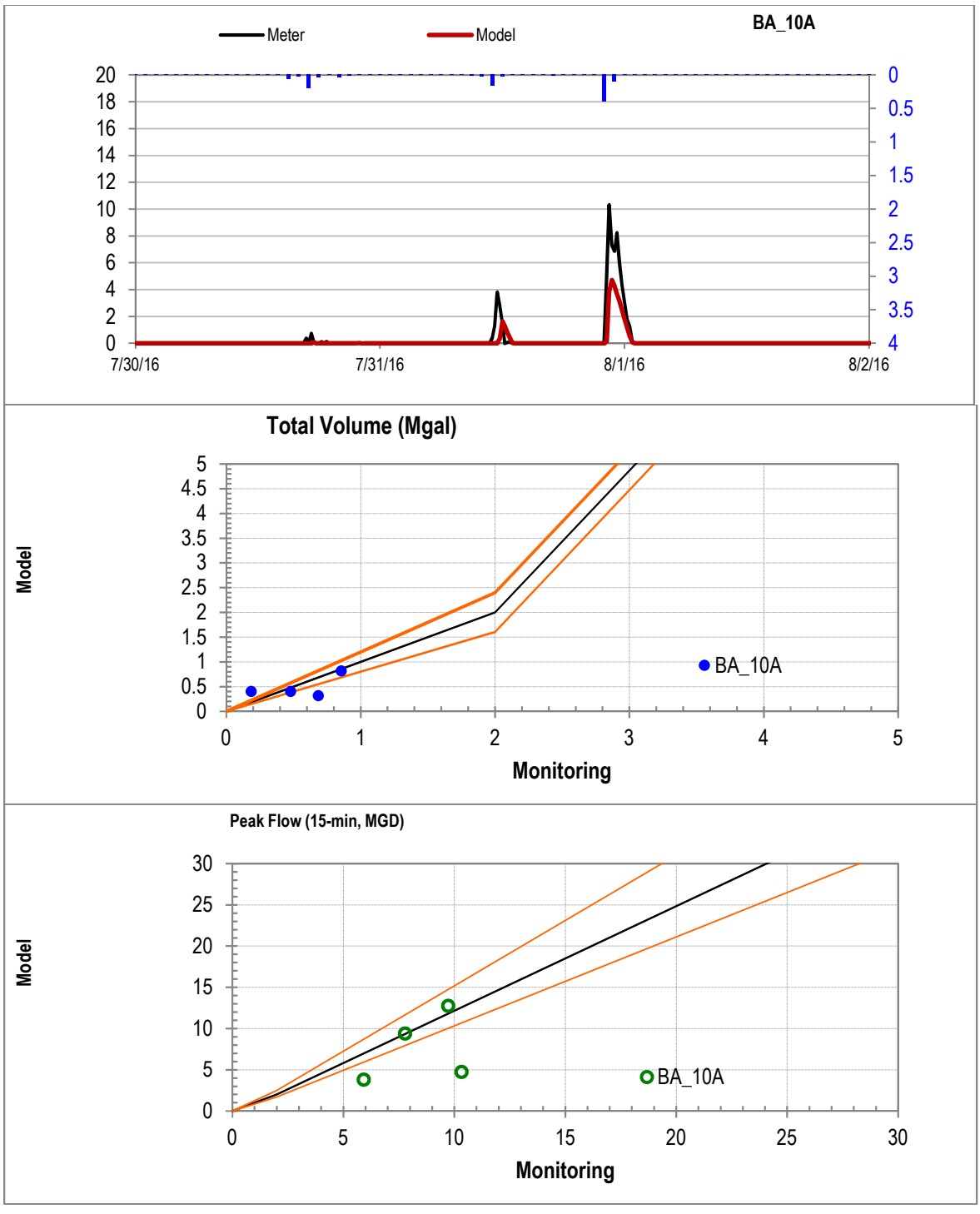

NB_04B
Meter
Model
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NB_04B
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NB_04B
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

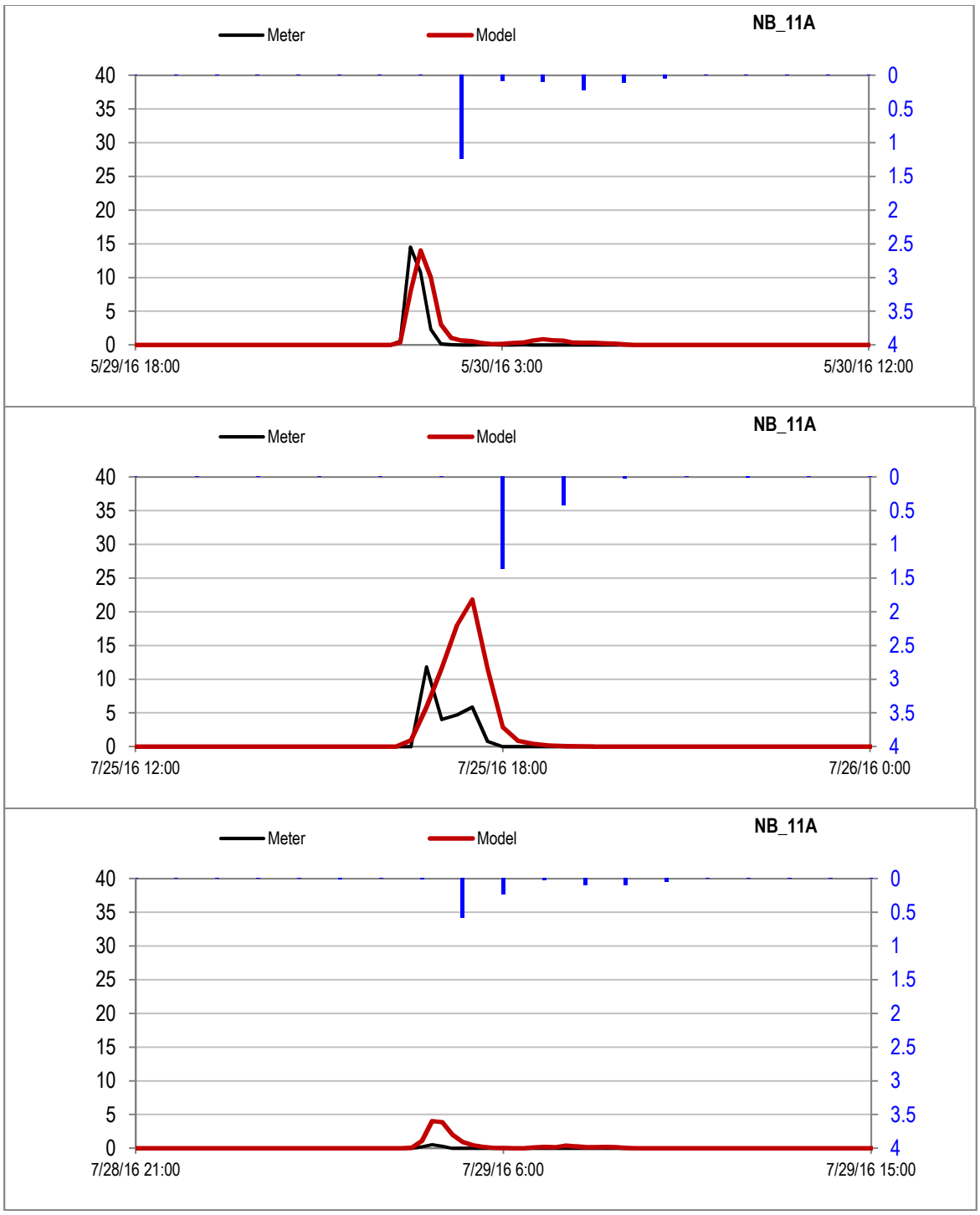

NB_04B
Meter
Model
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

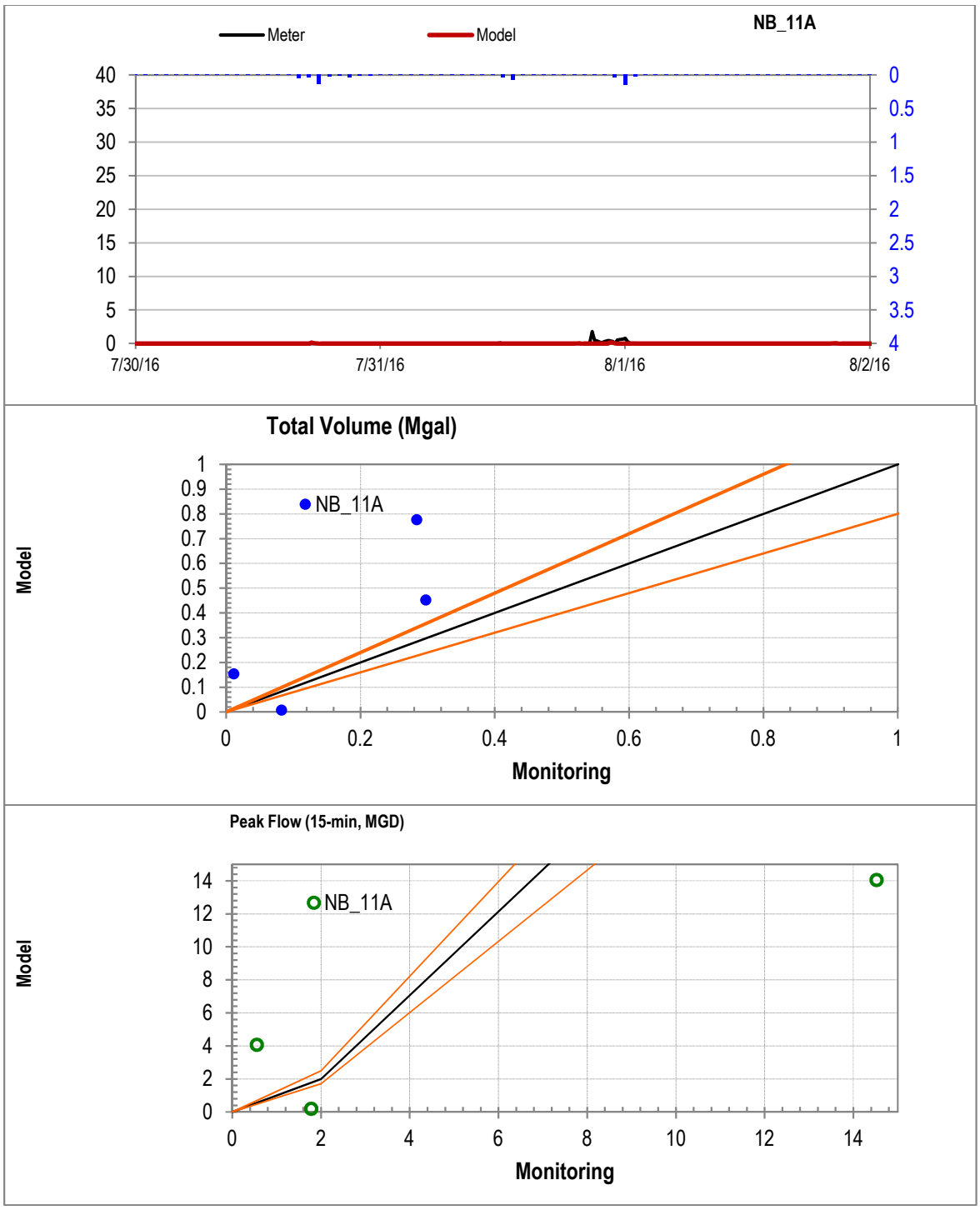

Total Volume (Mgal)
Model
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.05
0.1
0.15
0.2
NB_04B
Monitoring

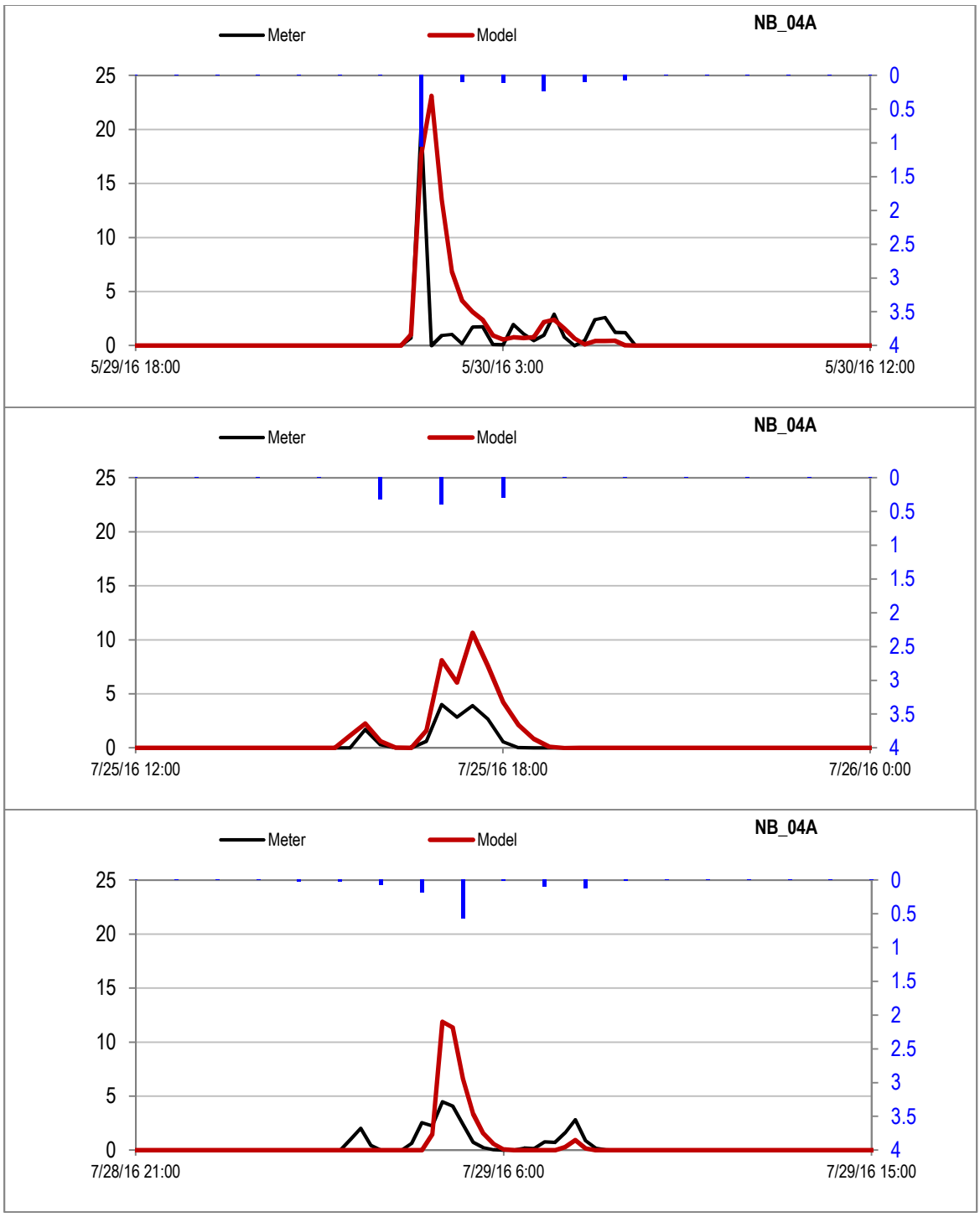

Peak Flow (15-min, MGD)
Model
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
NB_04B
Monitoring

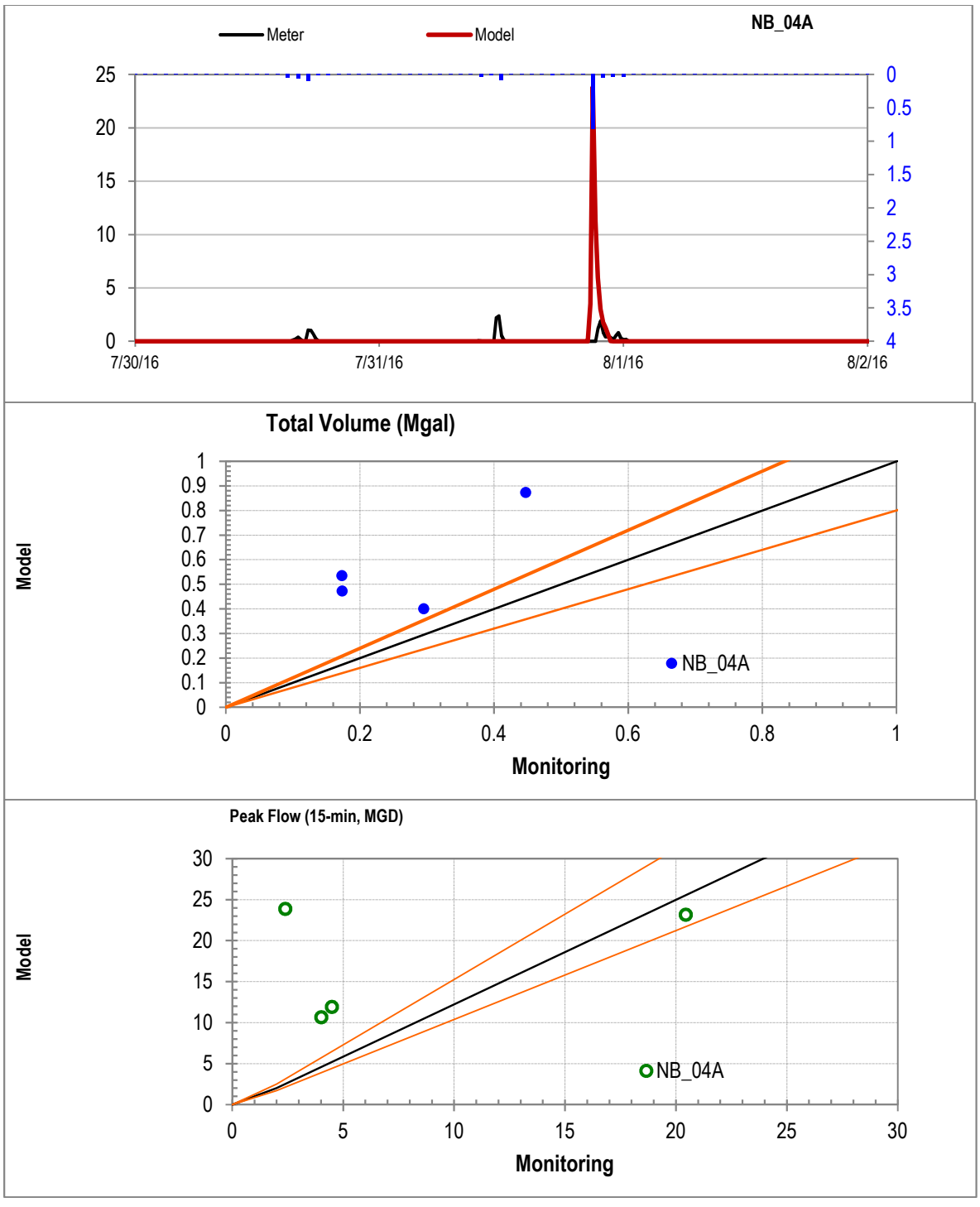

BA_10A
Meter
Model
20
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
BA_10A
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
BA_10A
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

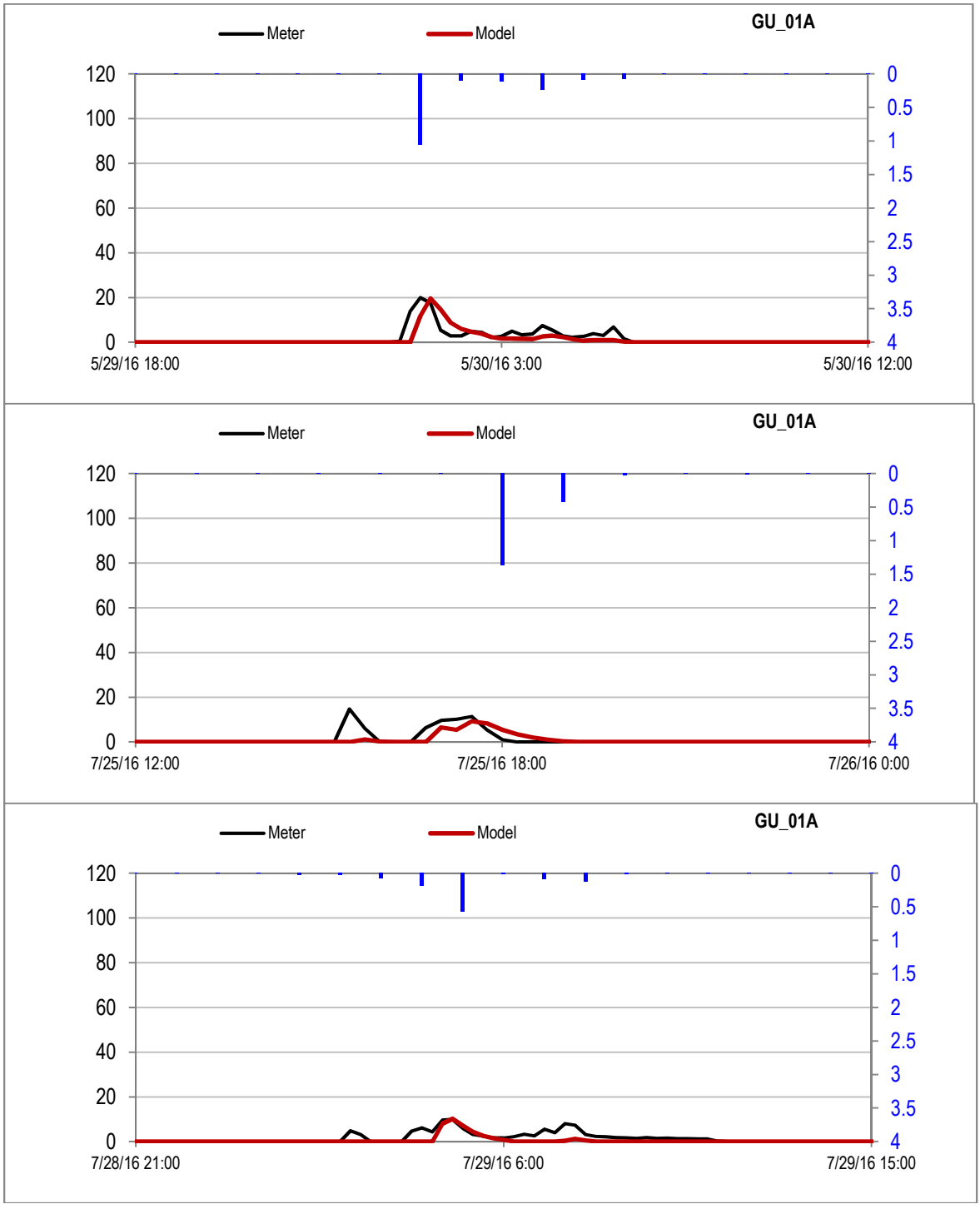

BA_10A
Meter
Model
20
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
BA_10A
Monitoring
Peak Flow (15-min, MGD)
Model
30
25
20
15
10
5
0
0
5
10
15
20
25
30
BA_10A
Monitoring

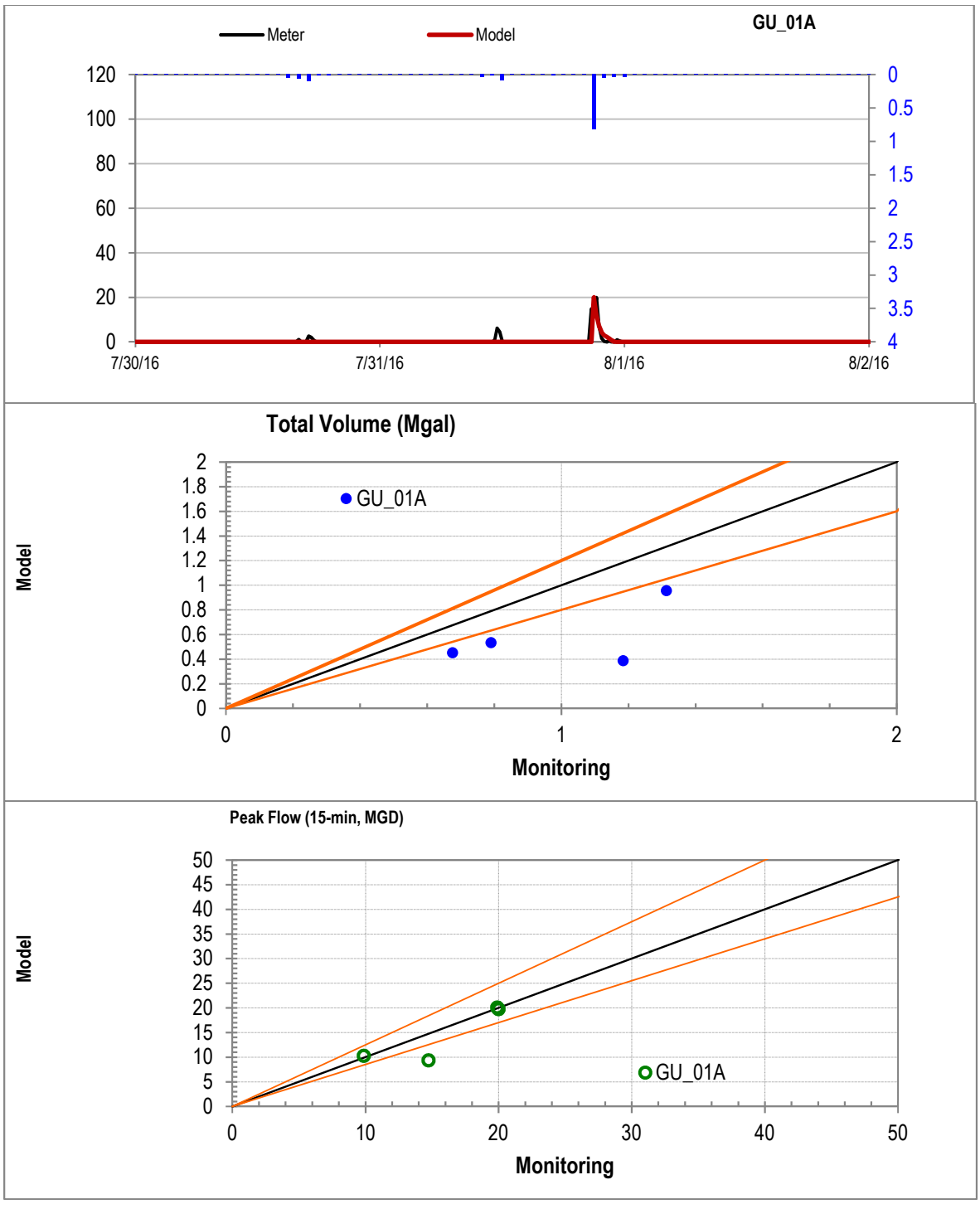

NB_11A
Meter
Model
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NB_11A
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NB_11A
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

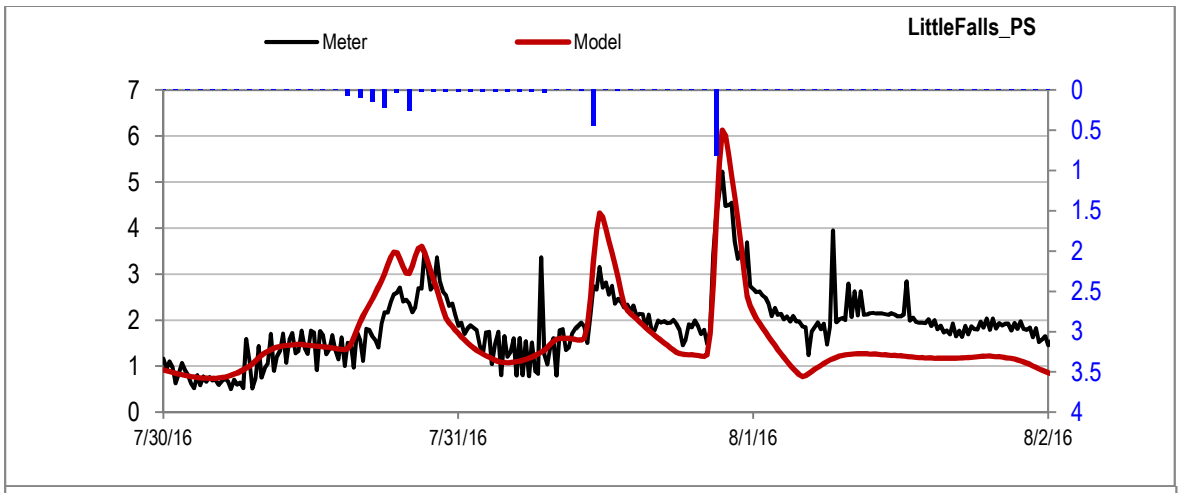

NB_11A
Meter
Model
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
NB_11A
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.2
0.4
0.6
0.8
1
Monitoring
Peak Flow (15-min, MGD)
Model
NB_11A
14
12
10
8
6
4
2
0
0
2
4
6
8
10
12
14
Monitoring

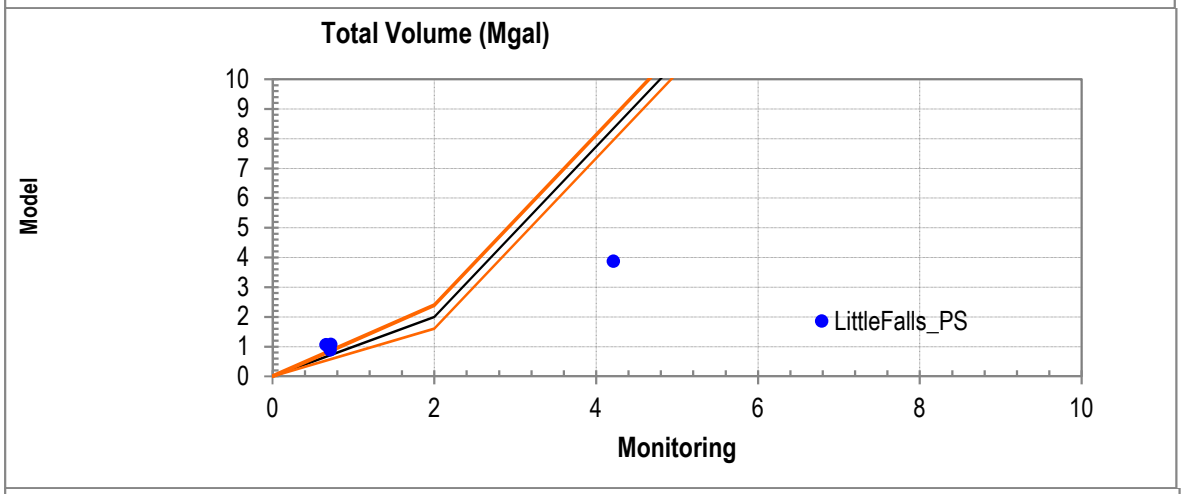

NB_04A
Meter
Model
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NB_04A
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
NB_04A
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

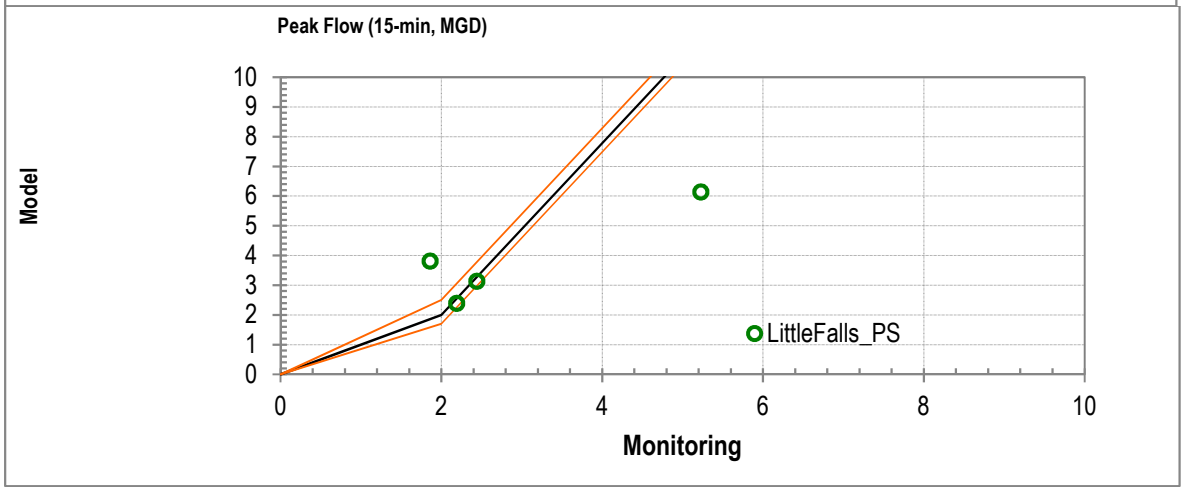

NB_04A
Meter
Model
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.2
0.4
0.6
0.8
1
NB_04A
Monitoring
Peak Flow (15-min, MGD)
Model
30
25
20
15
10
5
0
0
5
10
15
20
25
30
NB_04A
Monitoring

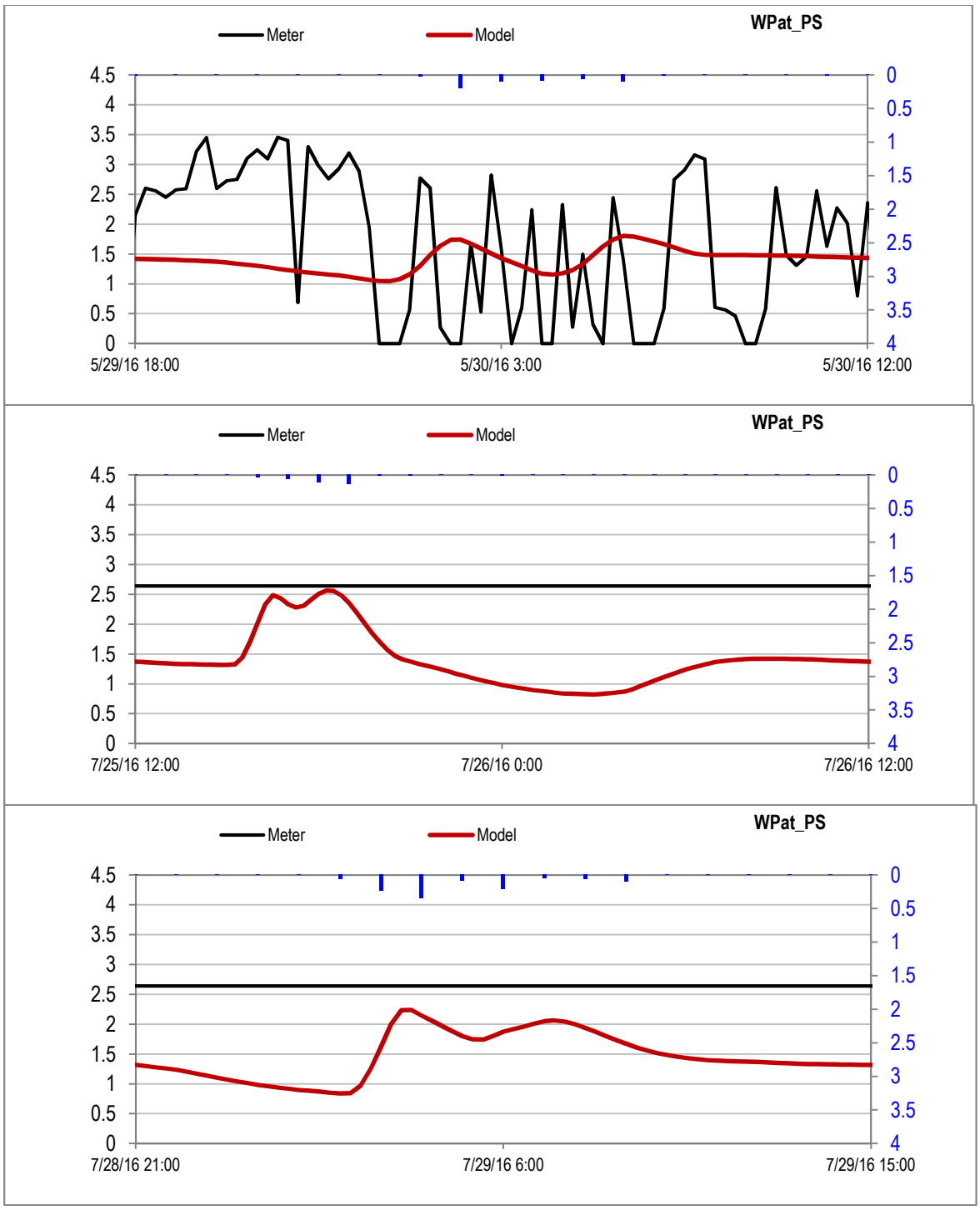

GU_01A
Meter
Model
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
GU_01A
Meter
Model
7/25/16 12:00
7/25/16 18:00
7/26/16 0:00
GU_01A
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

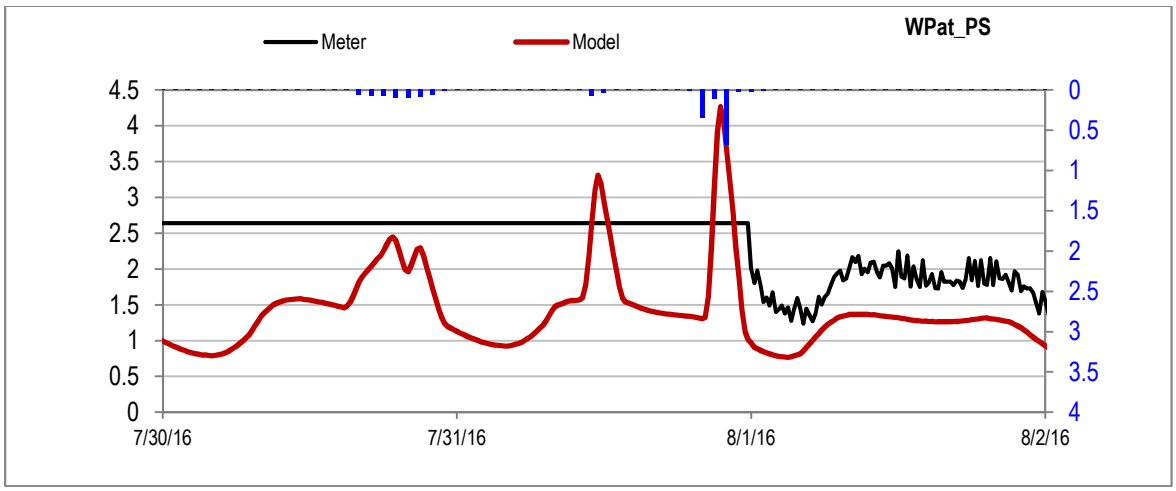

GU_01A
Meter
Model
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
GU_01A
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1
2
Monitoring
Peak Flow (15-min, MGD)
Model
GU_01A
50
45
40
35
30
25
20
15
10
5
0
0
10
20
30
40
50
Monitoring

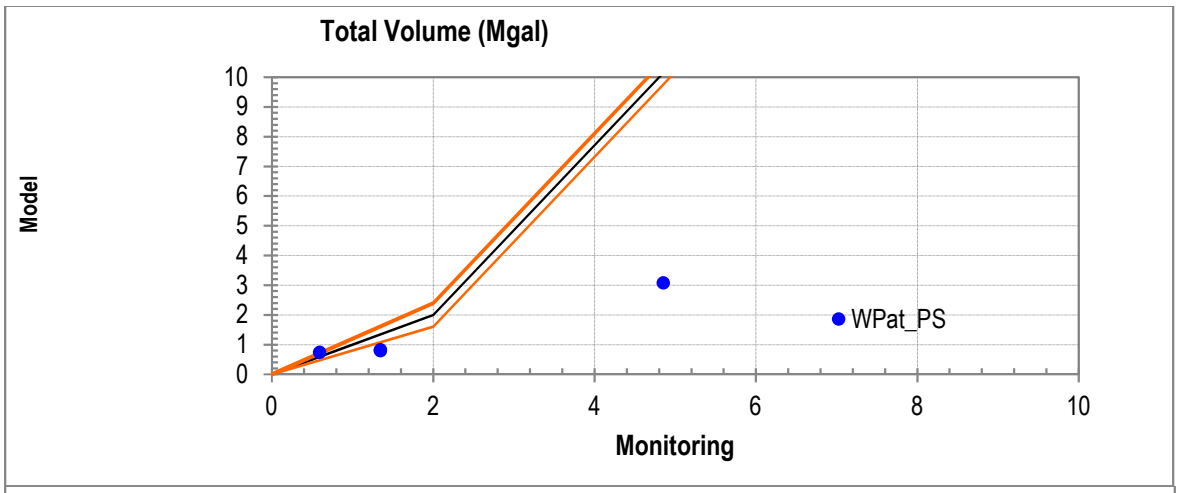

LittleFalls_PS
Meter
Model
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

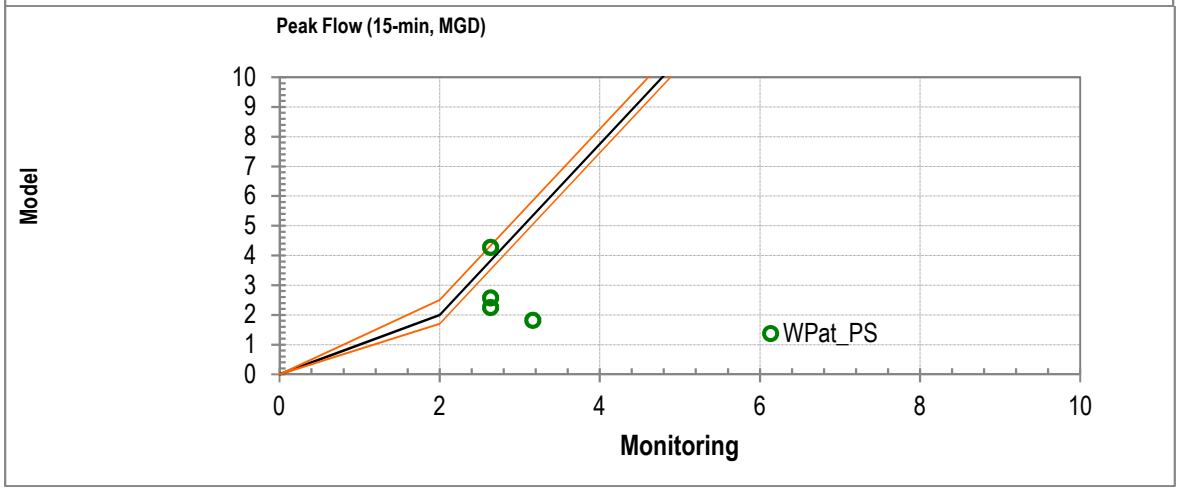

Total Volume (Mgal)
Model
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
LittleFalls_PS
Monitoring

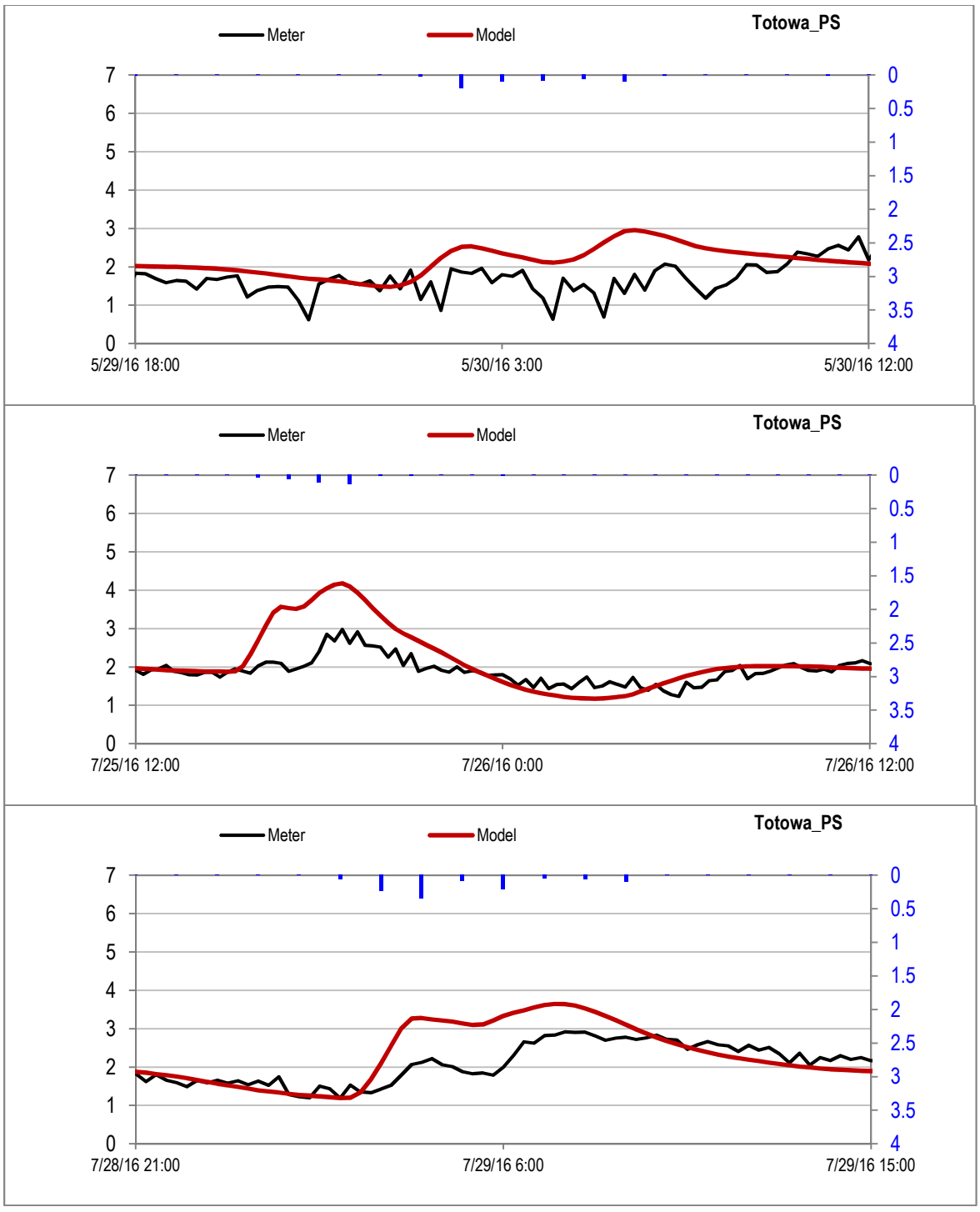

Peak Flow (15-min, MGD)
Model
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
LittleFalls_PS
Monitoring

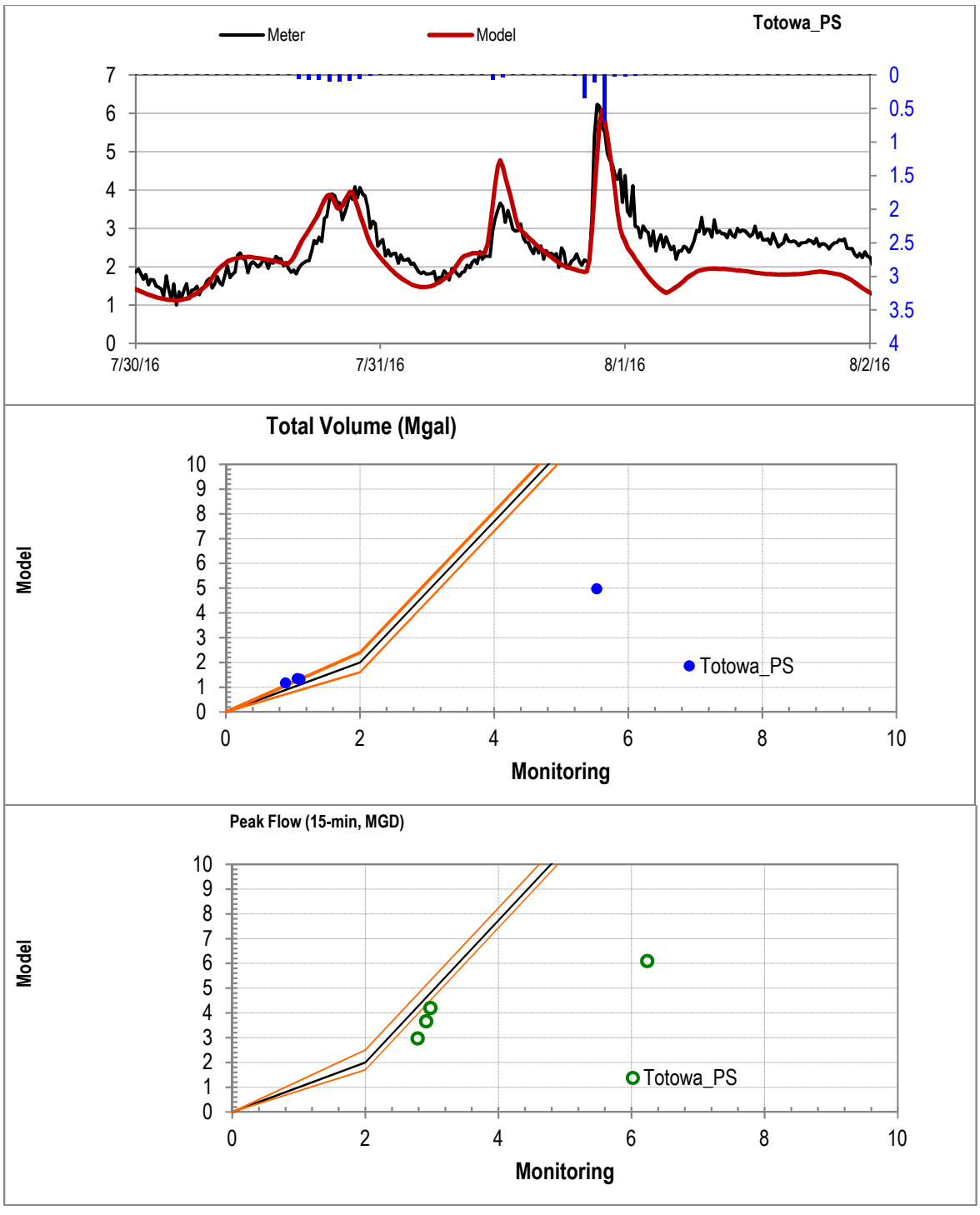

WPat_PS
Meter
Model
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
WPat_PS
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
WPat_PS
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

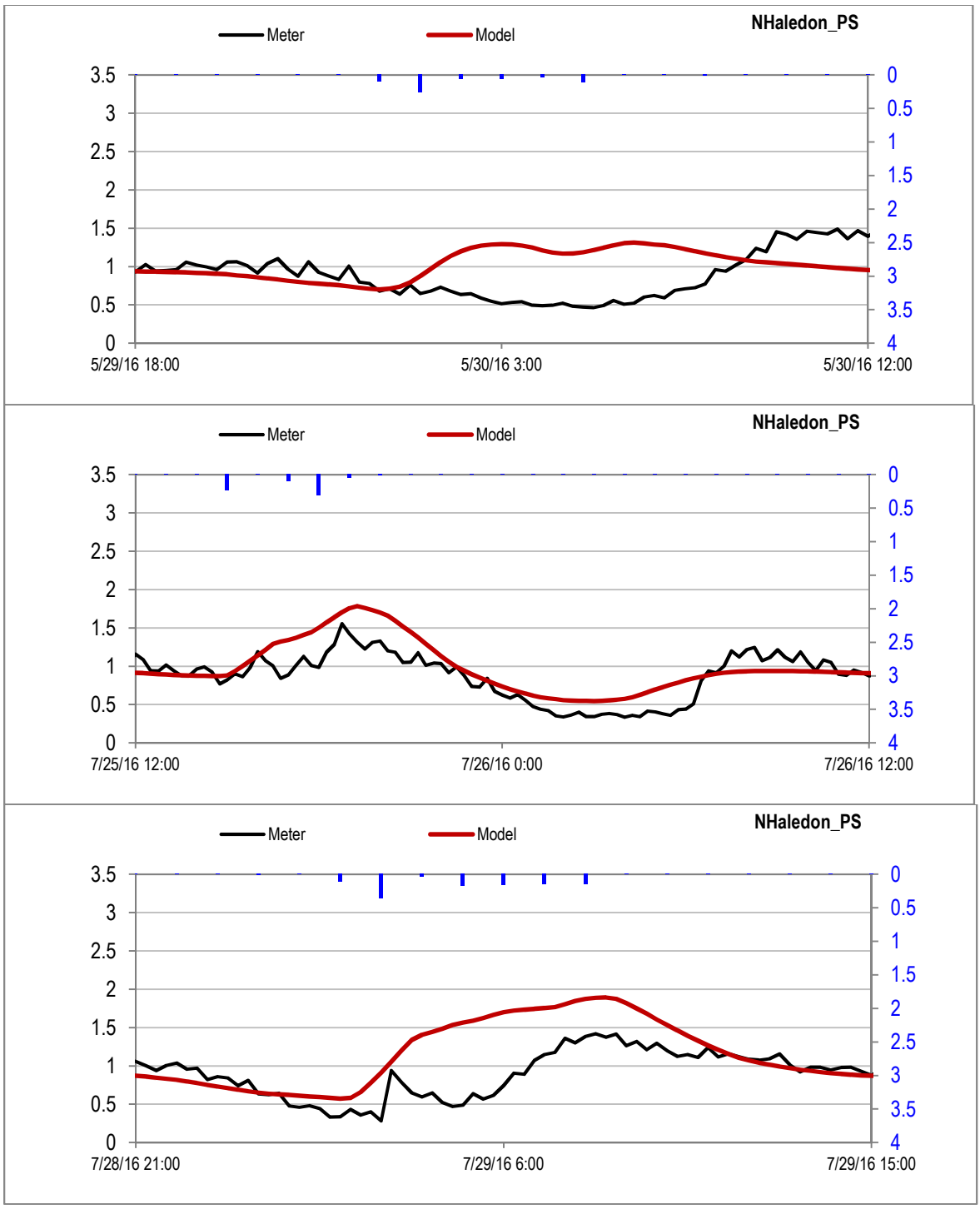

WPat_PS
Meter
Model
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

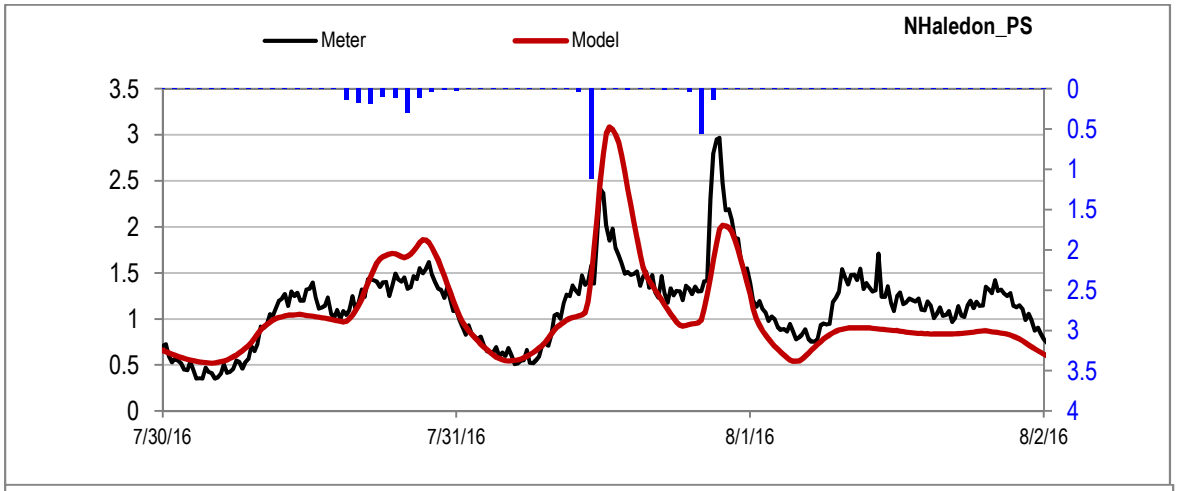

Total Volume (Mgal)
Model
Monitoring
WPat_PS
0
2
4
6
8
10

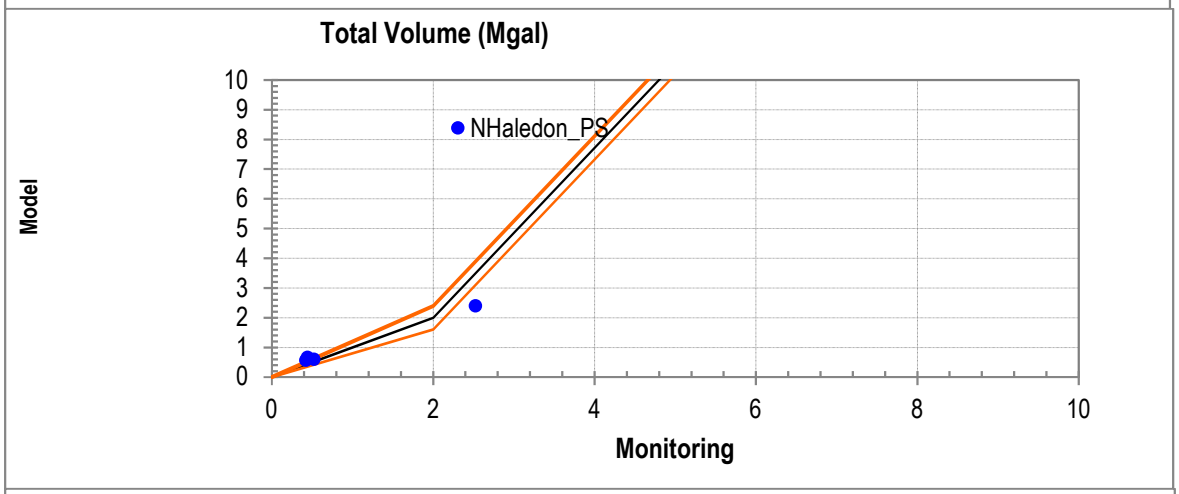

Peak Flow (15-min, MGD)
Model
Monitoring
WPat_PS
0
2
4
6
8
10

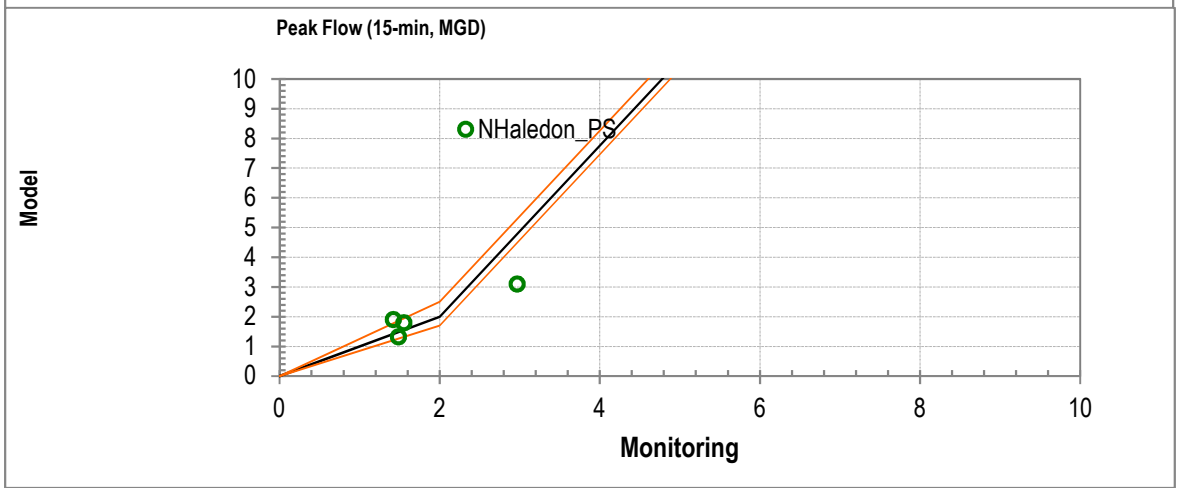

Totowa_PS
Meter
Model
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Totowa_PS
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Totowa_PS
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

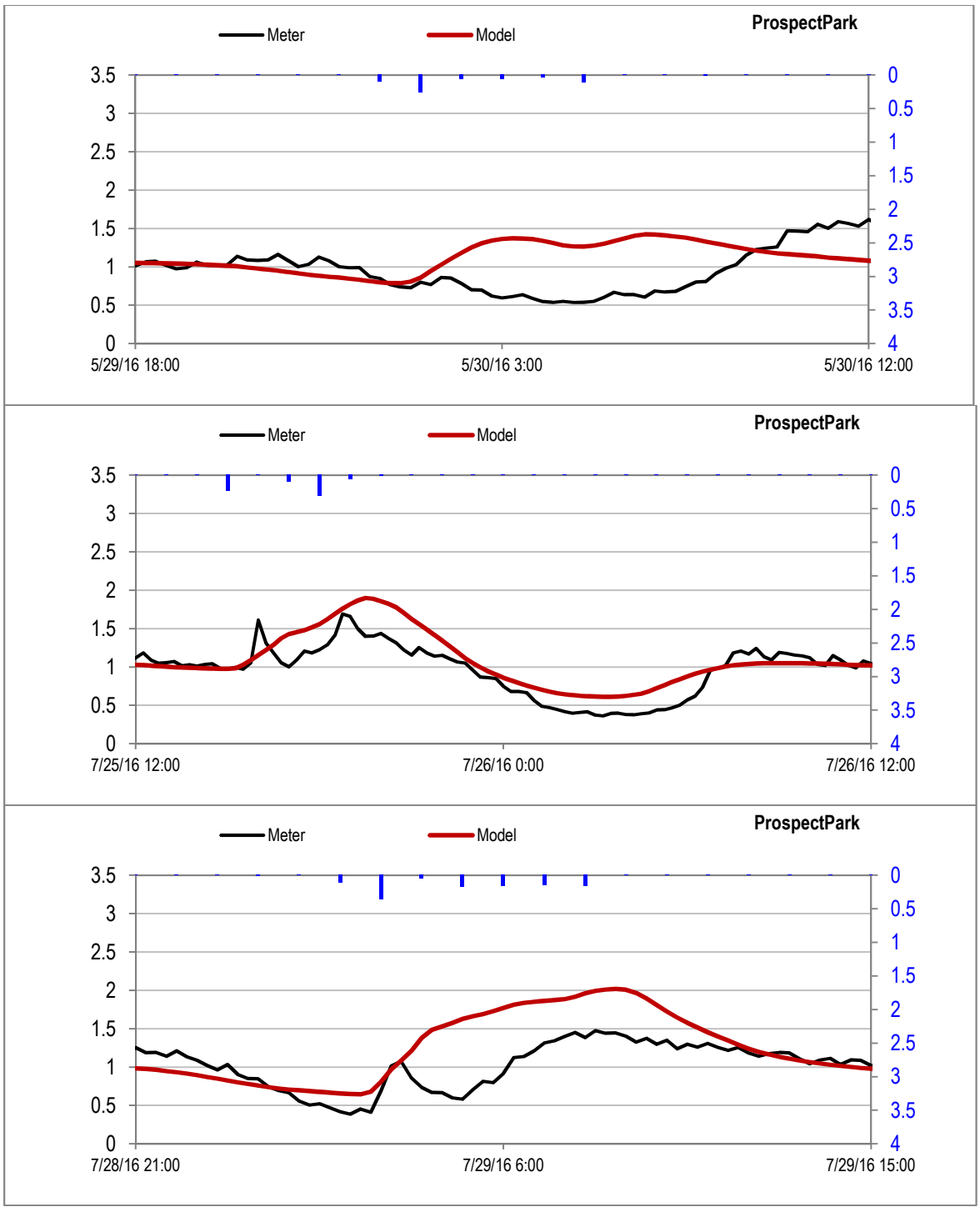

Meter
Model
Totowa_PS
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring
Totowa_PS
Peak Flow (15-min, MGD)
Model
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring
Totowa_PS

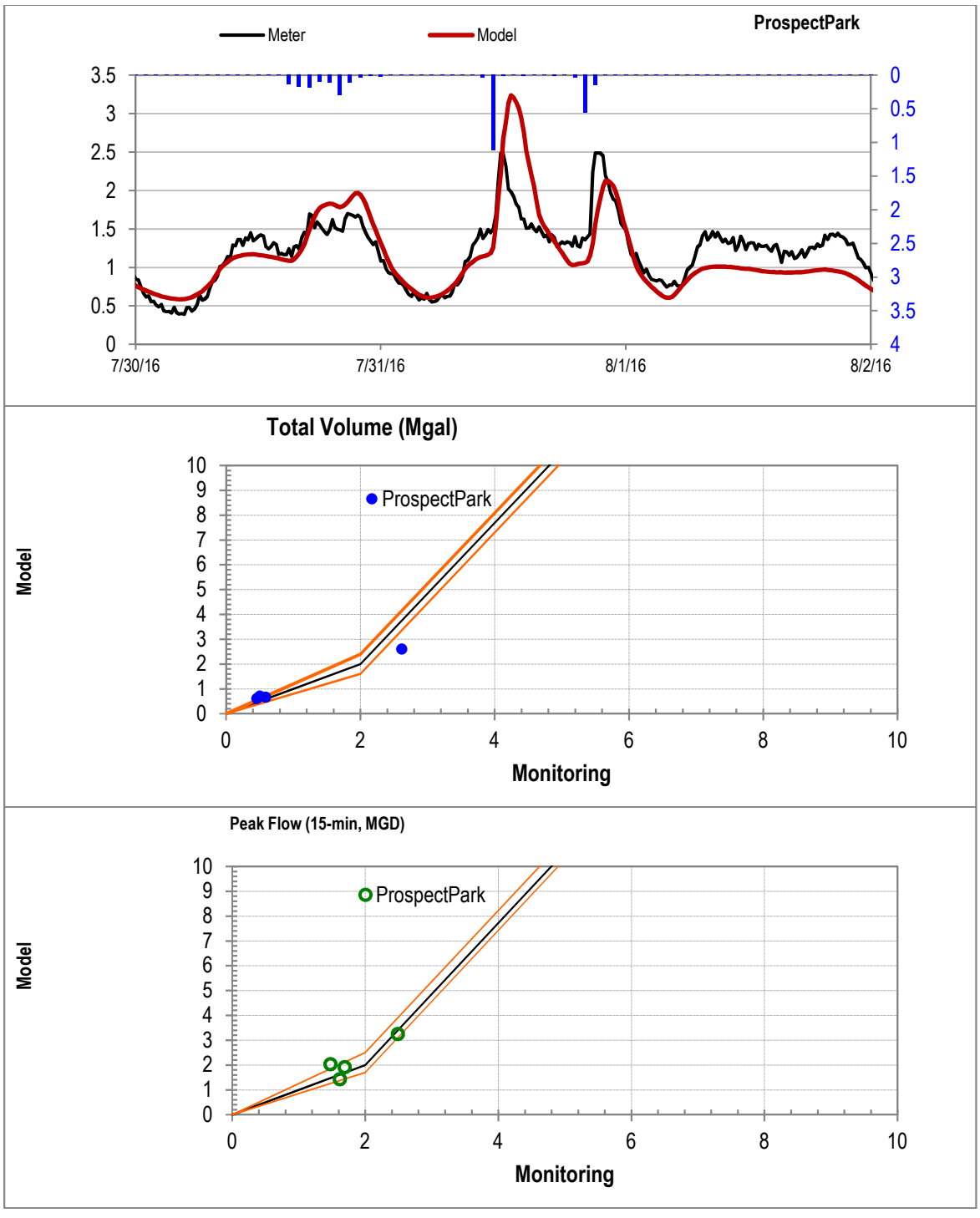

NHaledon_PS
Meter
Model
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NHaledon_PS
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
NHaledon_PS
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

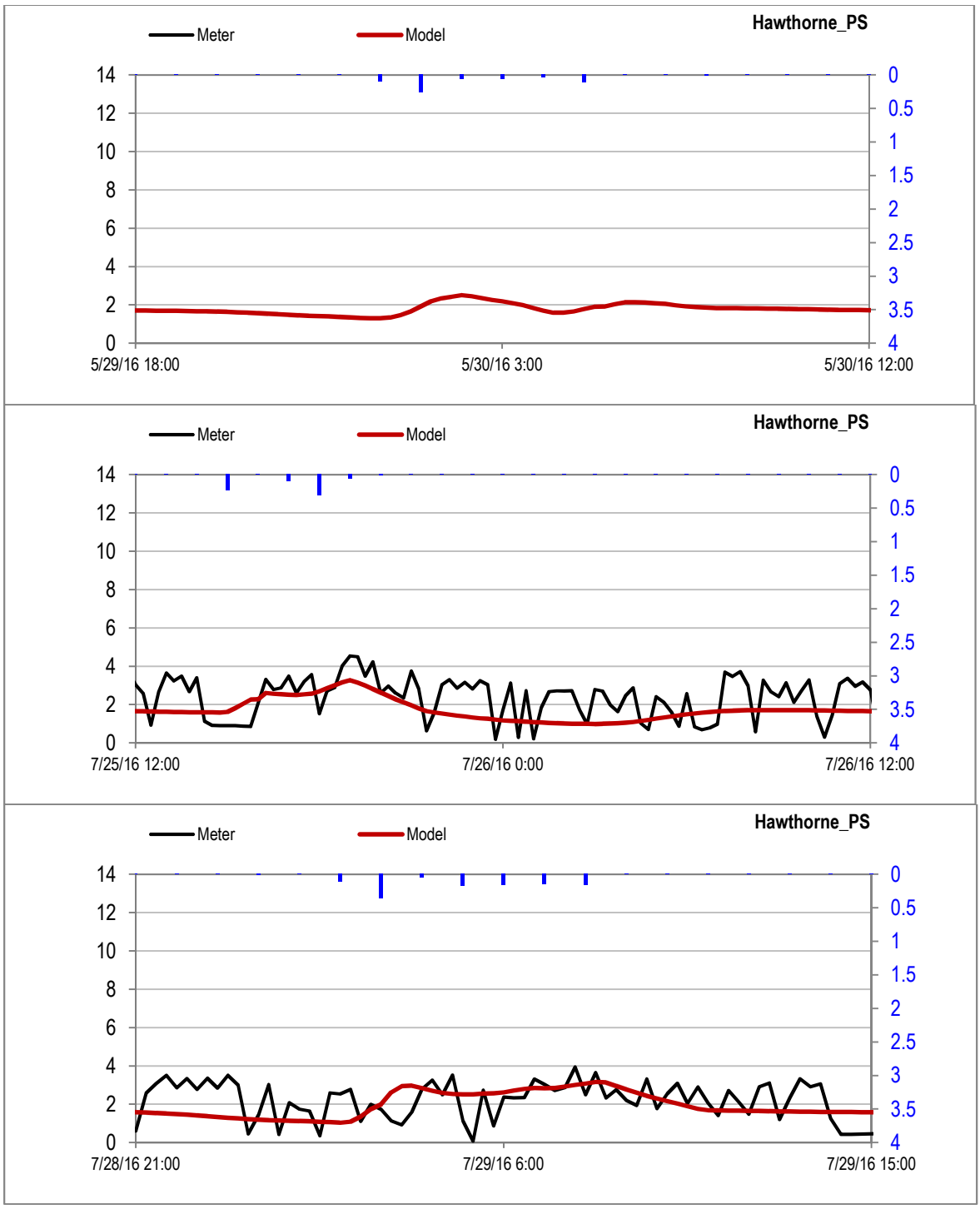

Meter
Model
NHaledon_PS
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

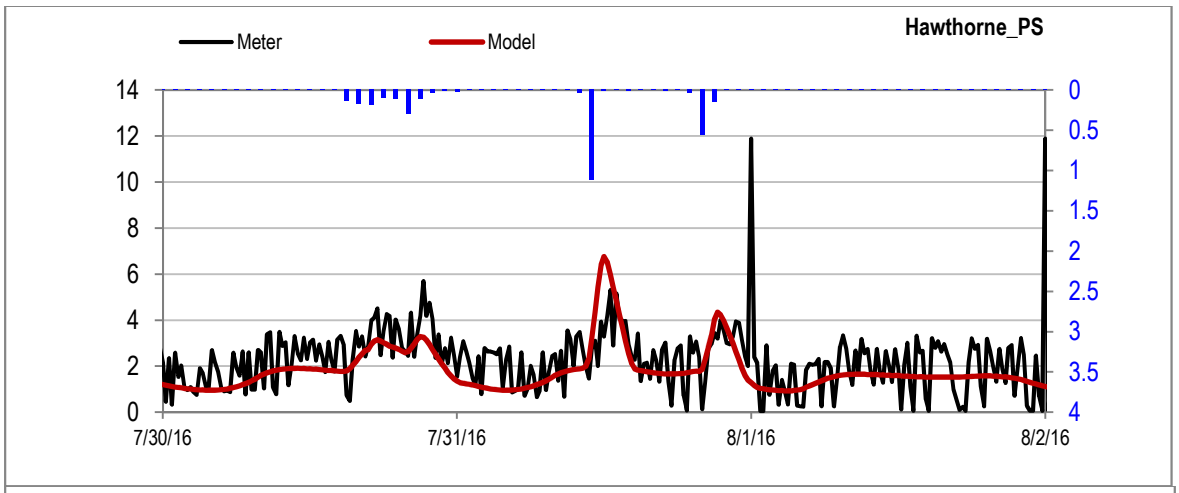

Total Volume (Mgal)
Model
NHaledon_PS
0
1
2
3
4
5
6
7
8
9
10
Monitoring

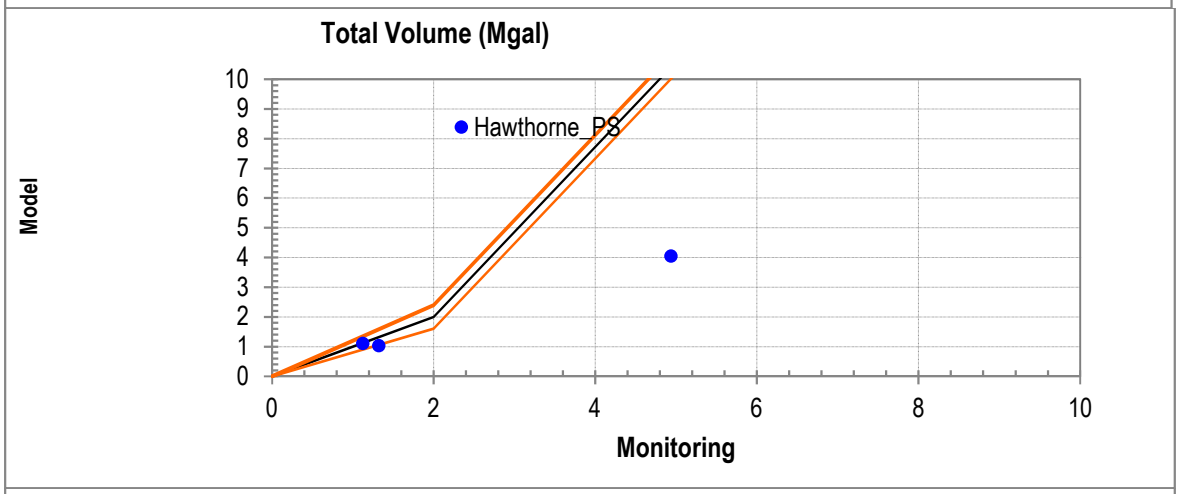

Peak Flow (15-min, MGD)
Model
NHaledon_PS
0
1
2
3
4
5
6
7
8
9
10
Monitoring

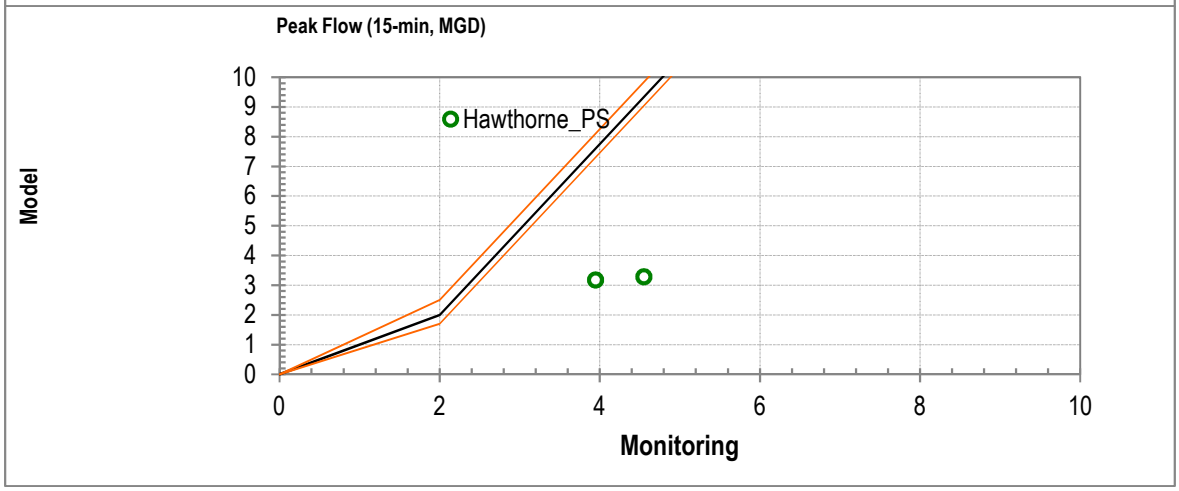

Meter
Model
ProspectPark
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Meter
Model
ProspectPark
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Meter
Model
ProspectPark
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

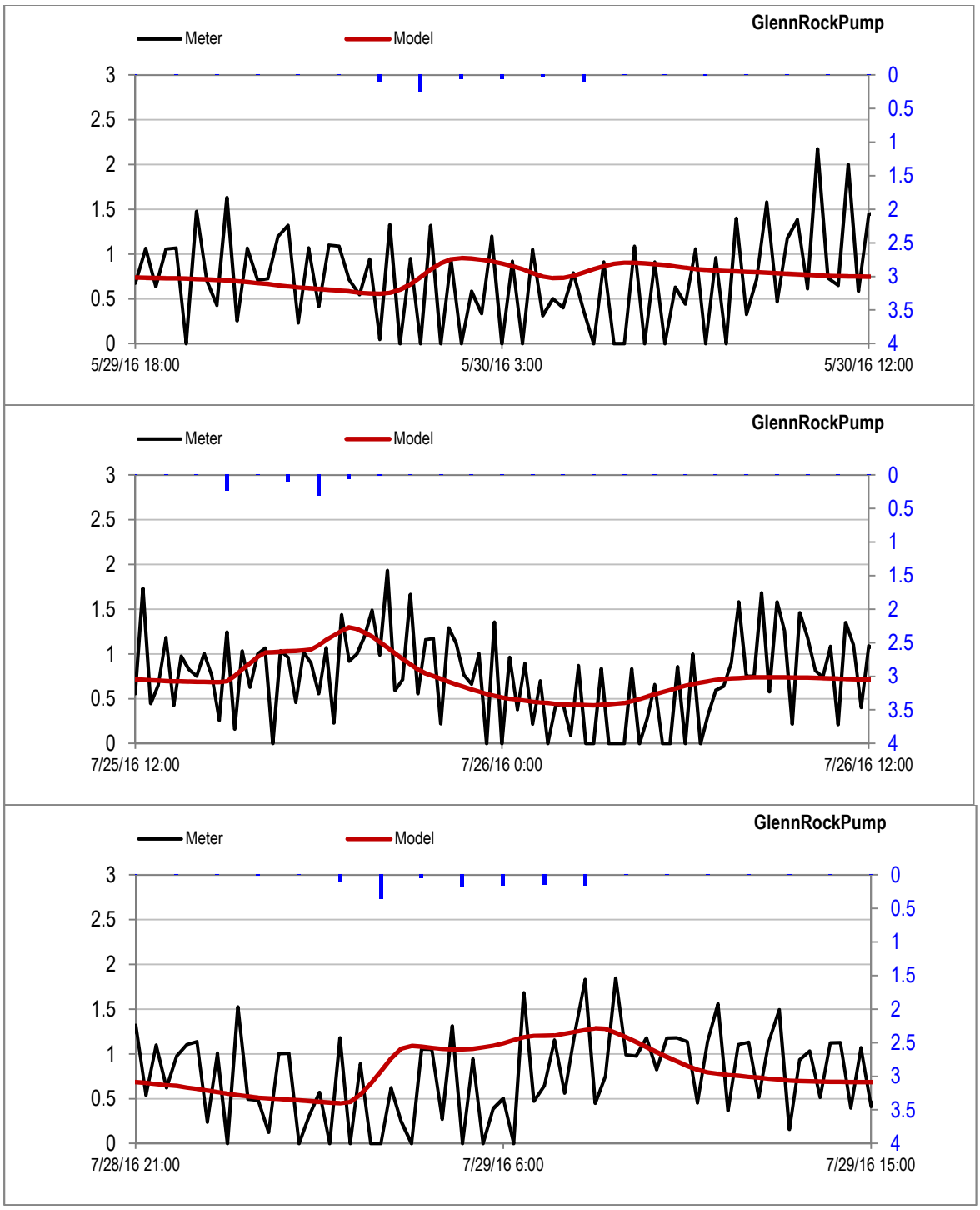

Meter
Model
ProspectPark
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
ProspectPark
Monitoring
Peak Flow (15-min, MGD)
Model
ProspectPark
Monitoring

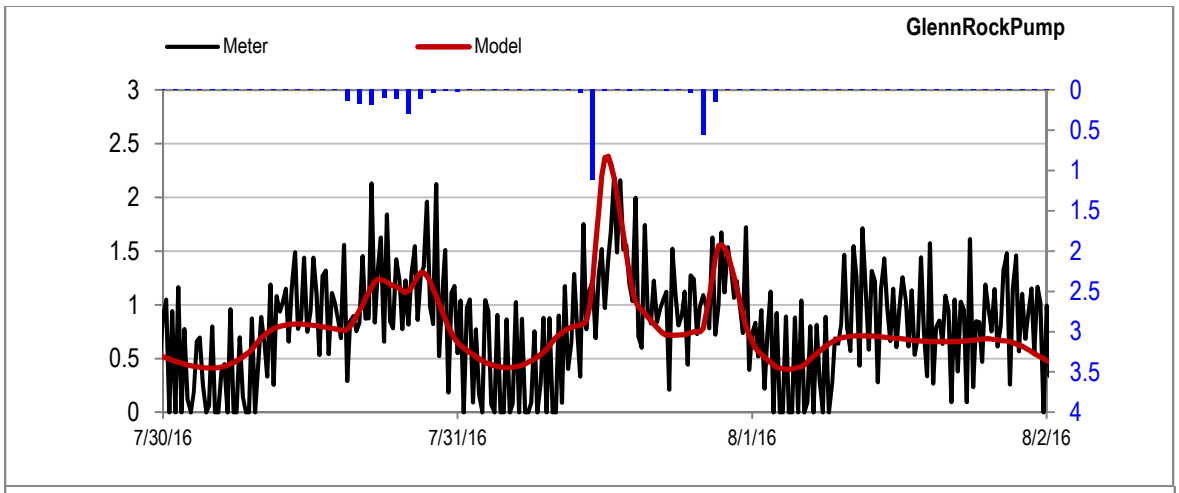

Hawthorne_PS
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Hawthorne_PS
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Hawthorne_PS
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

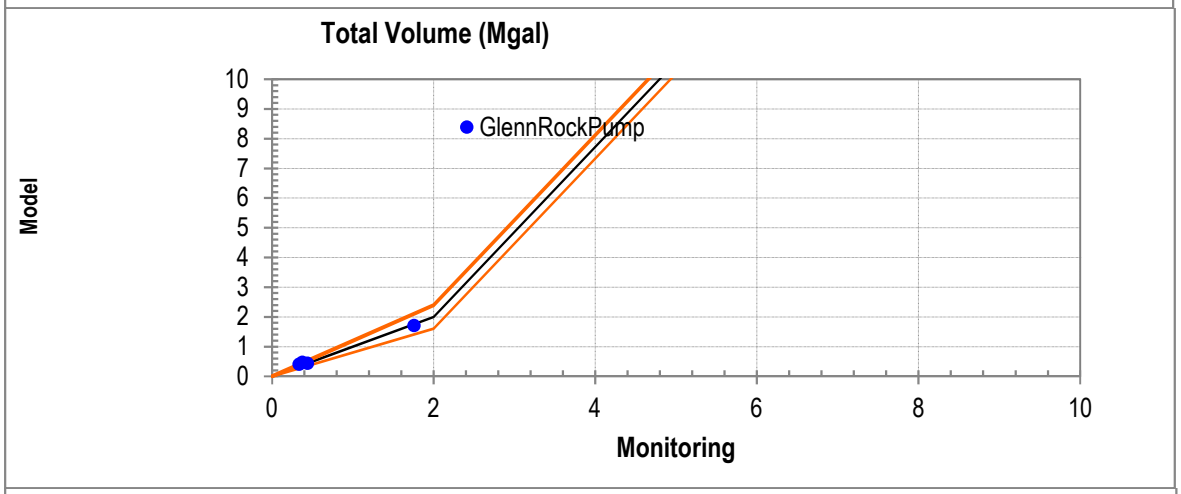

Hawthorne_PS
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

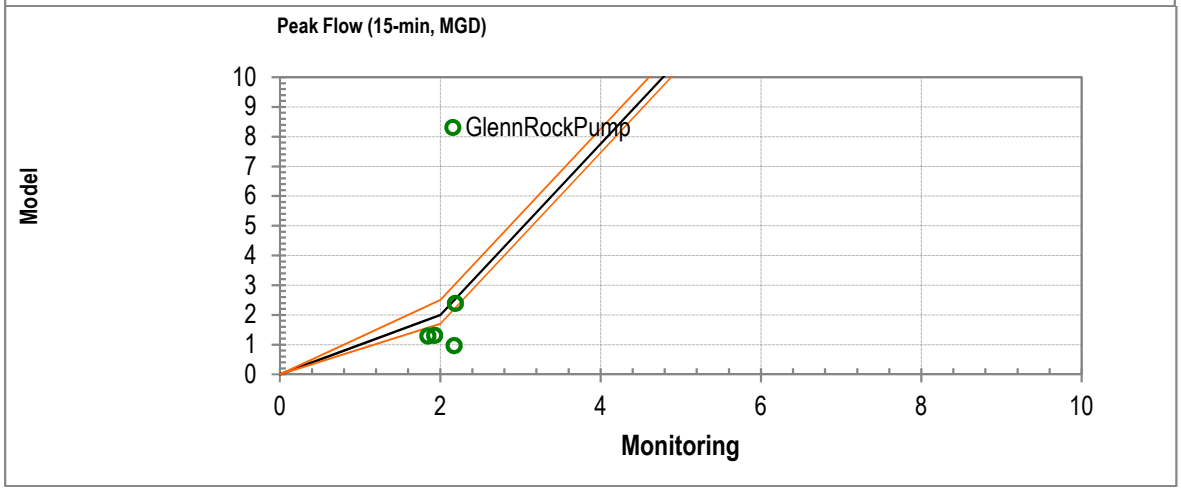

Total Volume (Mgal)
Model
Hawthorne_PS
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring

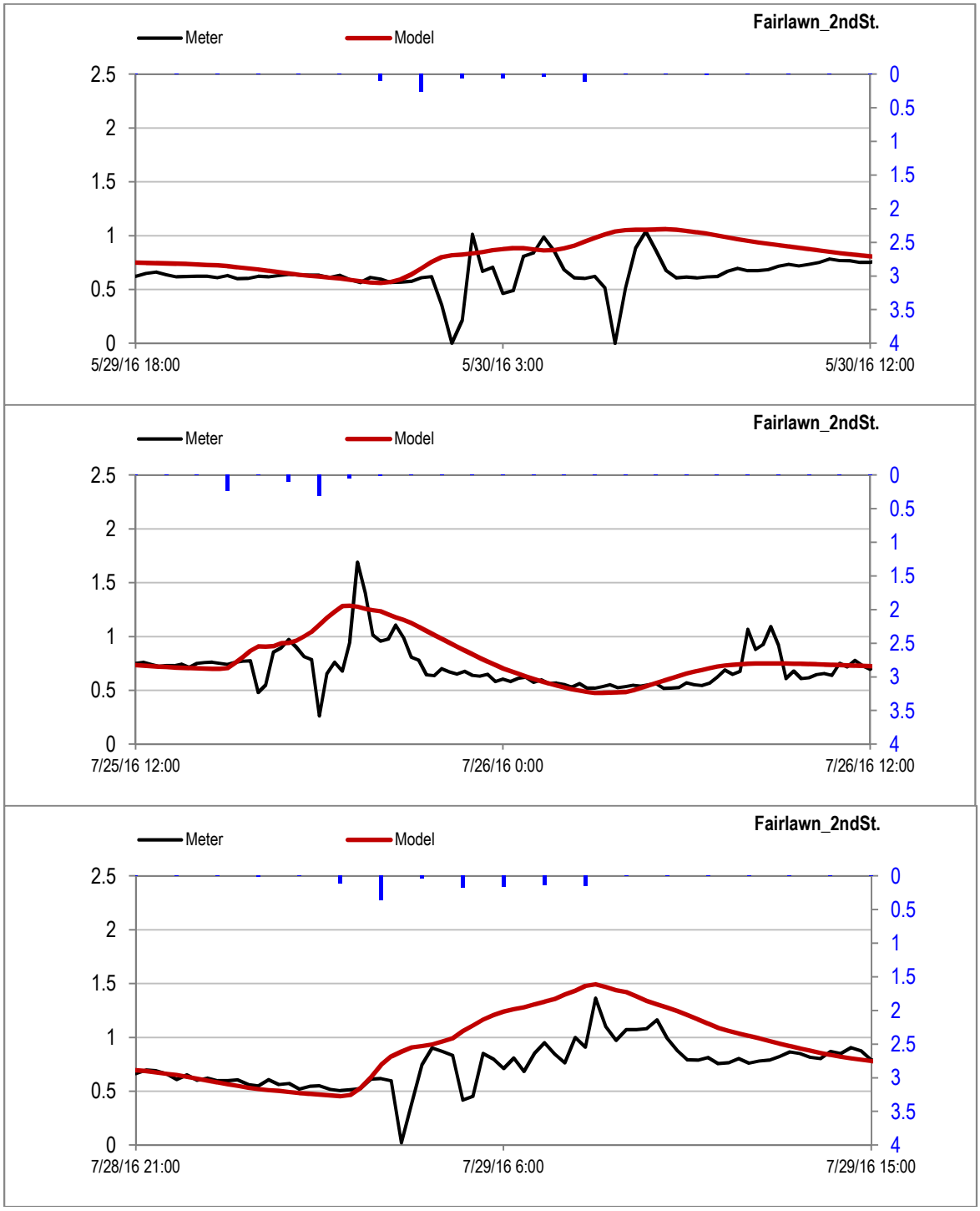

Peak Flow (15-min, MGD)
Model
Hawthorne_PS
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring

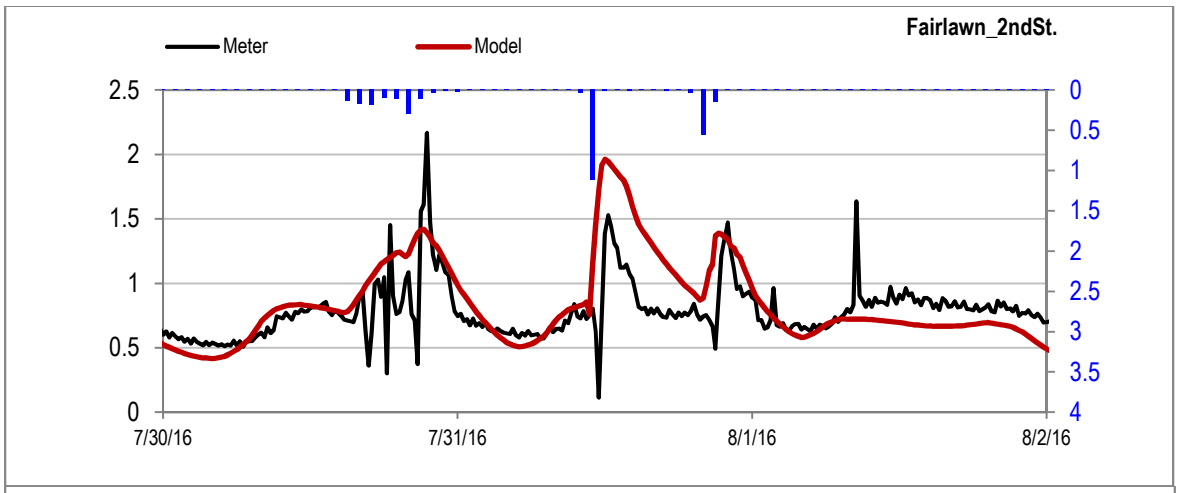

GlennRockPump
Meter
Model
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
GlennRockPump
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
GlennRockPump
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

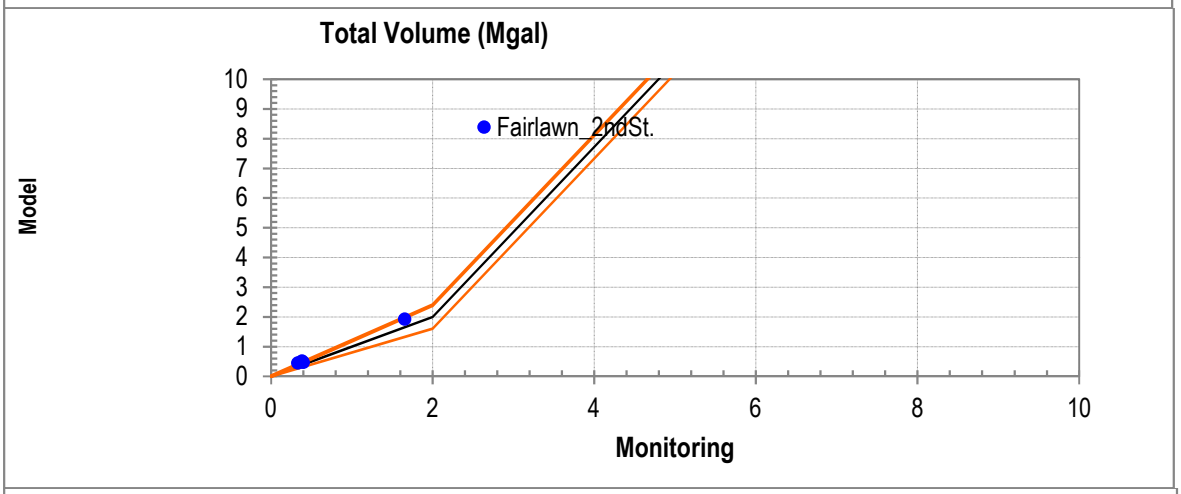

GlennRockPump
Meter
Model
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

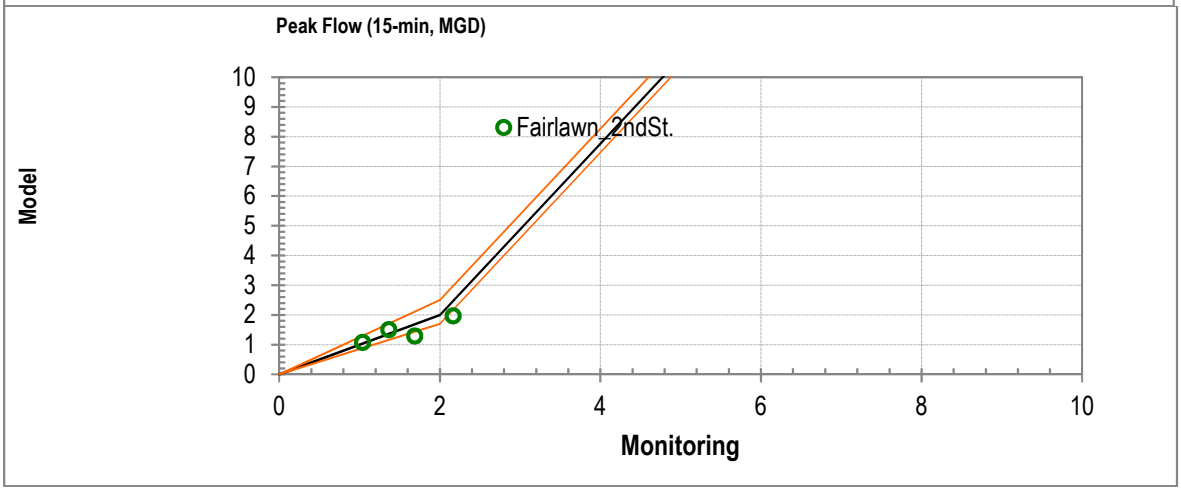

Total Volume (Mgal)
Model
GlennRockPump
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring

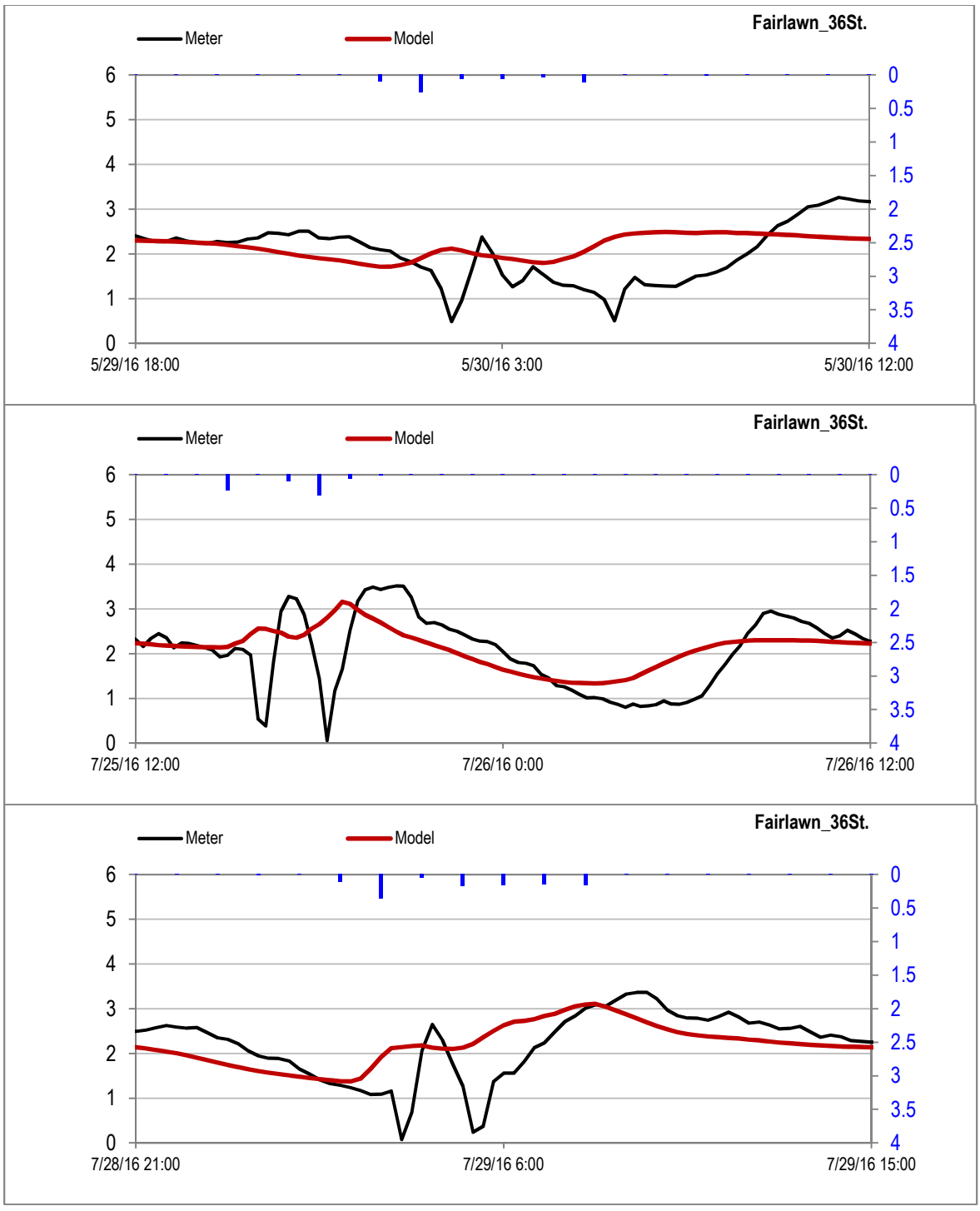

Peak Flow (15-min, MGD)
Model
GlennRockPump
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring

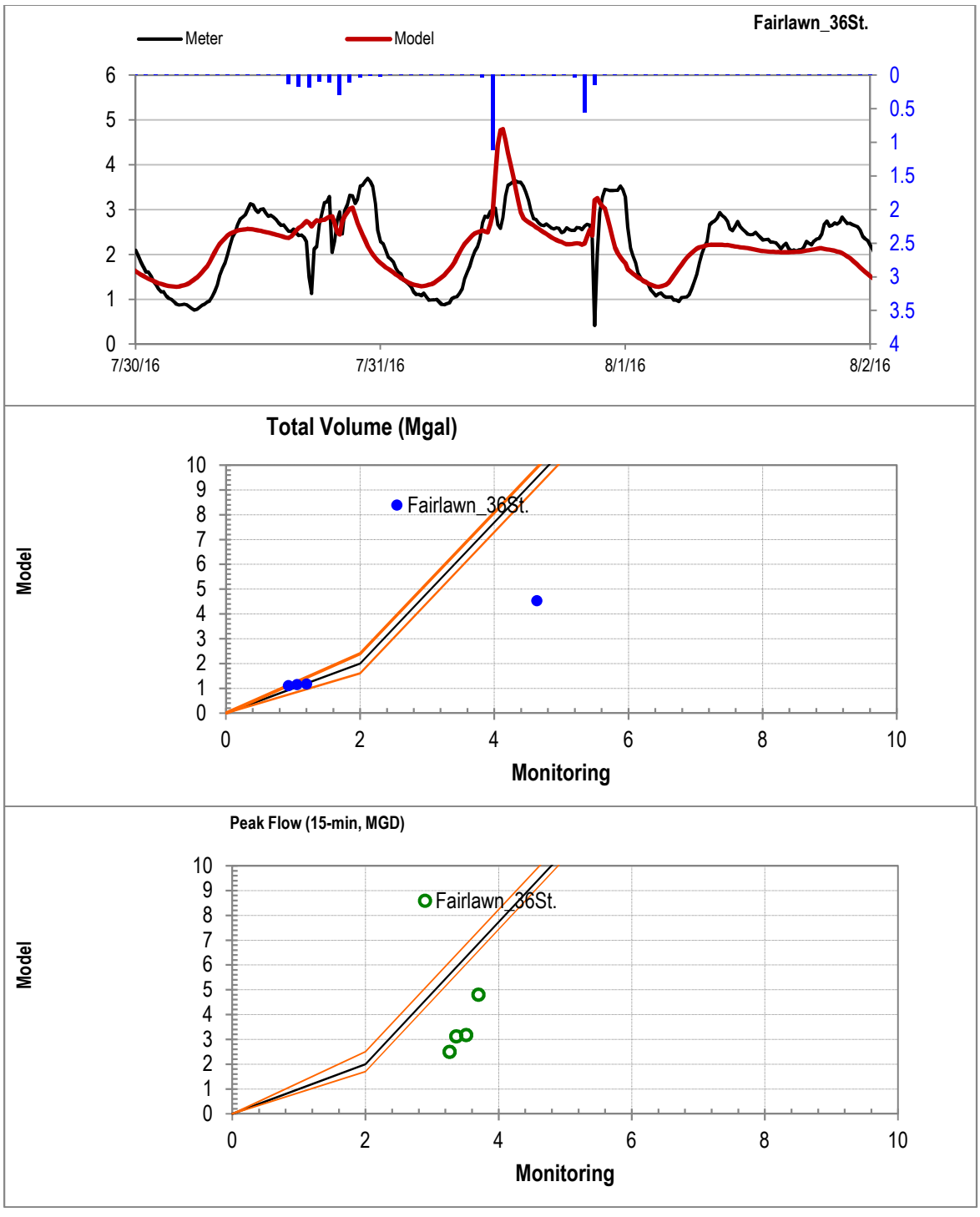

Fairlawn_2ndSt.
Meter
Model
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Fairlawn_2ndSt.
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Fairlawn_2ndSt.
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

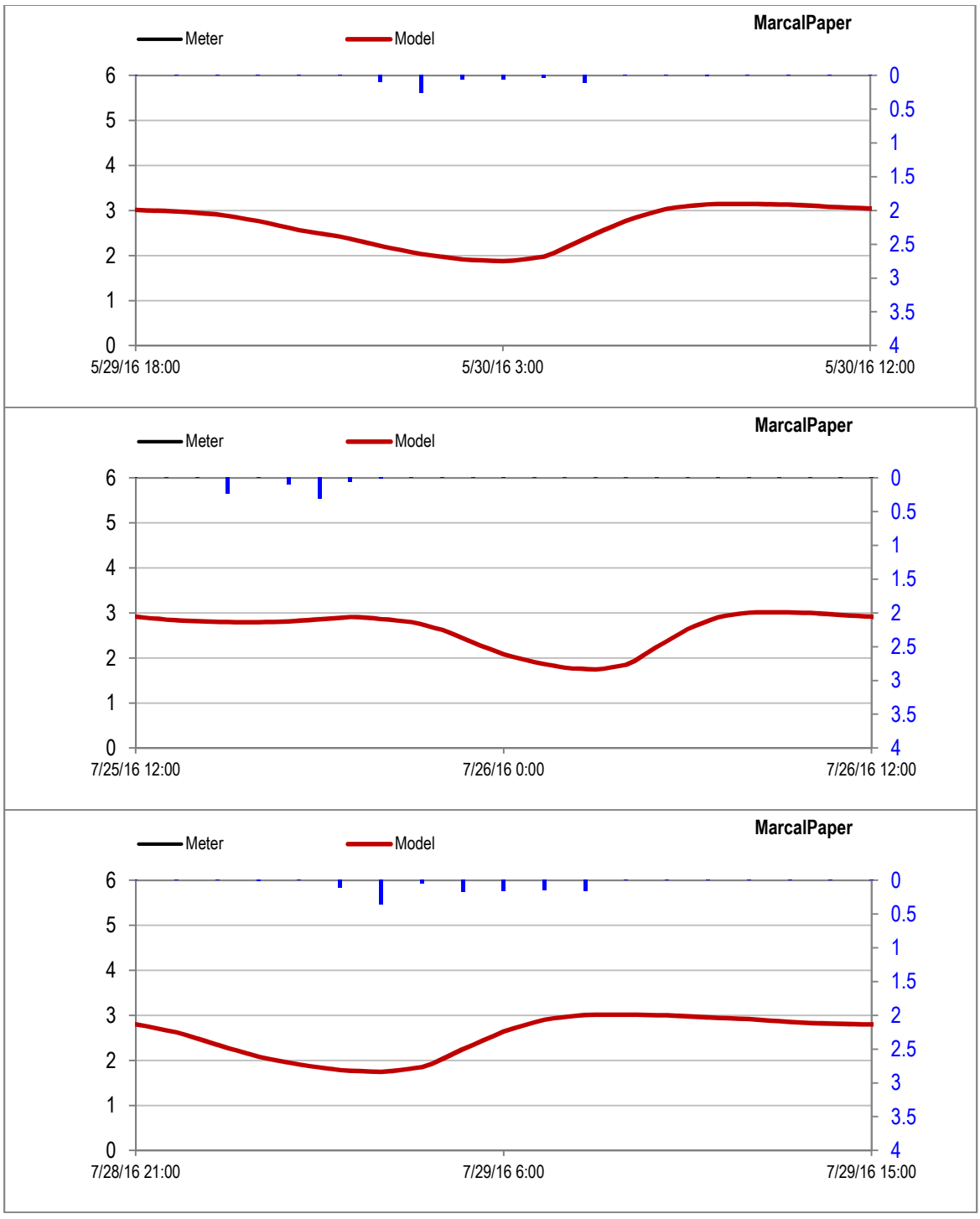

Fairlawn_2ndSt.
Meter
Model
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

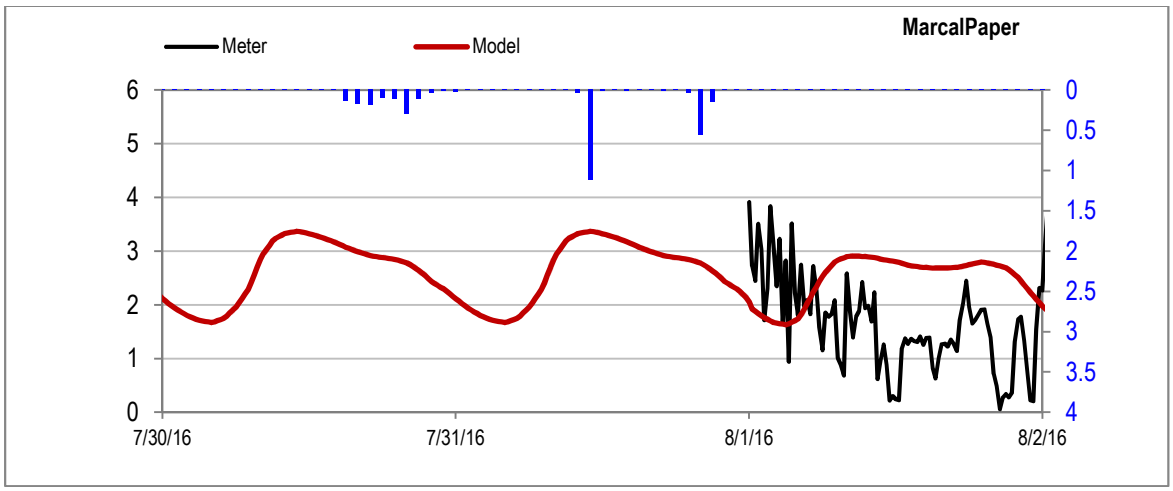

Total Volume (Mgal)
Model
Fairlawn_2ndSt.
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring

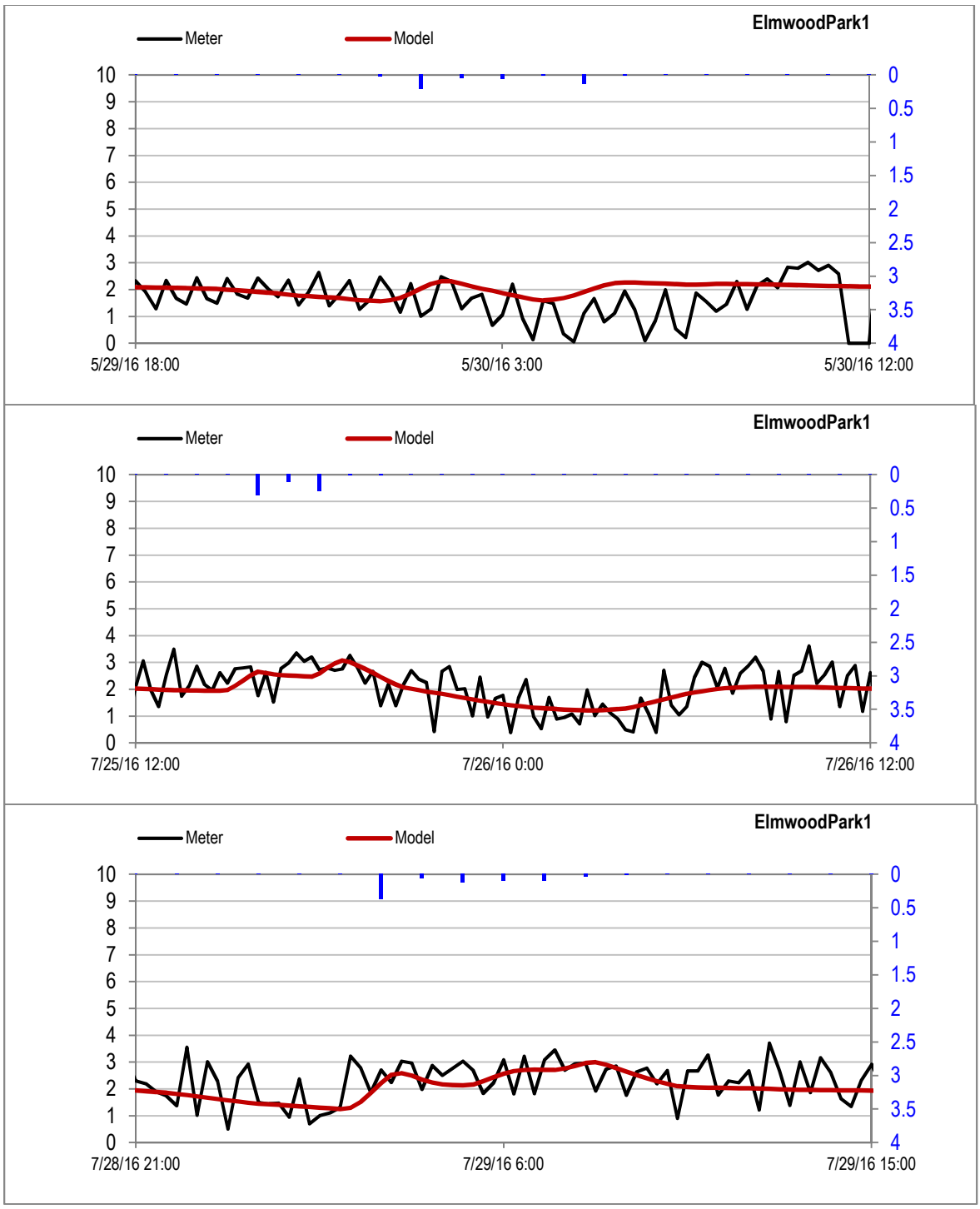

Peak Flow (15-min, MGD)
Model
Fairlawn_2ndSt.
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring

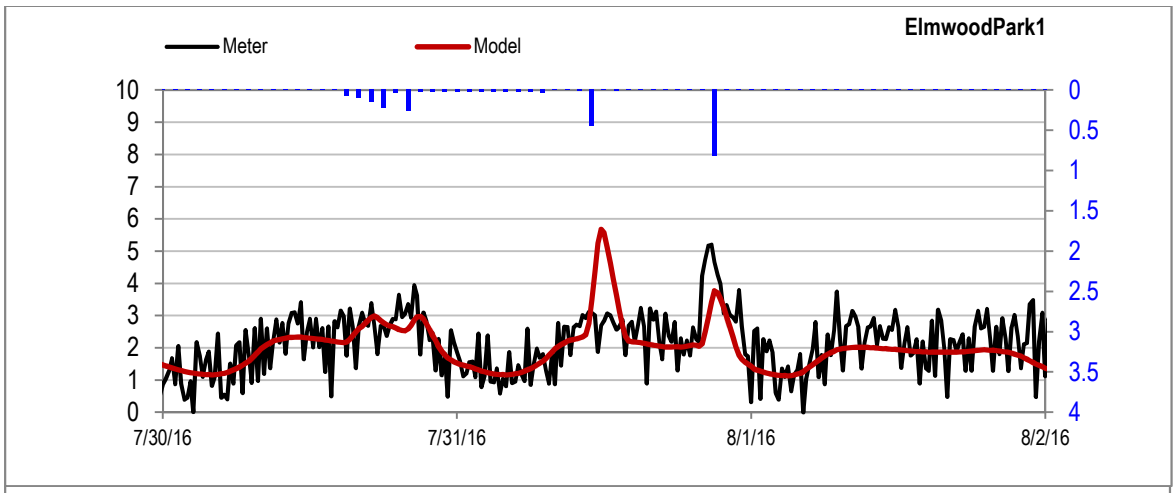

Fairlawn_36St.
Meter
Model
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Fairlawn_36St.
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Fairlawn_36St.
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

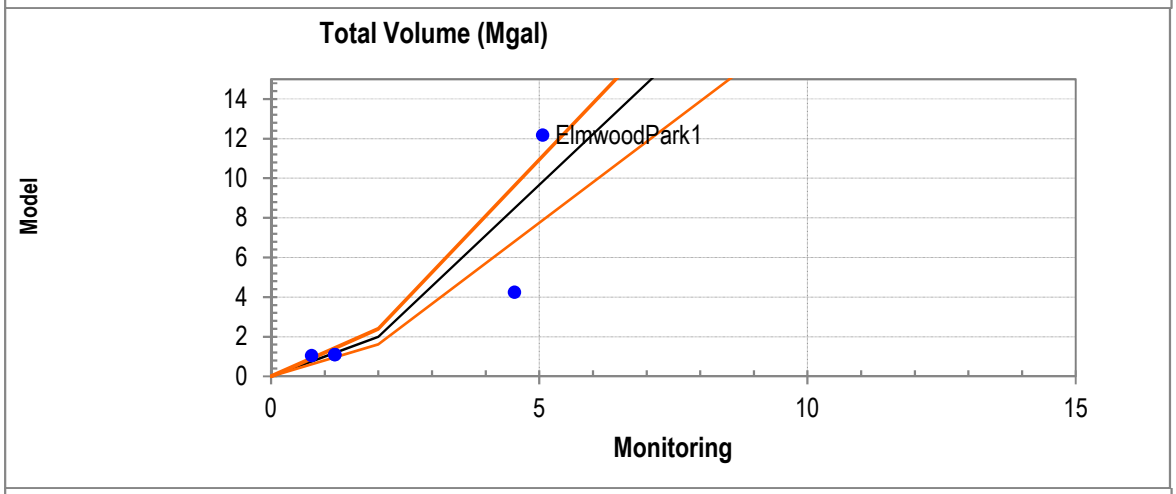

Fairlawn_36St.
Meter
Model
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
Fairlawn_36St.
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring
Peak Flow (15-min, MGD)
Model
Fairlawn_36St.
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring

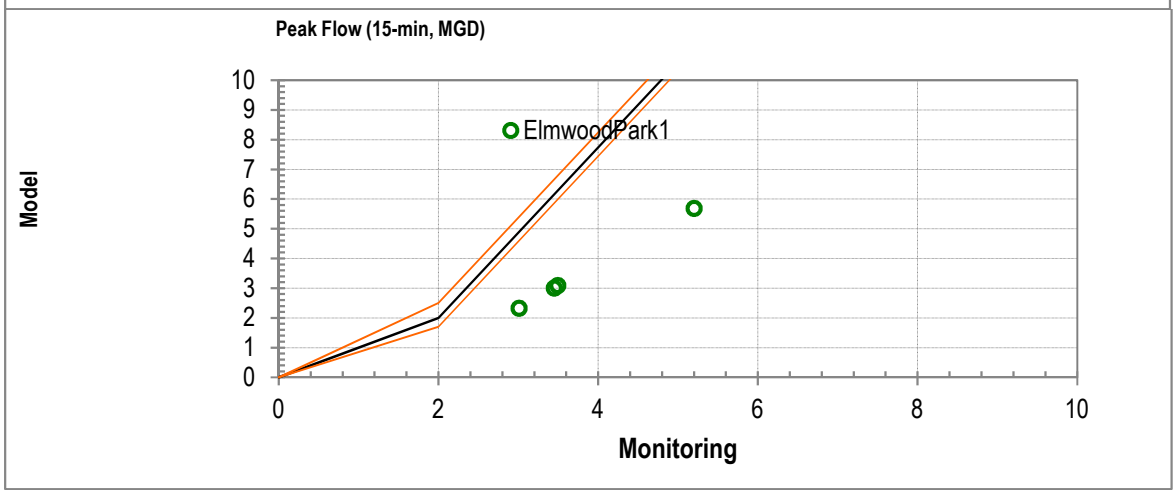

MarcalPaper
Meter
Model
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
MarcalPaper
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
MarcalPaper
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

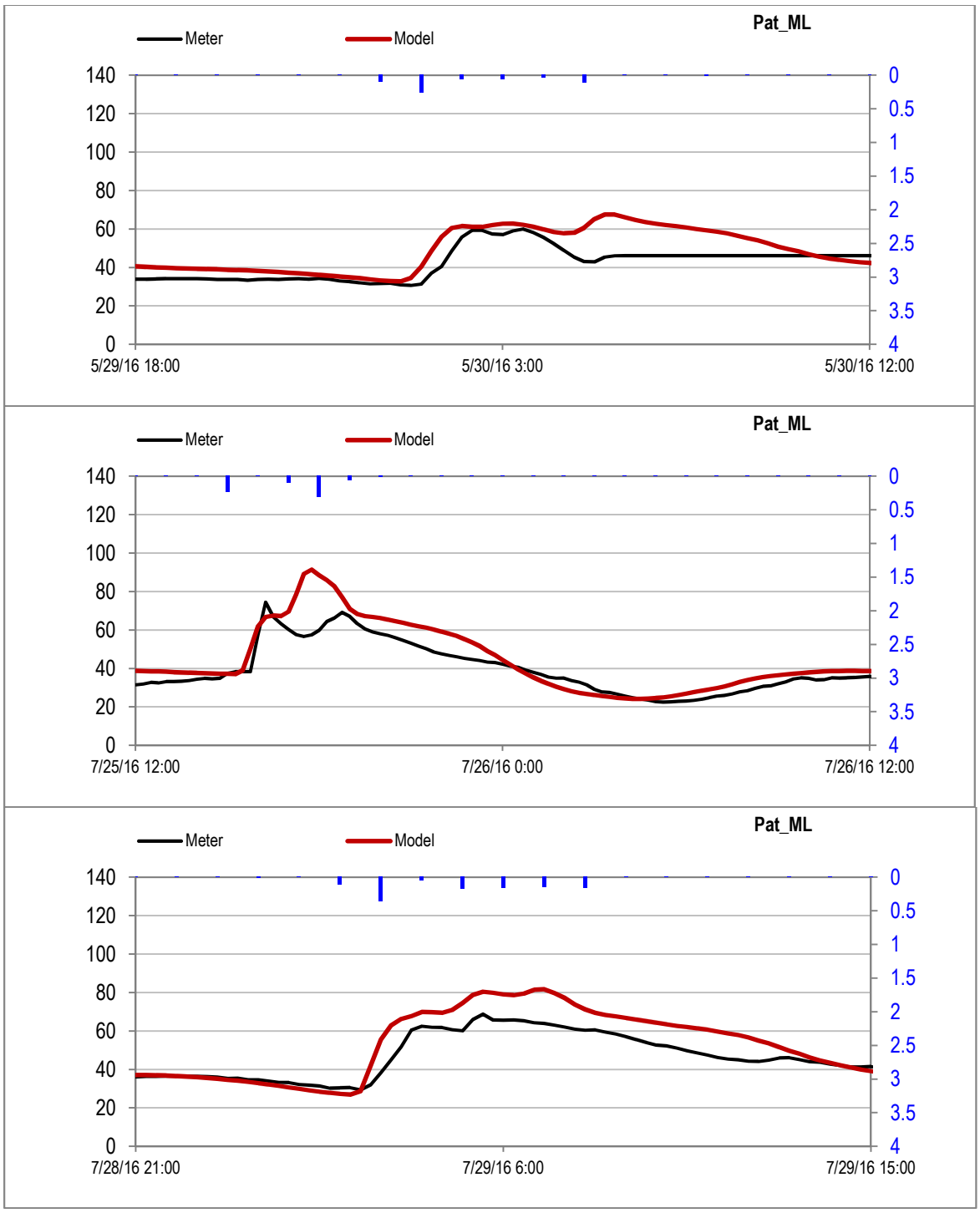

MarcalPaper
Meter
Model
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

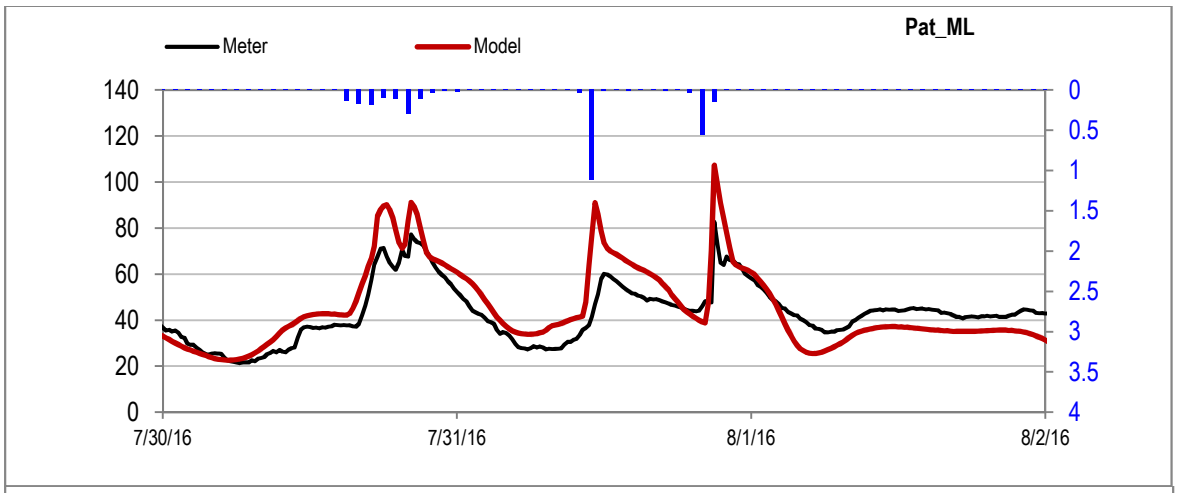

ElmwoodPark1
Meter
Model
10
9
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
ElmwoodPark1
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
ElmwoodPark1
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

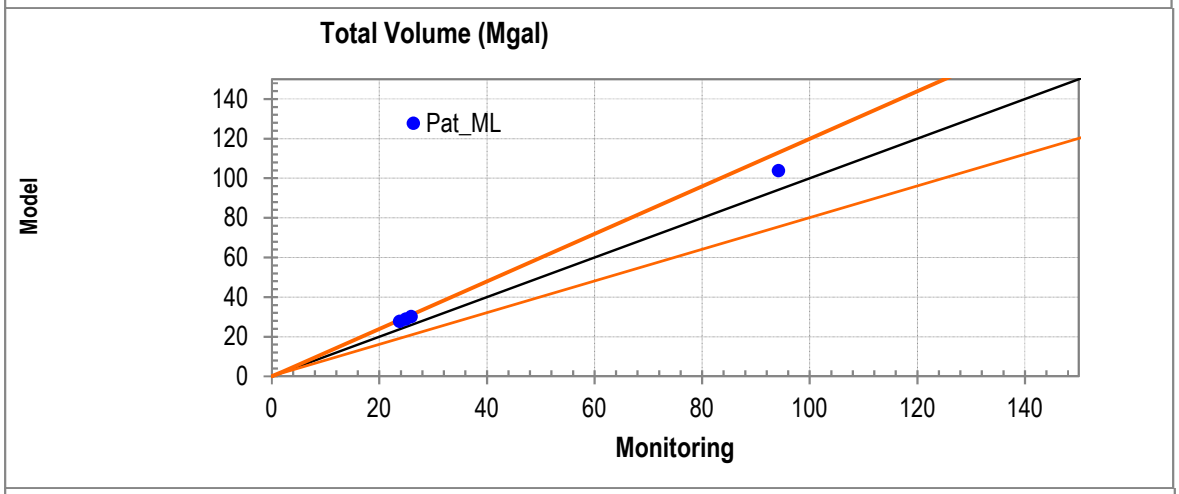

ElmwoodPark1
Meter
Model
10
9
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

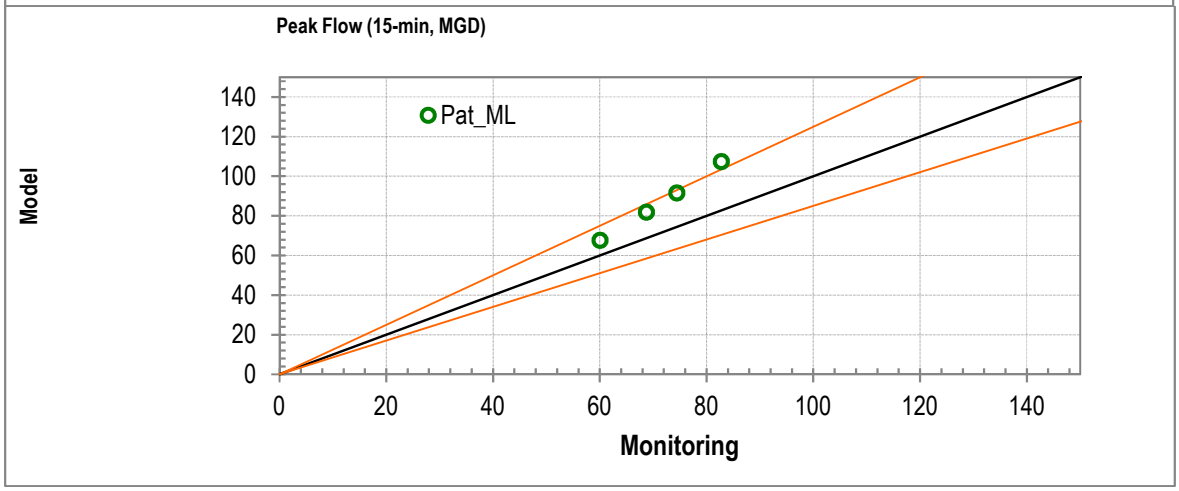

Total Volume (Mgal)
Model
ElmwoodPark1
14
12
10
8
6
4
2
0
0
5
10
15
Monitoring

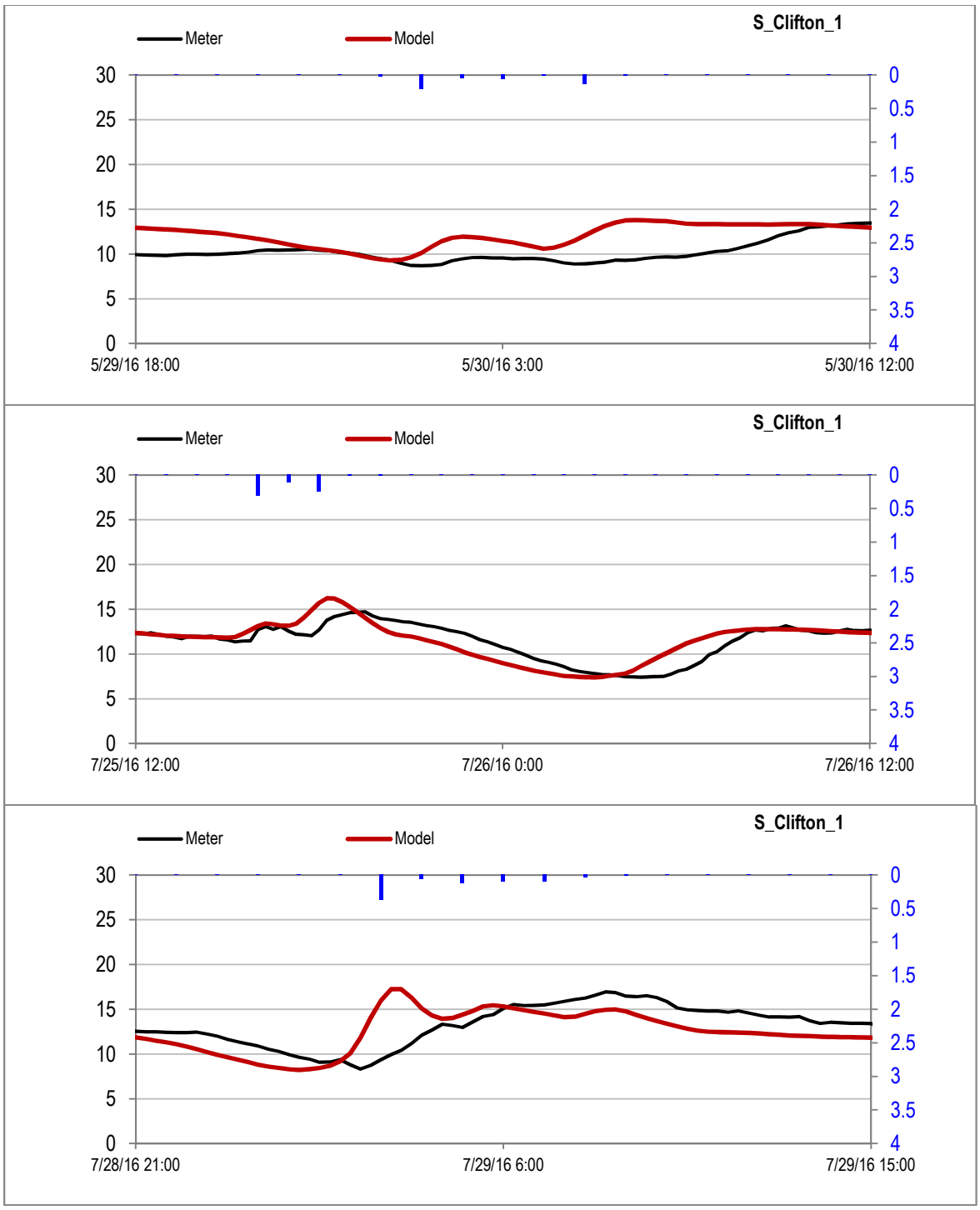

Peak Flow (15-min, MGD)
Model
ElmwoodPark1
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring

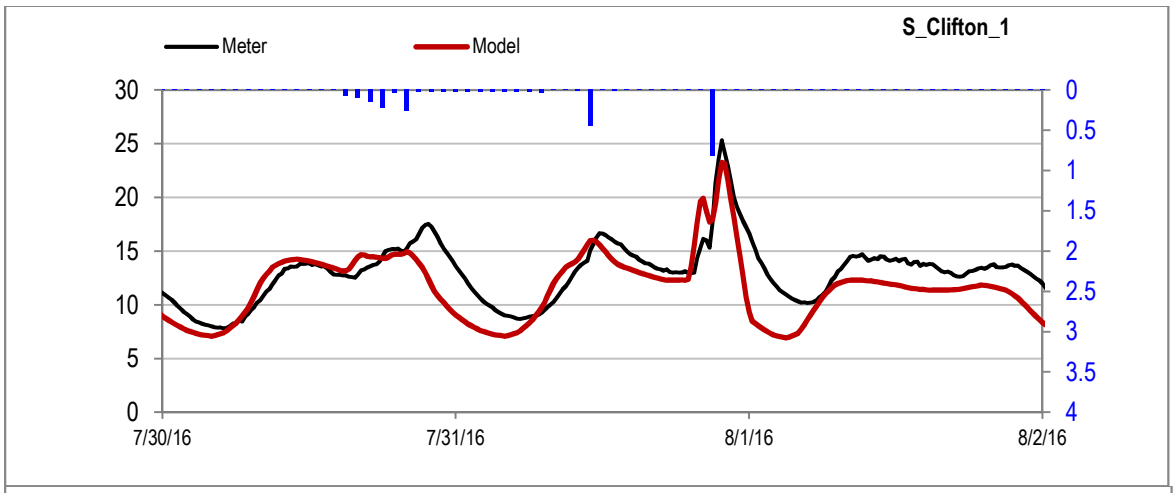

Pat_ML
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Pat_ML
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Pat_ML
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

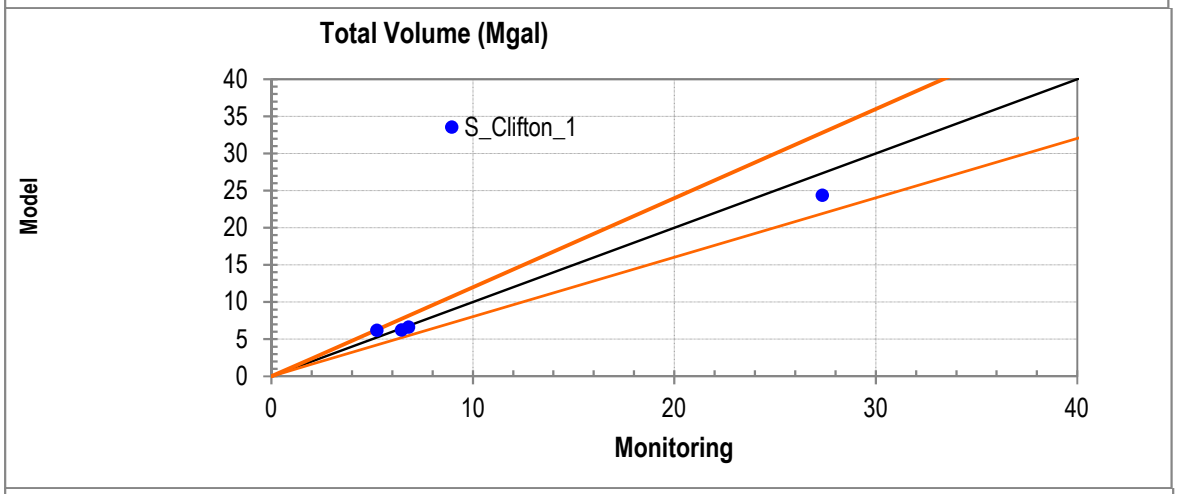

Pat_ML
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

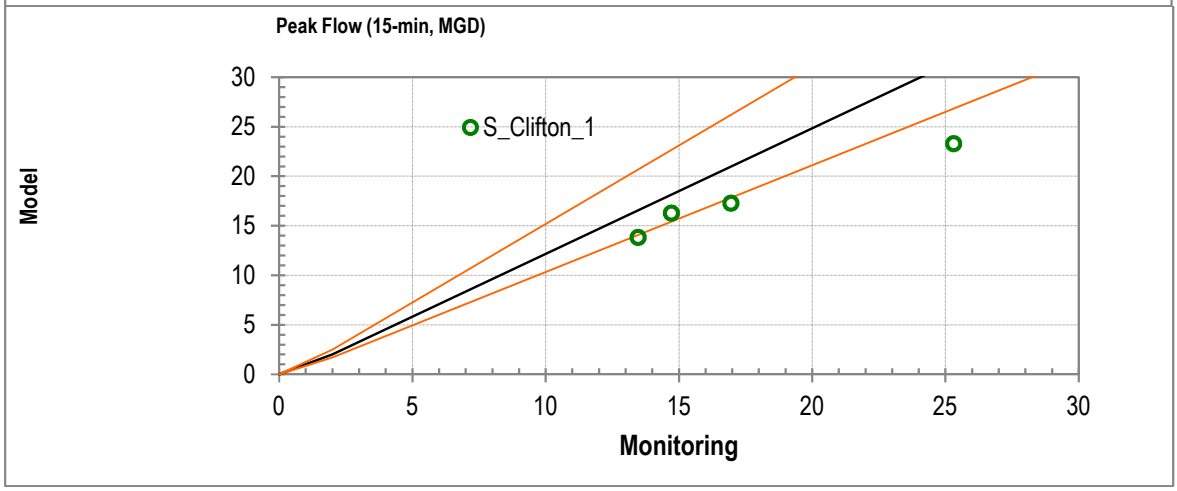

Total Volume (Mgal)
Model
Pat_ML
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
Monitoring

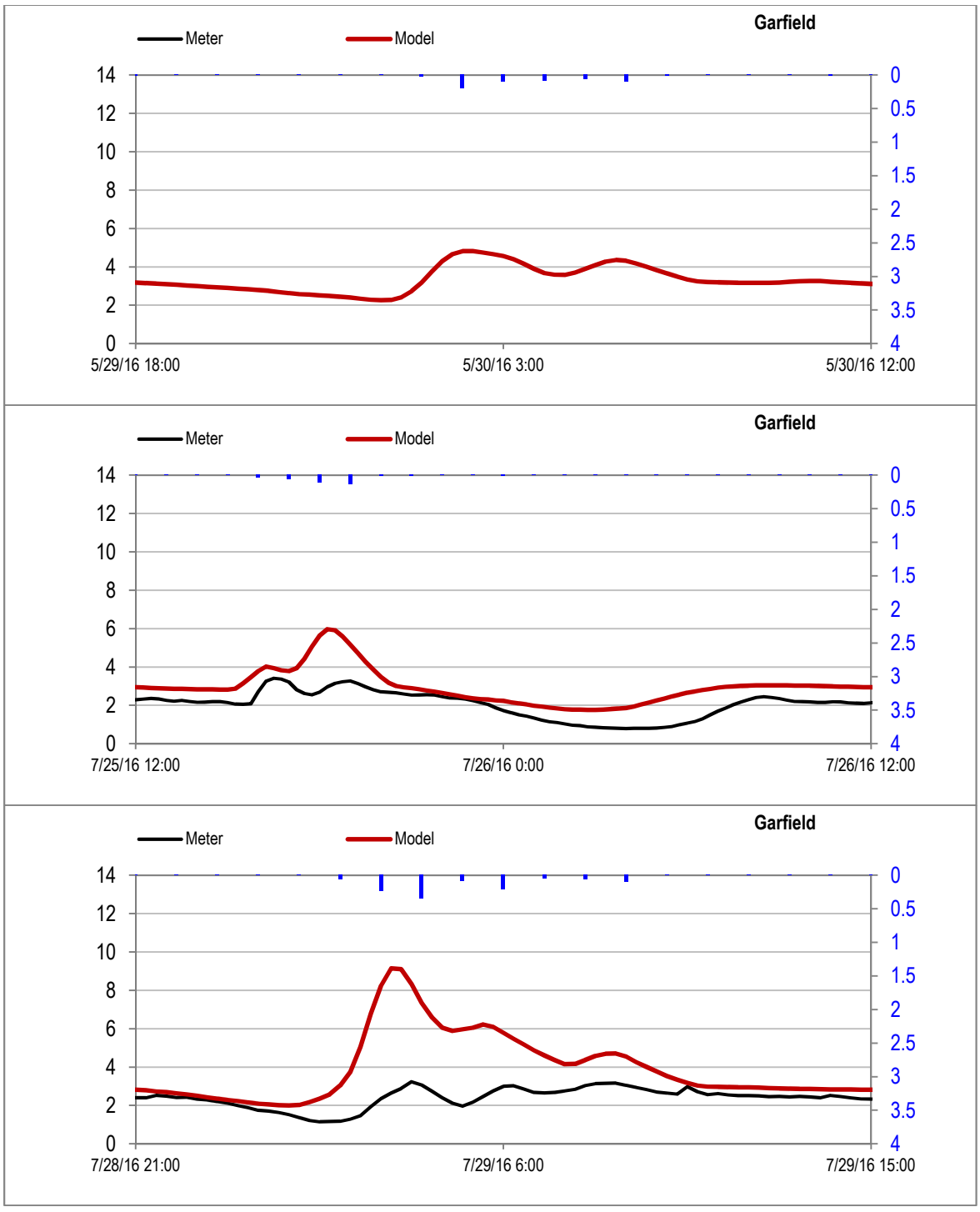

Peak Flow (15-min, MGD)
Model
Pat_ML
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
Monitoring

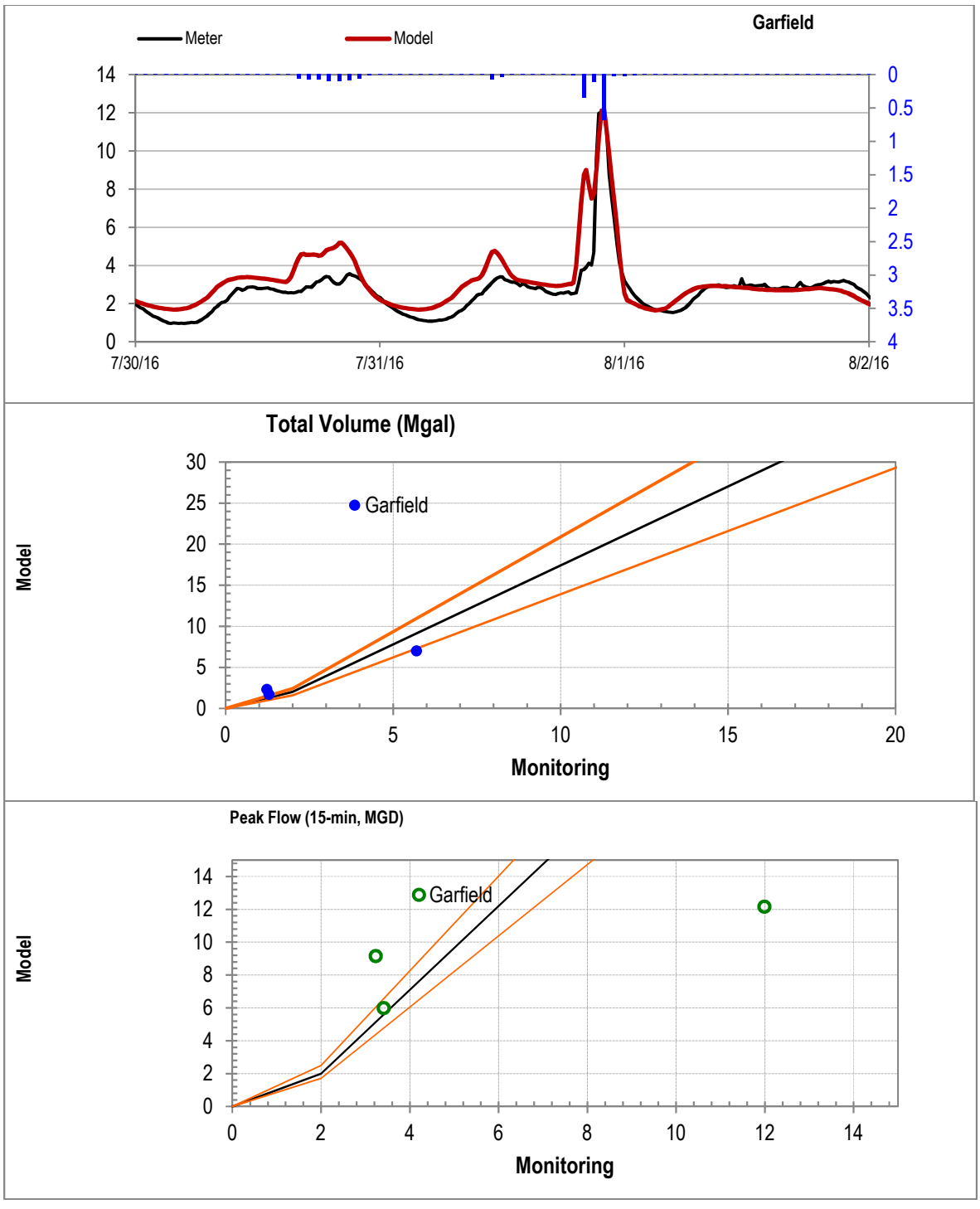

S_Clifton_1
Meter
Model
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
S_Clifton_1
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
S_Clifton_1
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

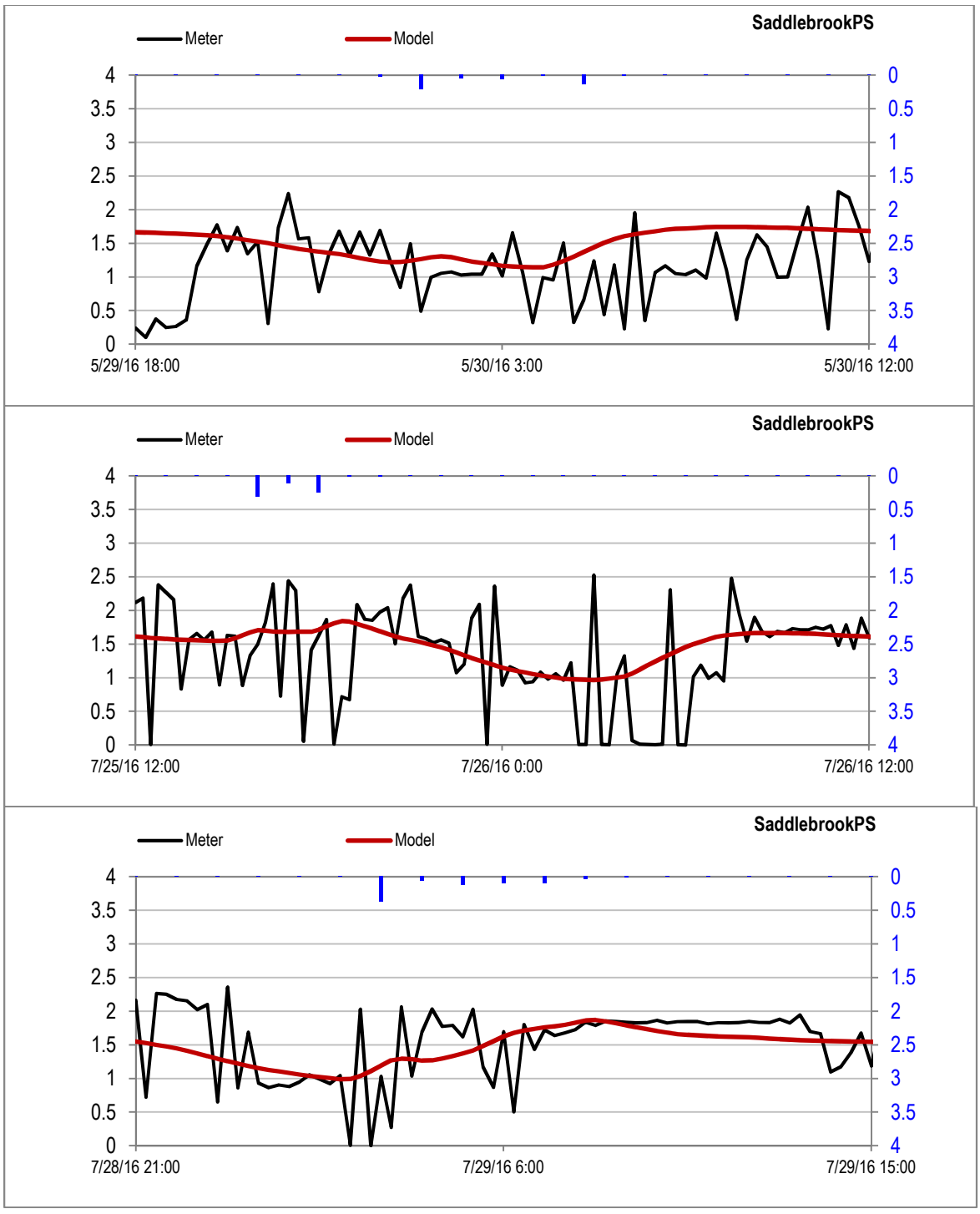

S_Clifton_1
Meter
Model
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

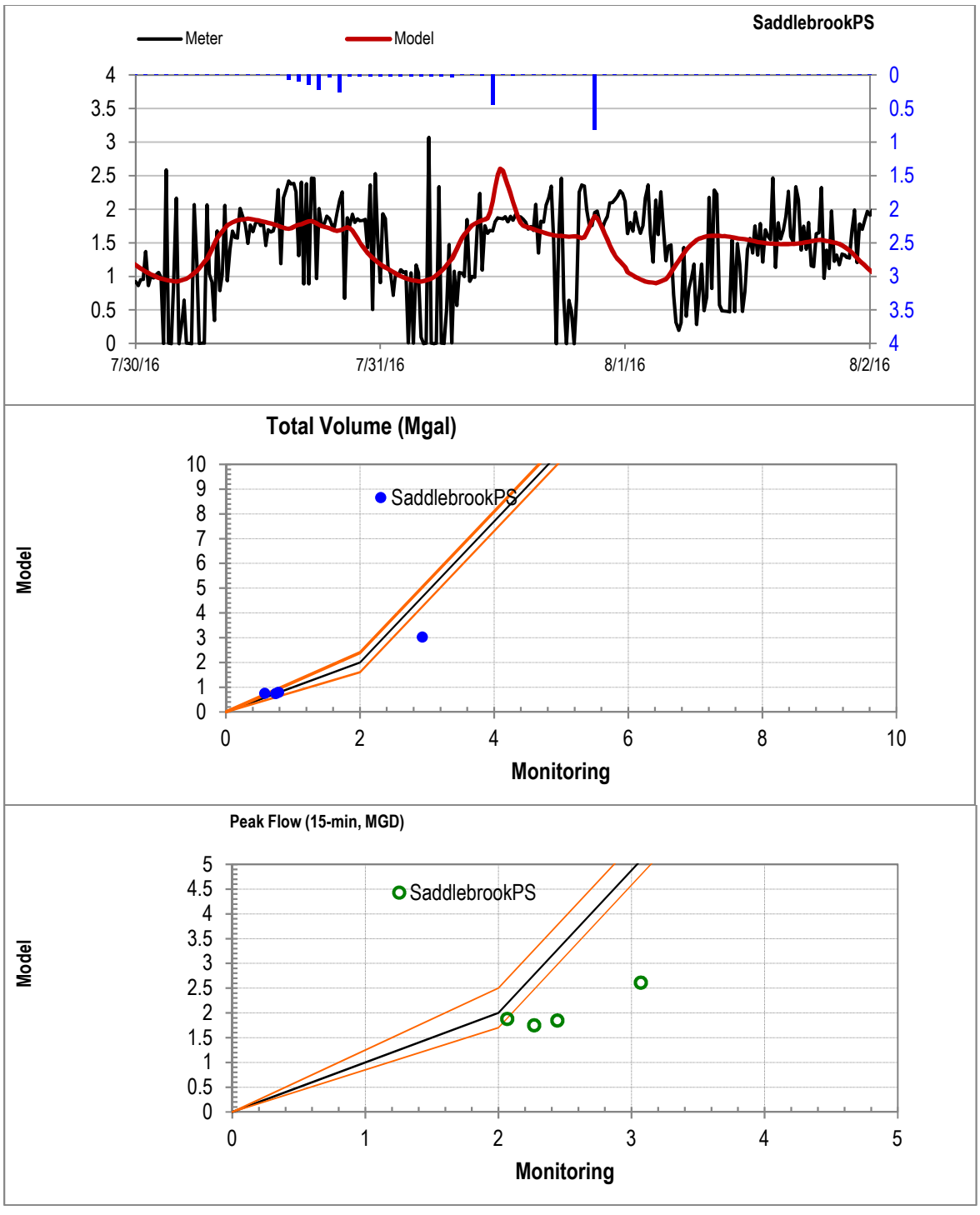

Total Volume (Mgal)
Model
S_Clifton_1
40
35
30
25
20
15
10
5
0
0
10
20
30
40
Monitoring

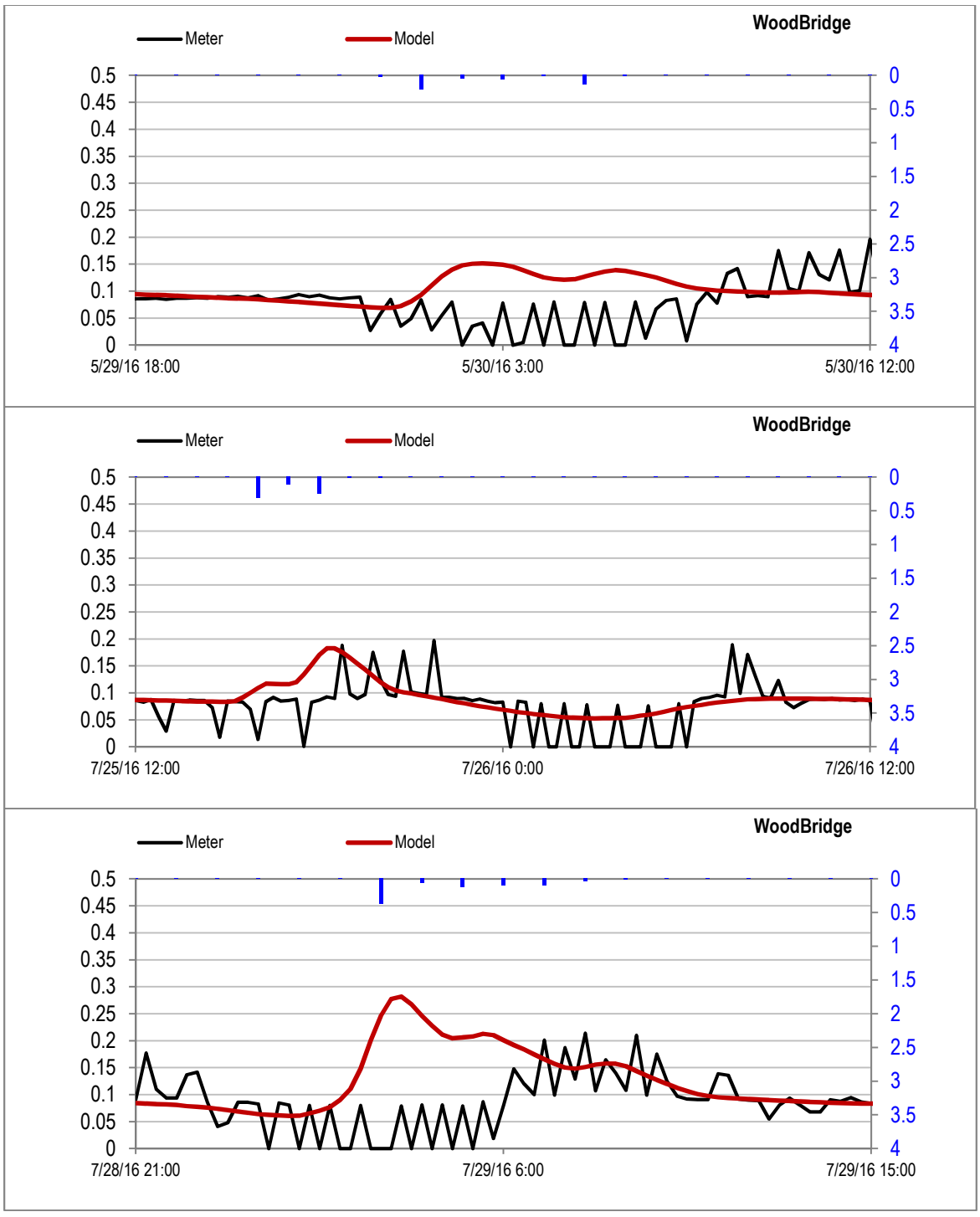

Peak Flow (15-min, MGD)
Model
S_Clifton_1
30
25
20
15
10
5
0
0
5
10
15
20
25
30
Monitoring

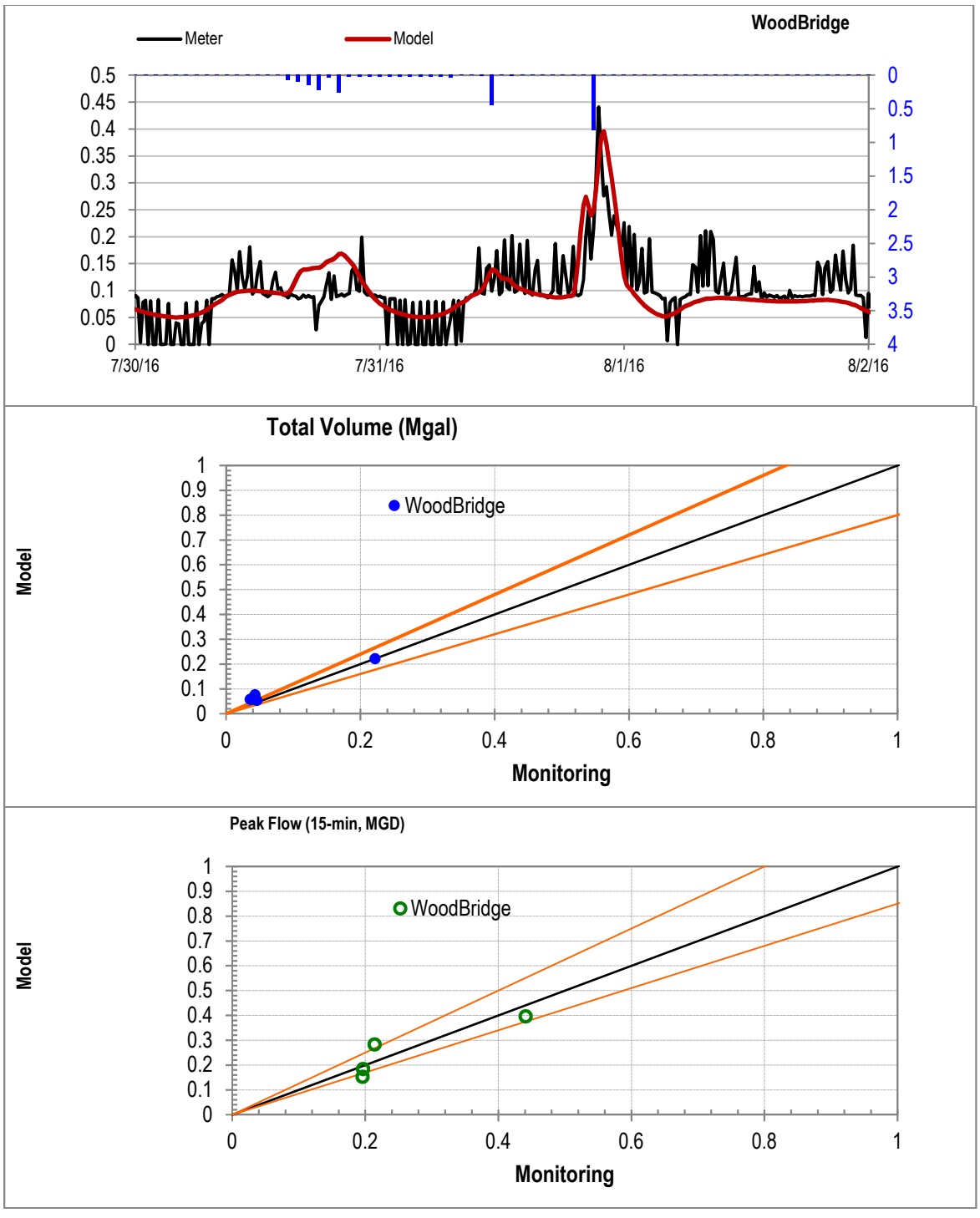

Garfield
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Garfield
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Garfield
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

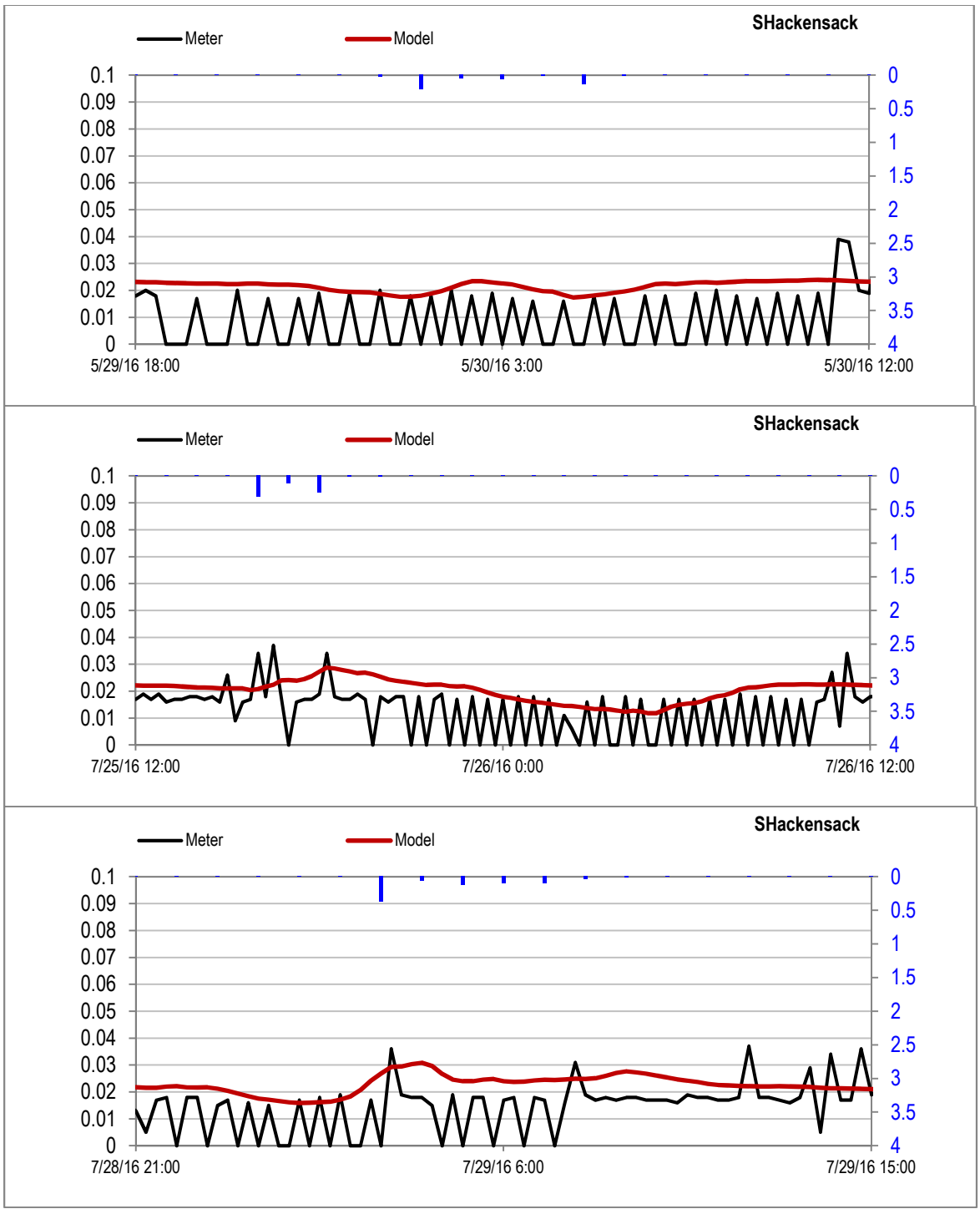

Garfield
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
30
25
20
15
10
5
0
Garfield
0
5
10
15
20
Monitoring
Peak Flow (15-min, MGD)
Model
14
12
10
8
6
4
2
0
Garfield
0
2
4
6
8
10
12
14
Monitoring

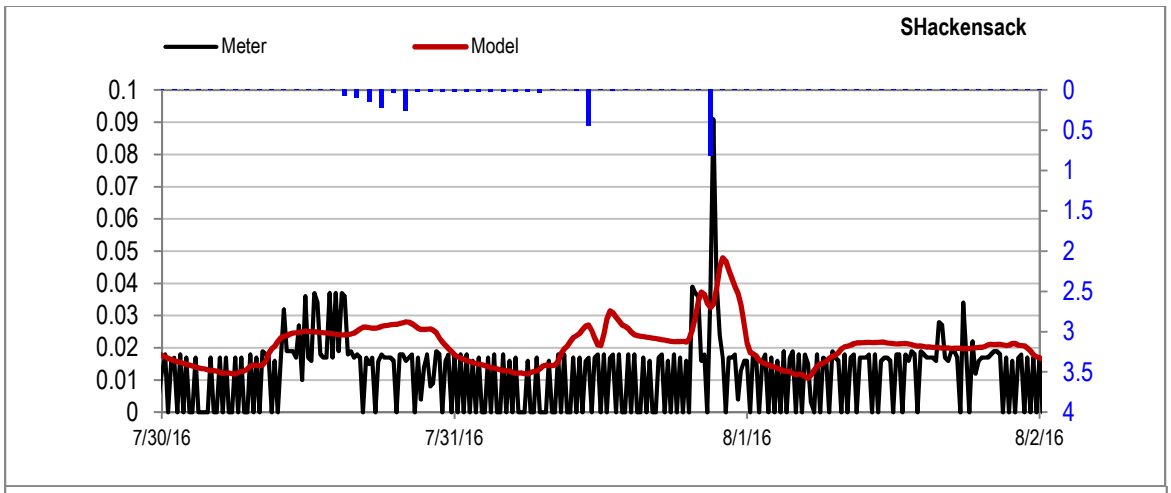

SaddlebrookPS
Meter
Model
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
SaddlebrookPS
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
SaddlebrookPS
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

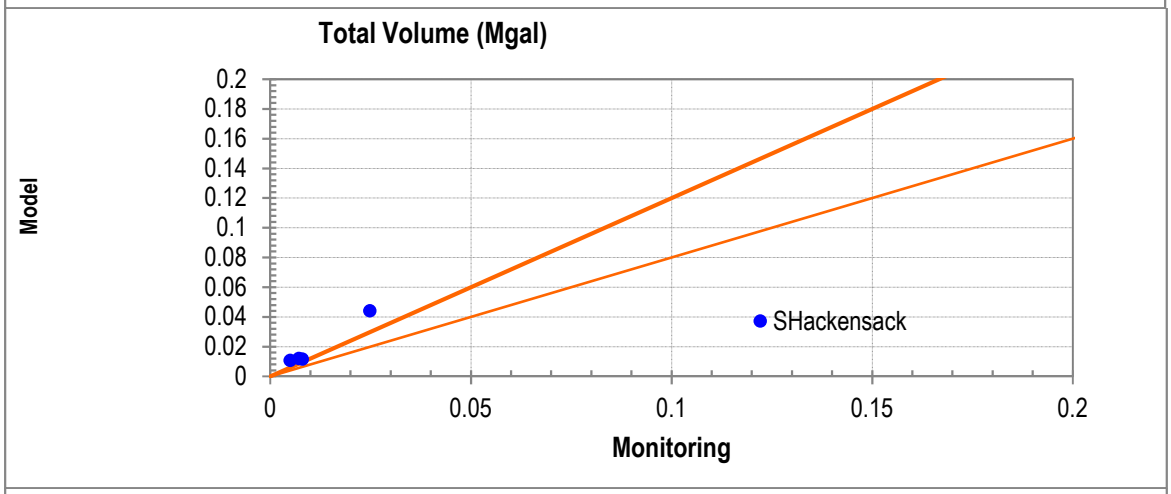

SaddlebrookPS
Meter
Model
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
SaddlebrookPS
10
9
8
7
6
5
4
3
2
1
0
0
2
4
6
8
10
Monitoring
Peak Flow (15-min, MGD)
Model
SaddlebrookPS
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Monitoring

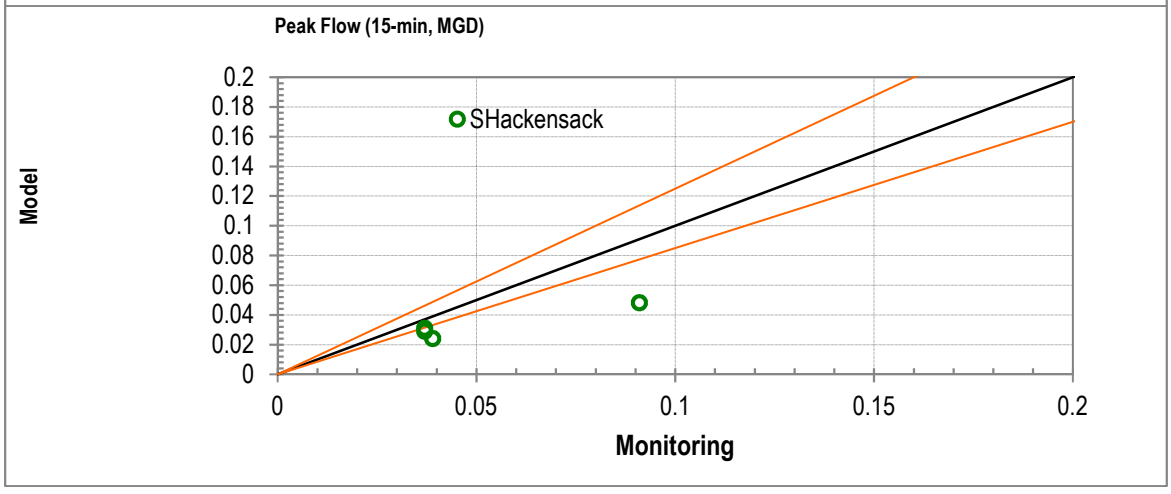

WoodBridge
Meter
Model
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
WoodBridge
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
WoodBridge
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

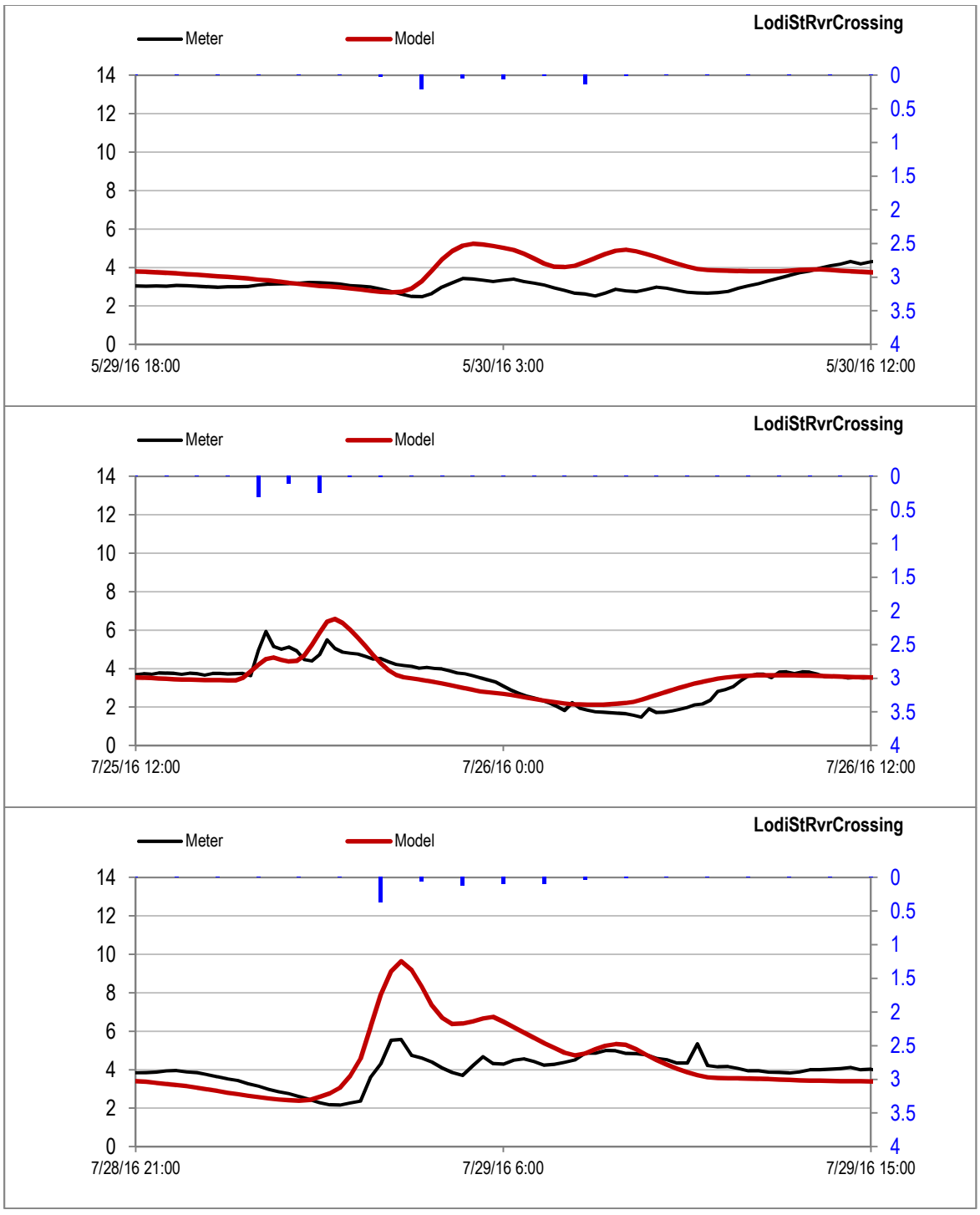

WoodBridge
Meter
Model
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
WoodBridge
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.2
0.4
0.6
0.8
1
Monitoring
Peak Flow (15-min, MGD)
Model
WoodBridge
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.2
0.4
0.6
0.8
1
Monitoring

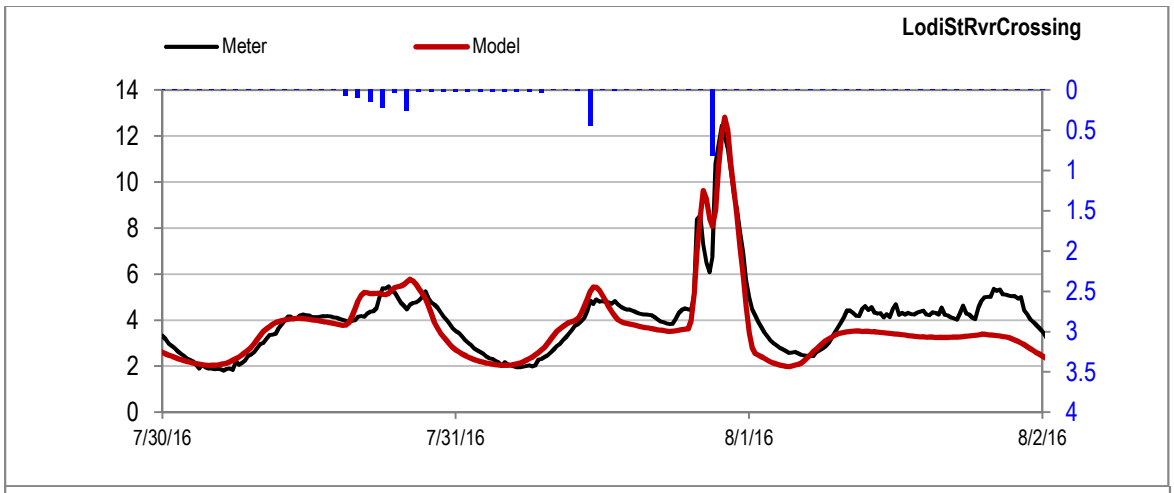

SHackensack
Meter
Model
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
SHackensack
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
SHackensack
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

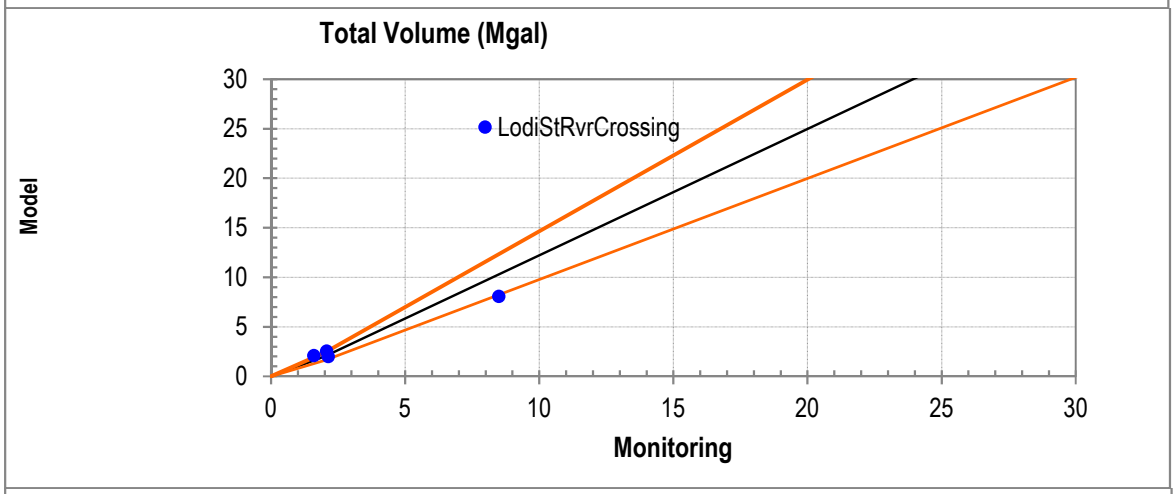

SHackensack
Meter
Model
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

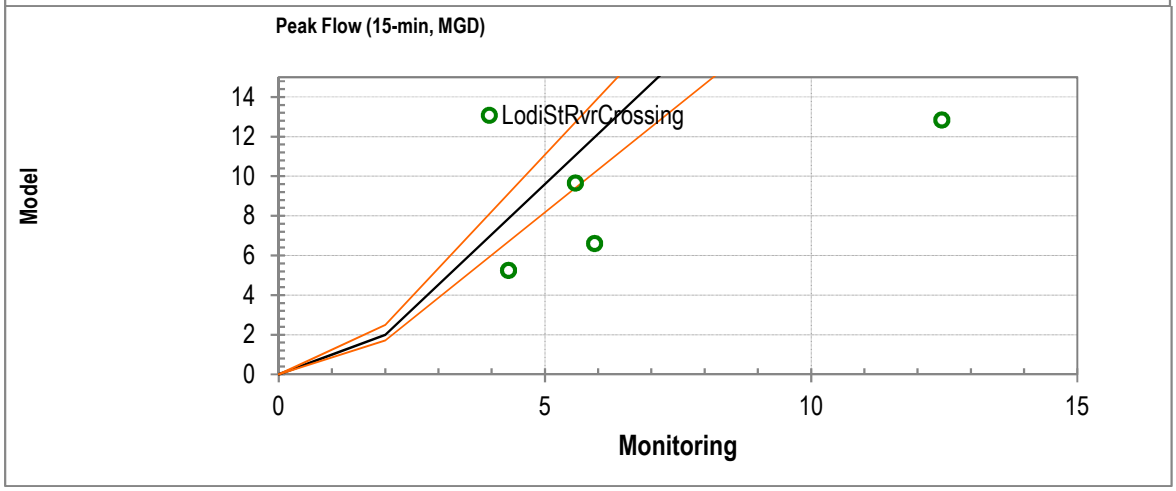

Total Volume (Mgal)
Model
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.05
0.1
0.15
0.2
SHackensack
Monitoring

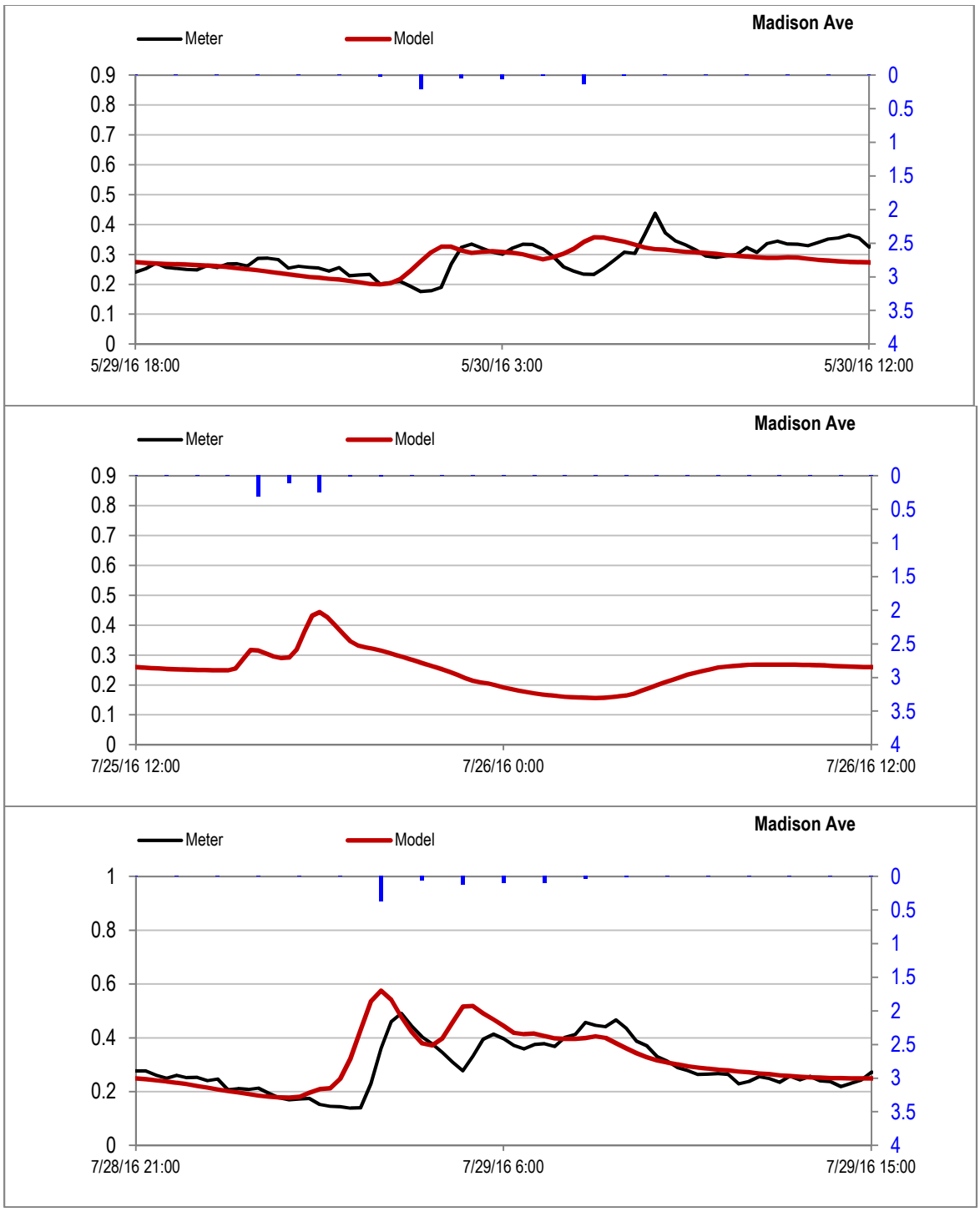

Peak Flow (15-min, MGD)
Model
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.05
0.1
0.15
0.2
SHackensack
Monitoring

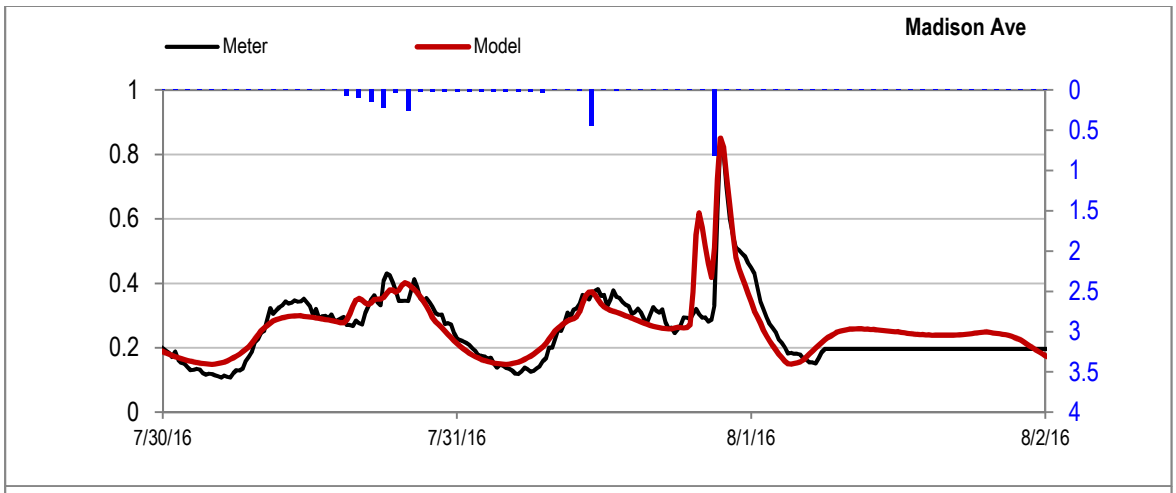

LodiStRvrCrossing
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
LodiStRvrCrossing
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
LodiStRvrCrossing
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

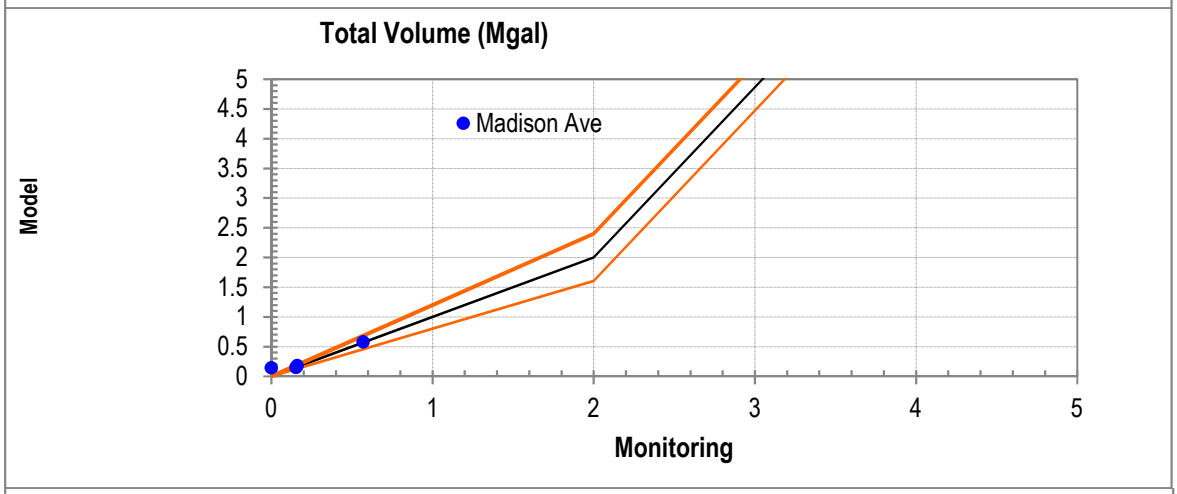

LodiStRvrCrossing
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

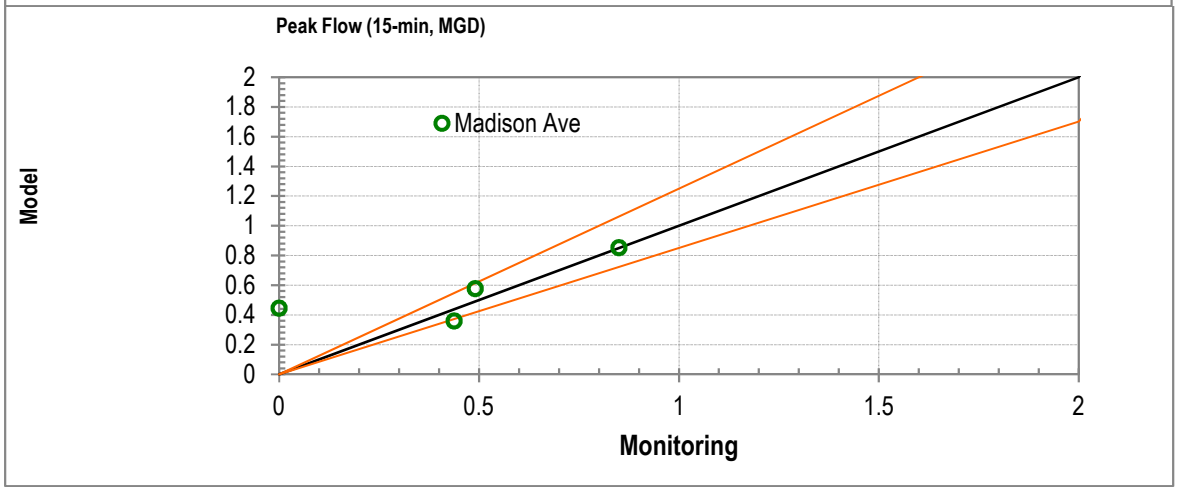

Total Volume (Mgal)
Model
LodiStRvrCrossing
30
25
20
15
10
5
0
0
5
10
15
20
25
30
Monitoring

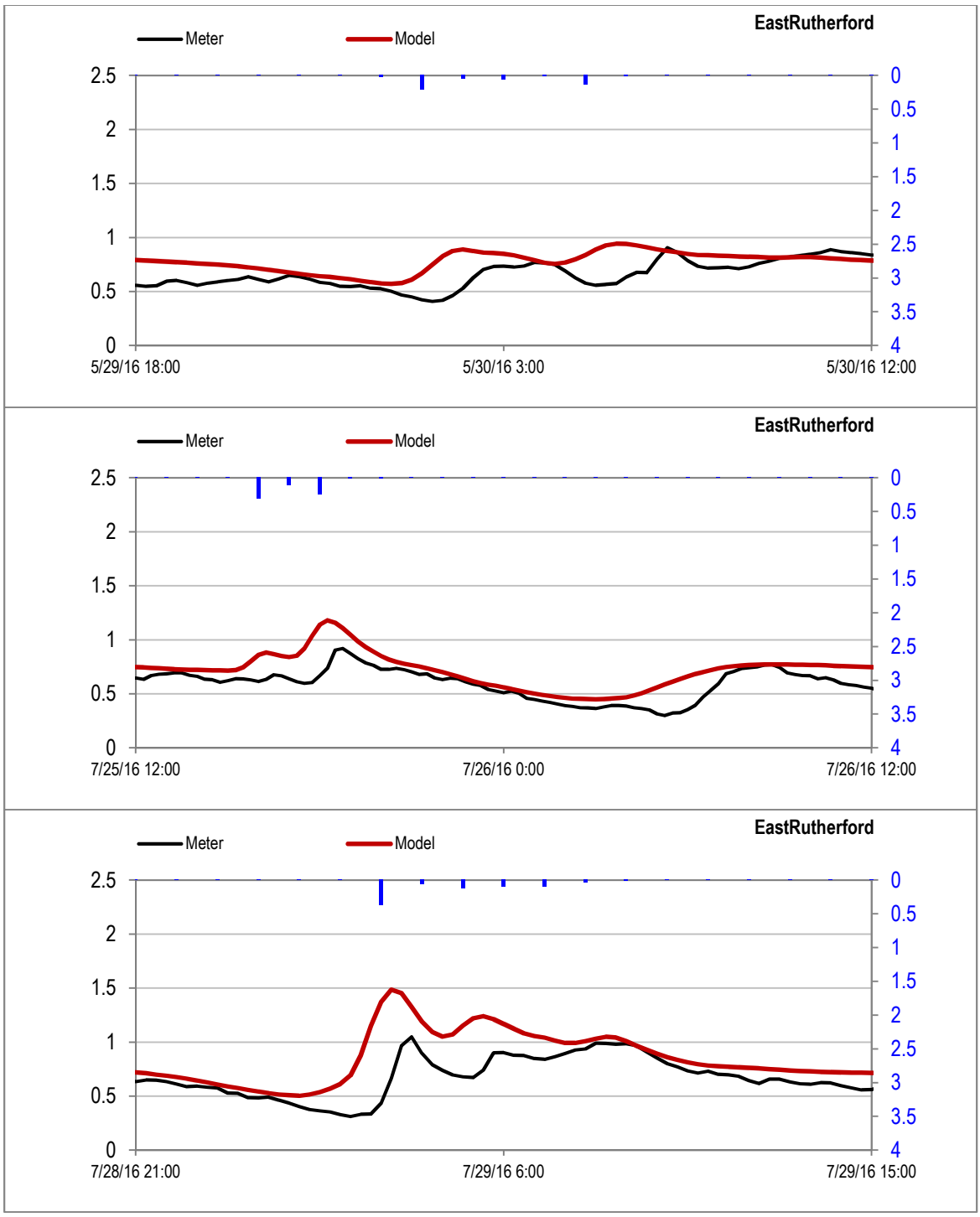

Peak Flow (15-min, MGD)
Model
LodiStRvrCrossing
14
12
10
8
6
4
2
0
0
5
10
15
Monitoring

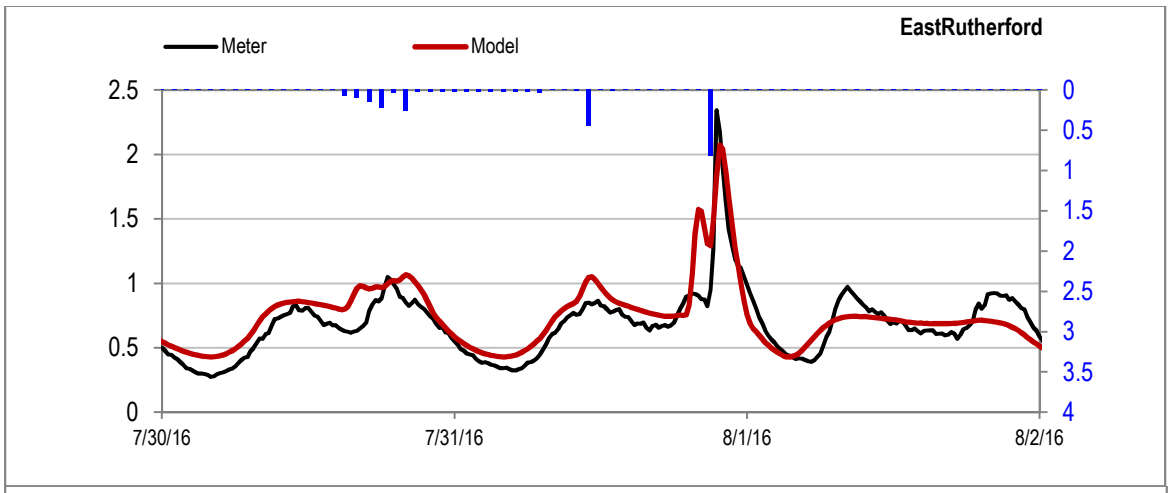

Madison Ave
Meter
Model
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Madison Ave
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Madison Ave
Meter
Model
1
0.8
0.6
0.4
0.2
0
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

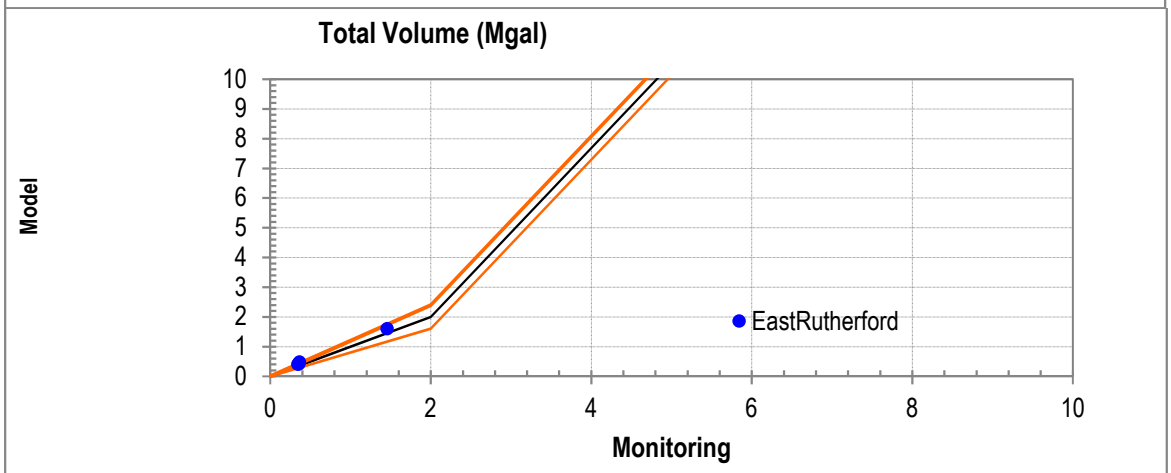

Madison Ave
Meter
Model
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

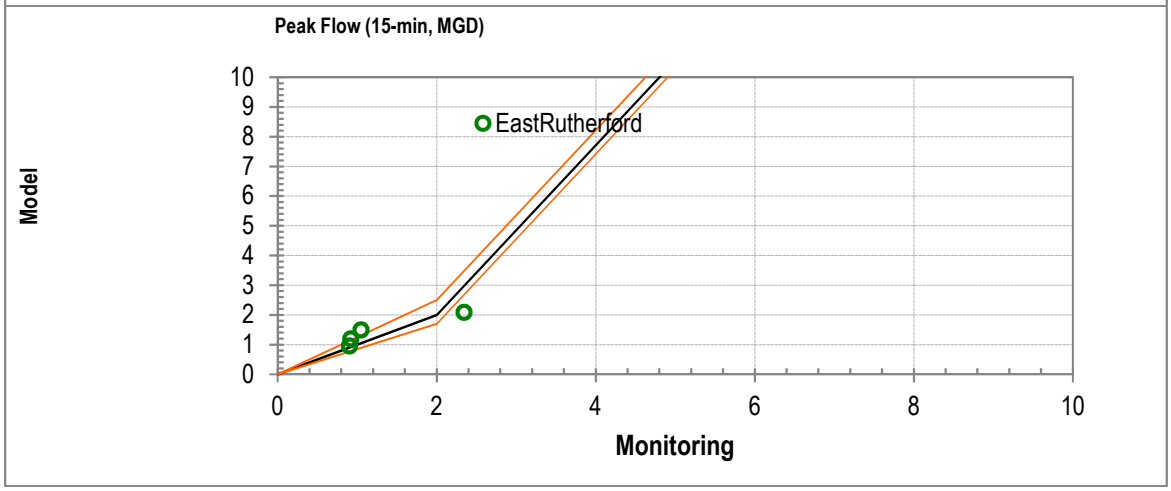

Total Volume (Mgal)
Model
Madison Ave
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Monitoring

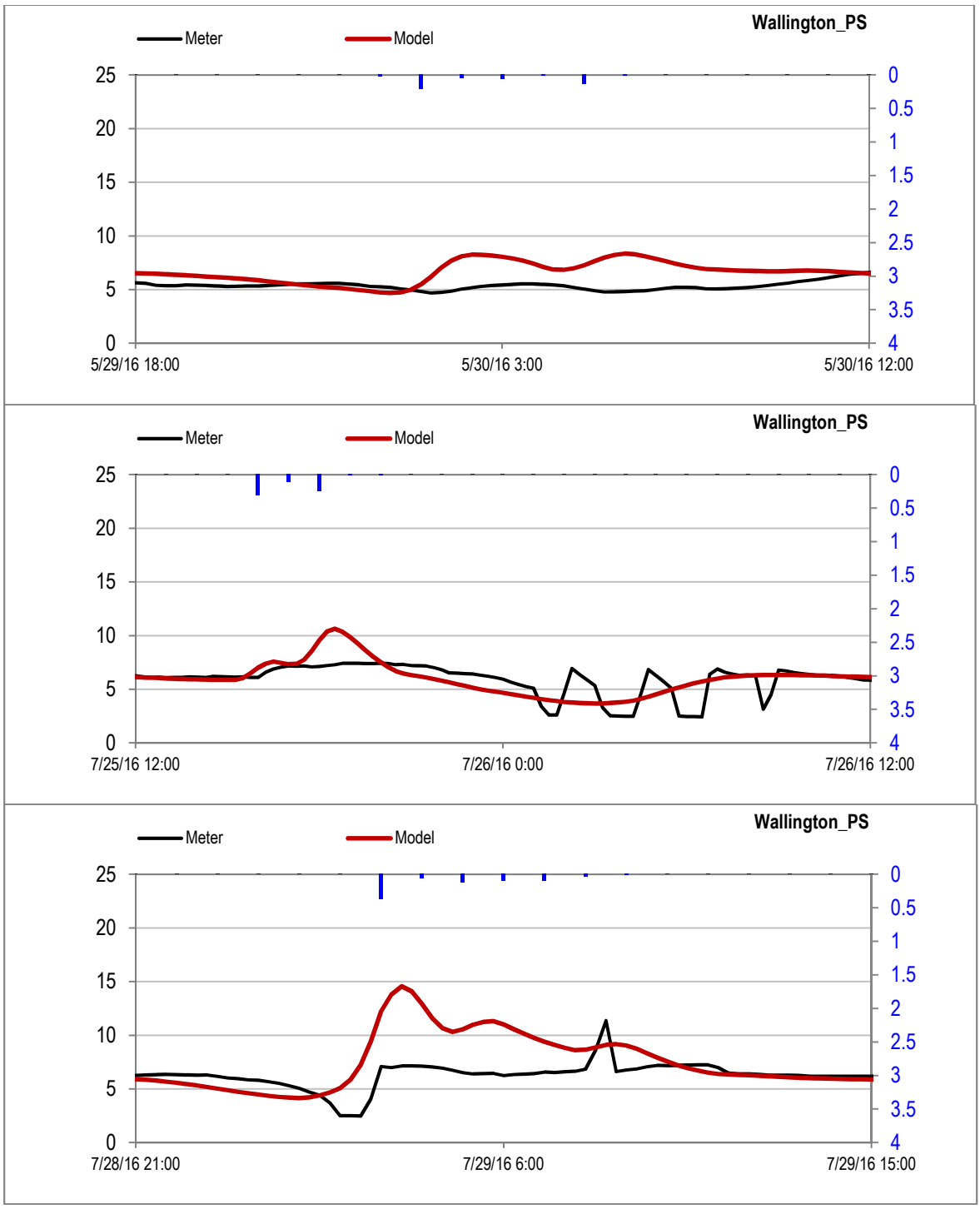

Peak Flow (15-min, MGD)
Model
Madison Ave
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
Monitoring

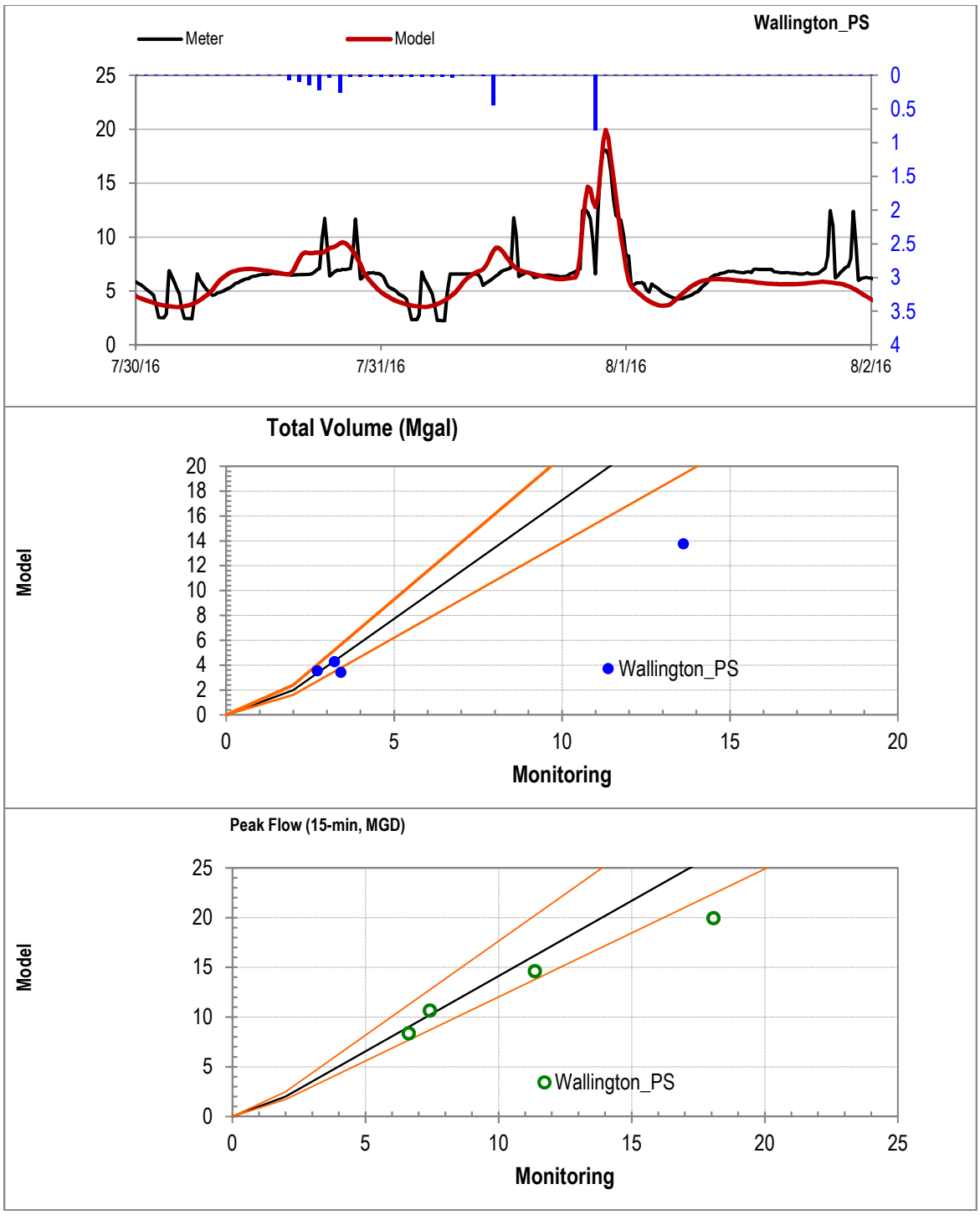

EastRutherford
Meter
Model
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
EastRutherford
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
EastRutherford
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

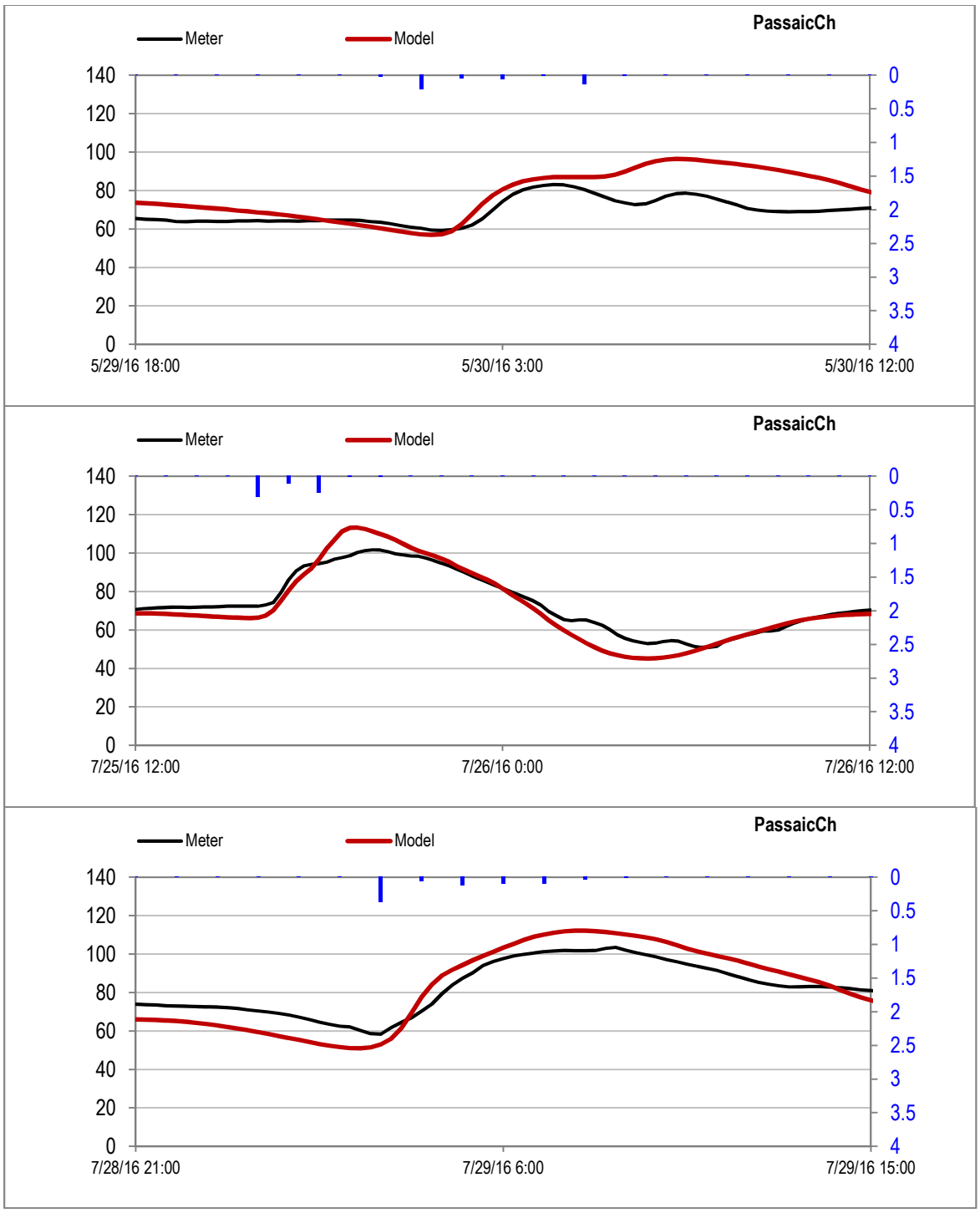

EastRutherford
Meter
Model
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

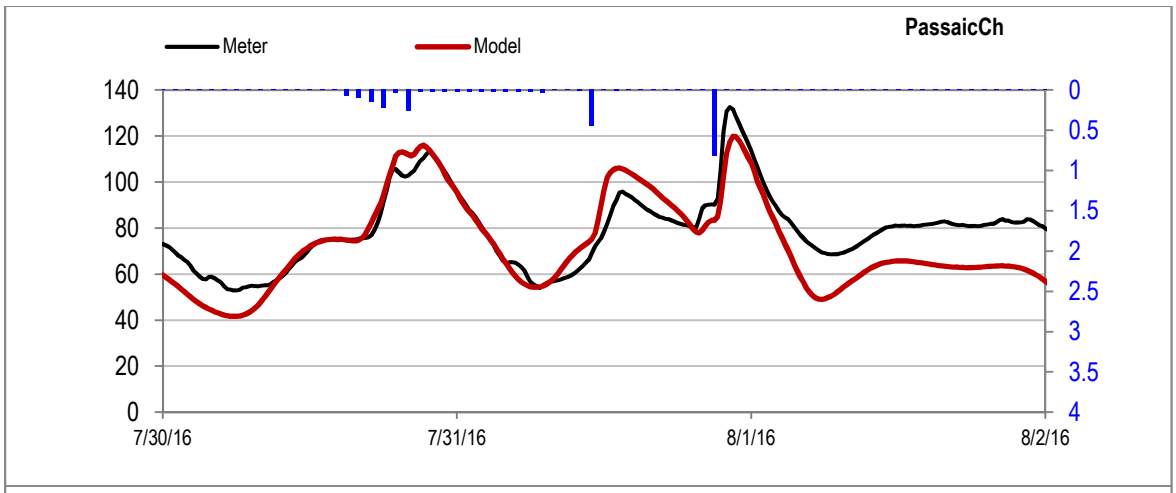

Total Volume (Mgal)
Model
Monitoring
EastRutherford
0
1
2
3
4
5
6
7
8
9
10

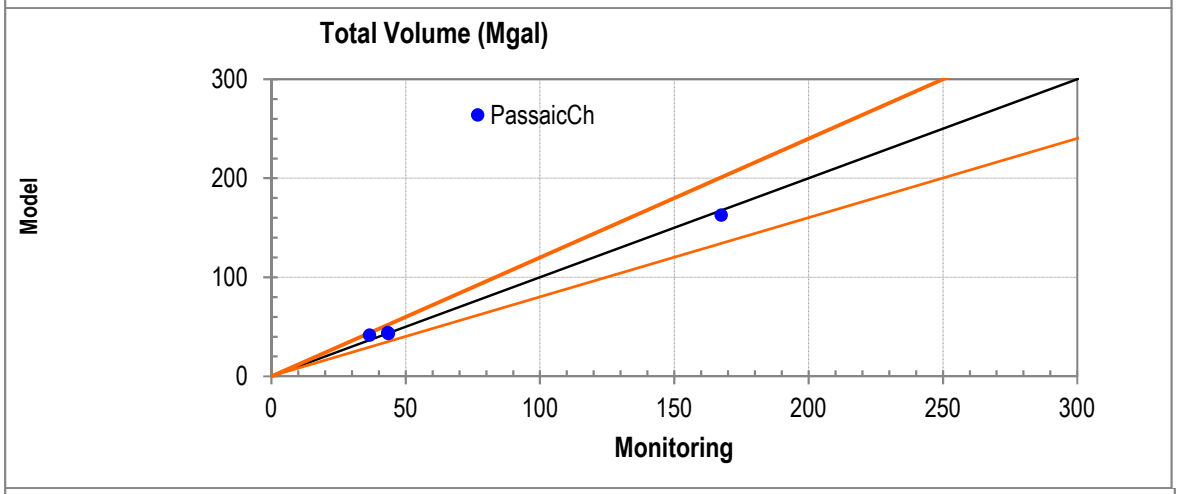

Peak Flow (15-min, MGD)
Model
Monitoring
EastRutherford
0
1
2
3
4
5
6
7
8
9
10

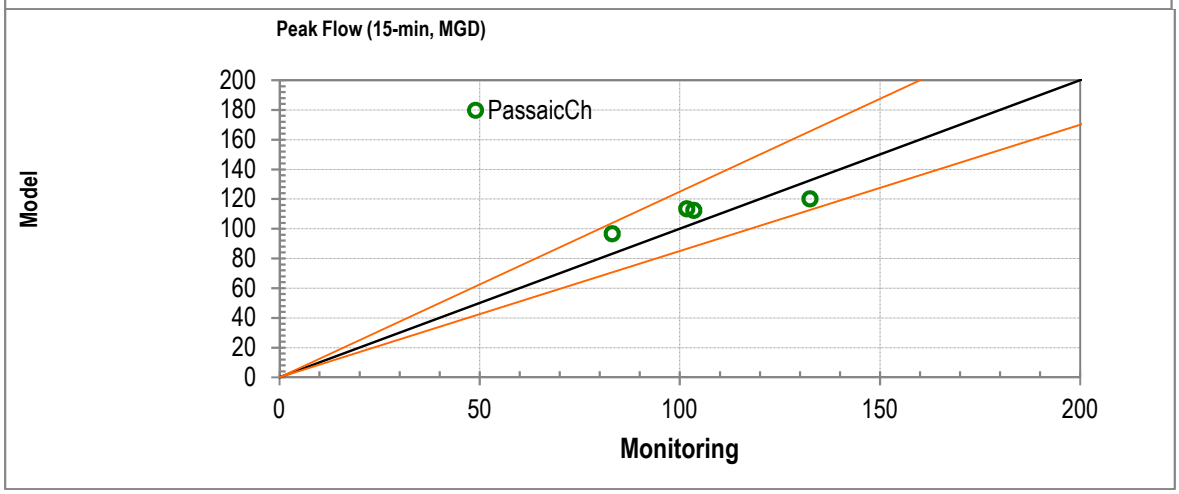

Wallington_PS
Meter
Model
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Wallington_PS
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Wallington_PS
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

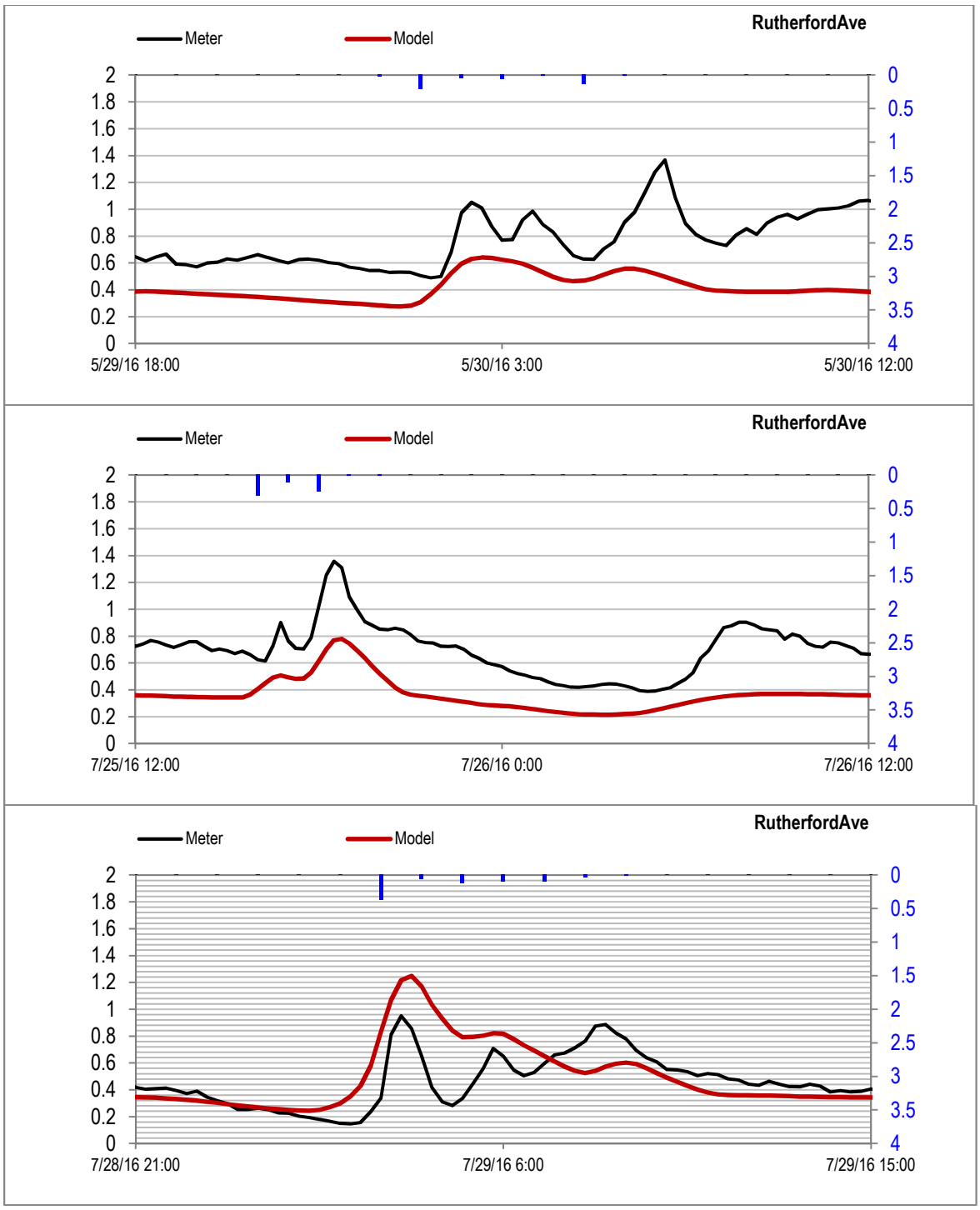

Wallington_PS
Meter
Model
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Wallington_PS
Monitoring
Peak Flow (15-min, MGD)
Model
25
20
15
10
5
0
0
5
10
15
20
25
Wallington_PS
Monitoring

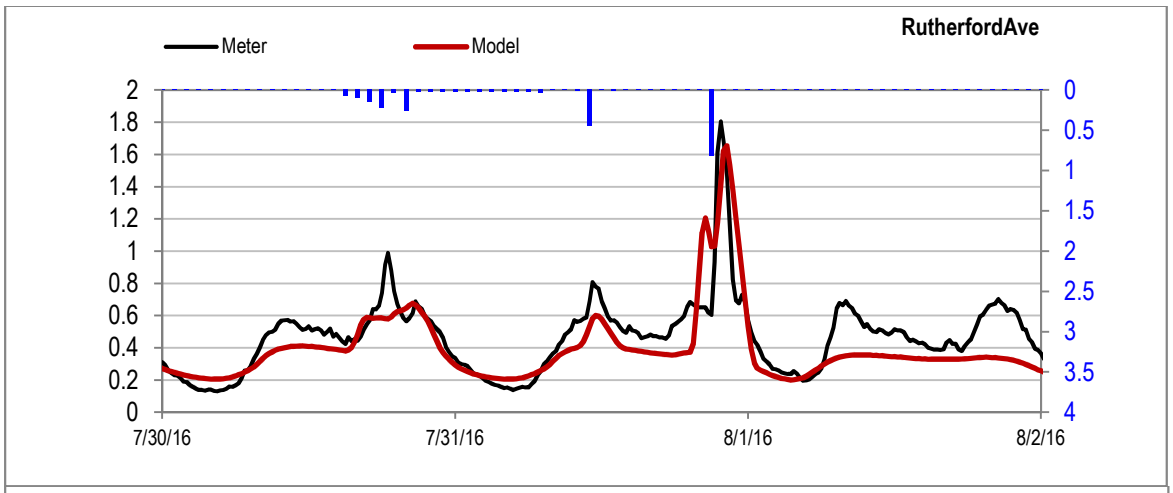

PassaicCh
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
PassaicCh
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
PassaicCh
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

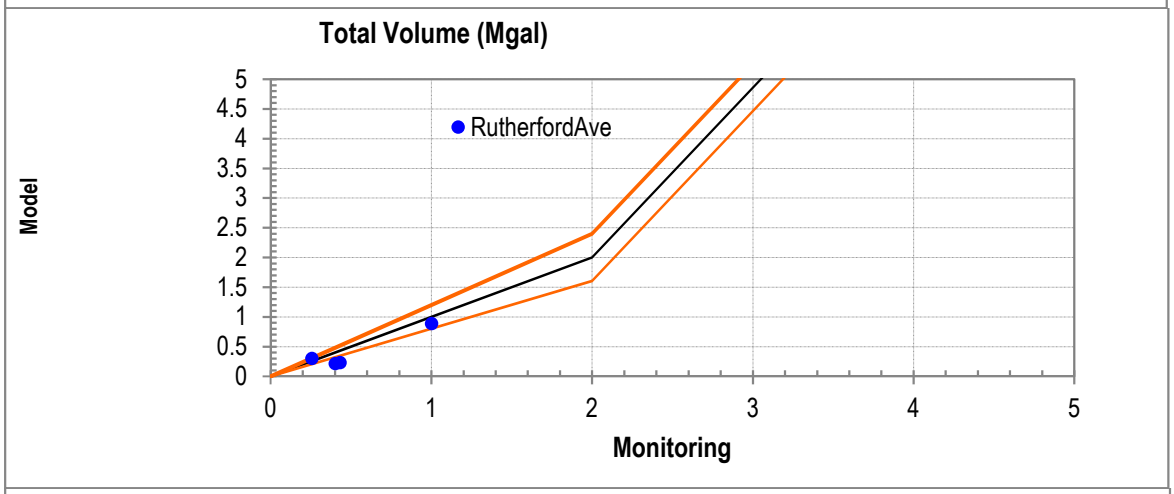

PassaicCh
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

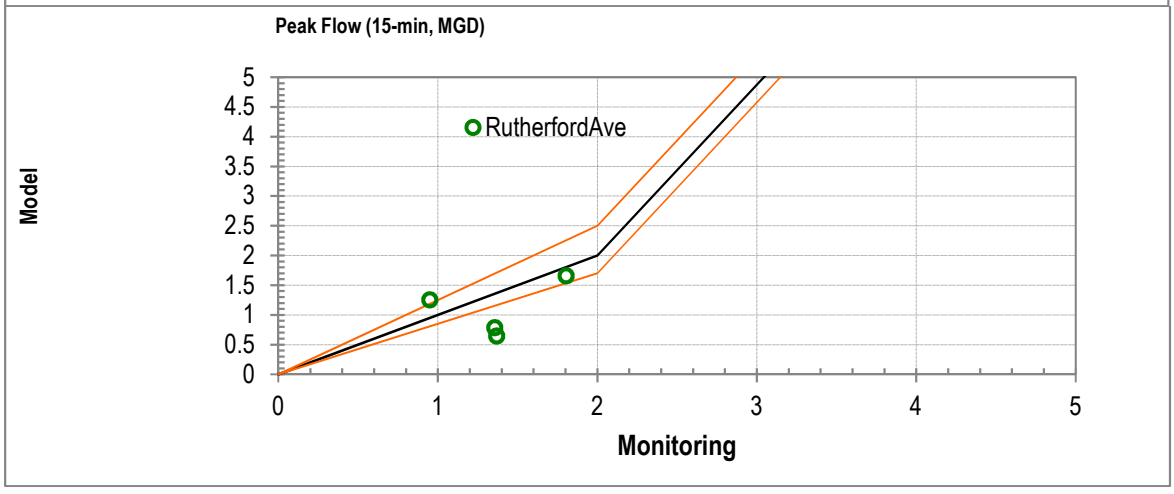

Total Volume (Mgal)
Model
PassaicCh
300
200
100
0
0
50
100
150
200
250
300
Monitoring

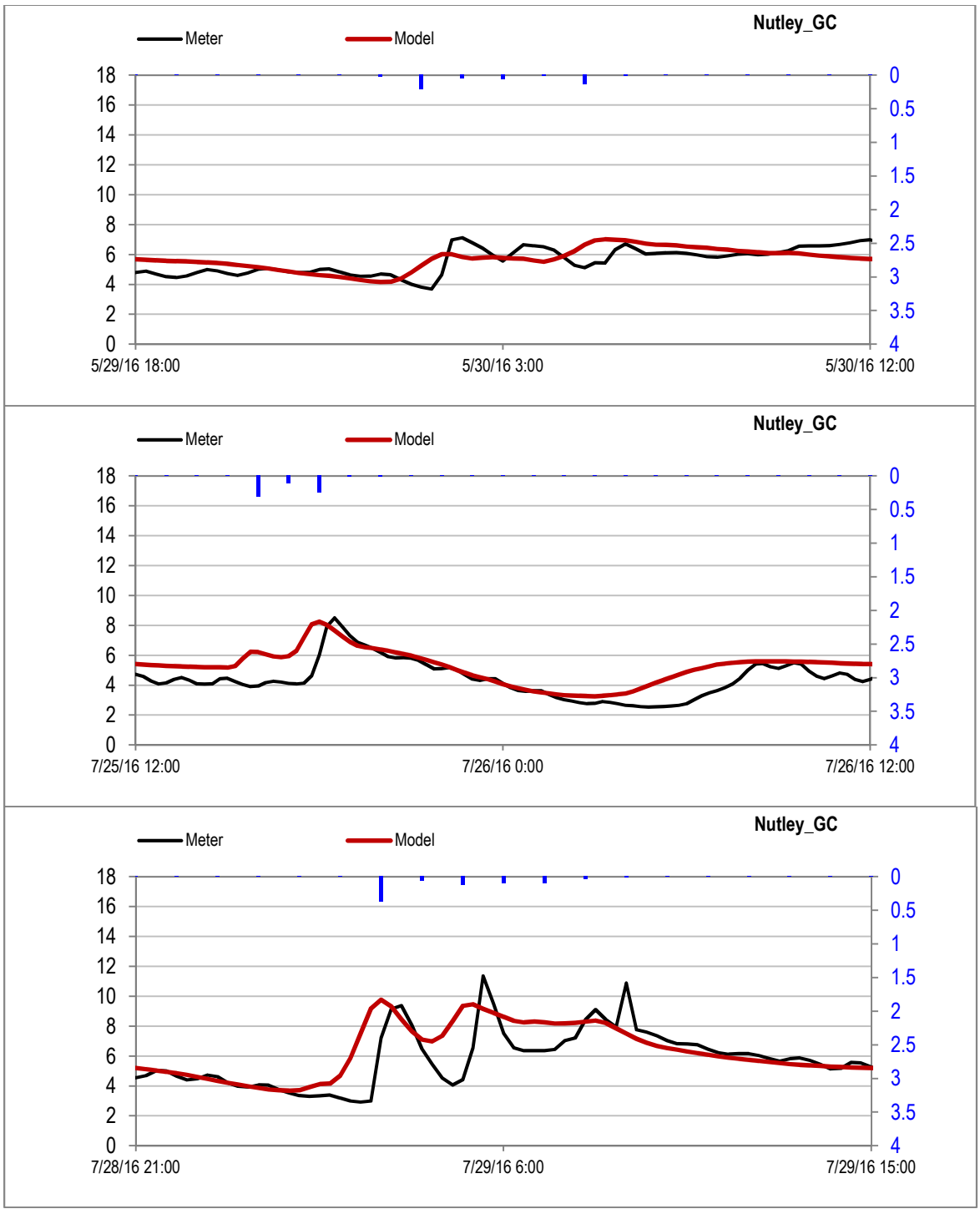

Peak Flow (15-min, MGD)
Model
PassaicCh
200
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
Monitoring

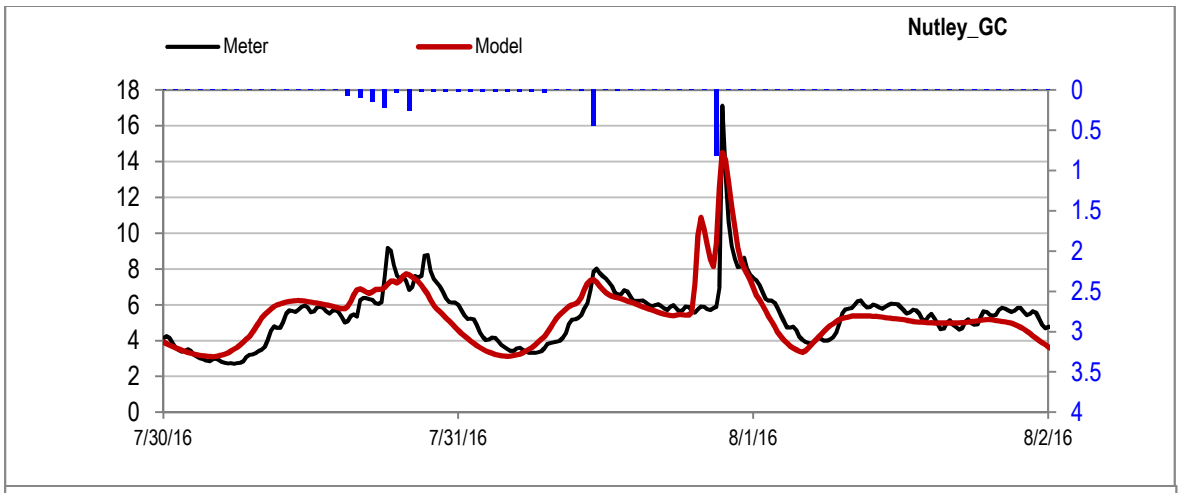

RutherfordAve
Meter
Model
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
RutherfordAve
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
RutherfordAve
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

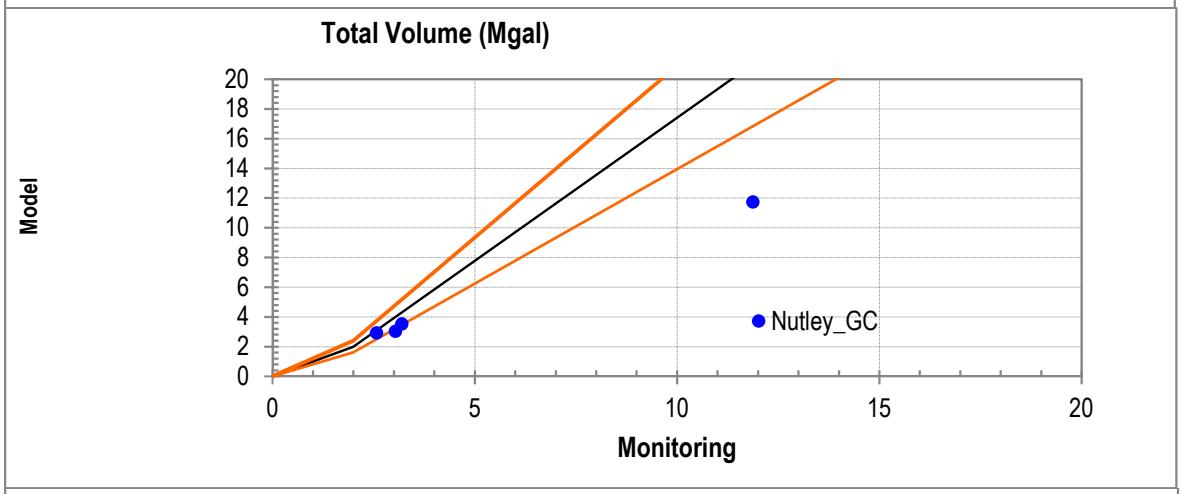

RutherfordAve
Meter
Model
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

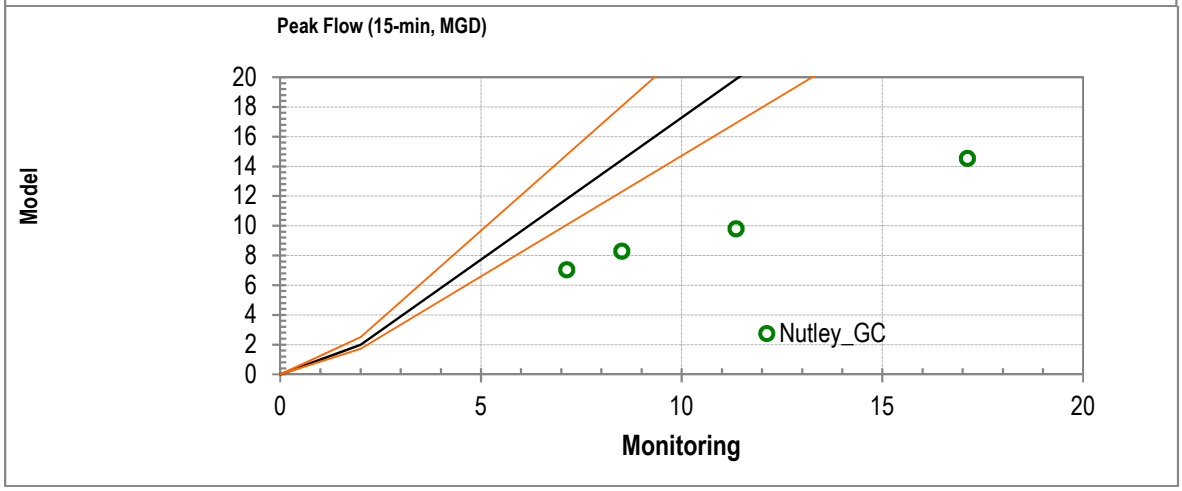

Total Volume (Mgal)
Model
RutherfordAve
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Monitoring

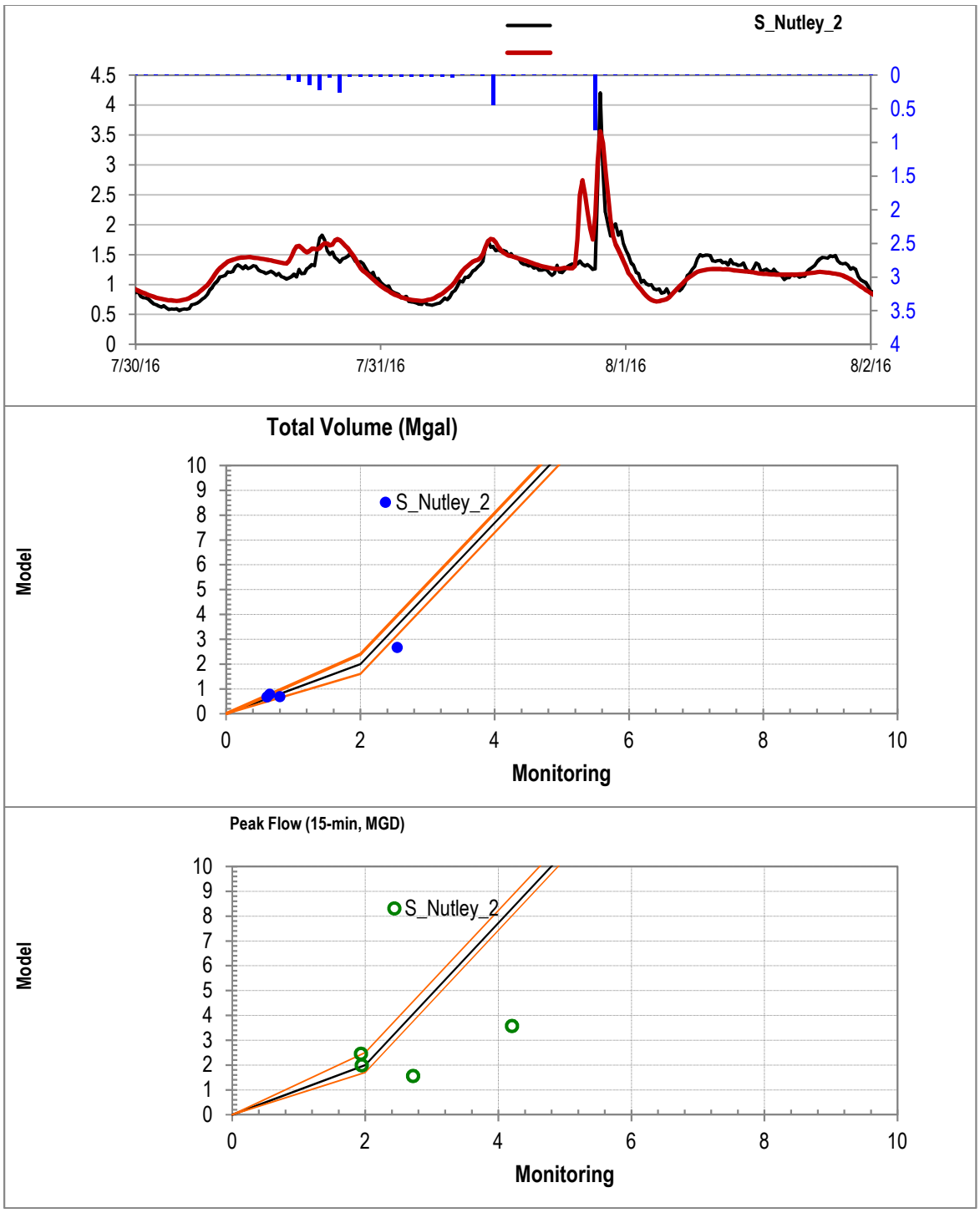

Peak Flow (15-min, MGD)
Model
RutherfordAve
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Monitoring

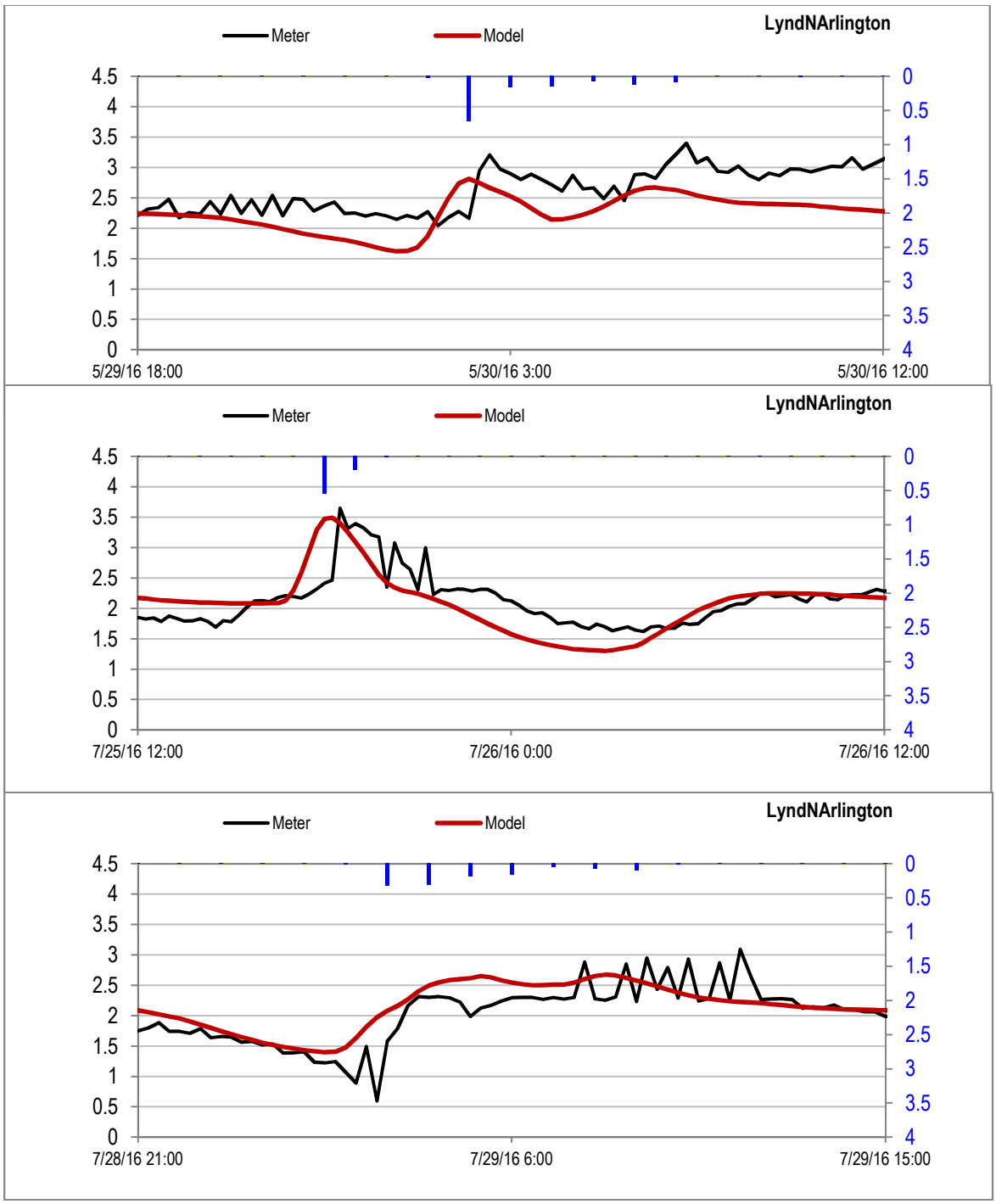

Nutley_GC
Meter
Model
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Nutley_GC
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Nutley_GC
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

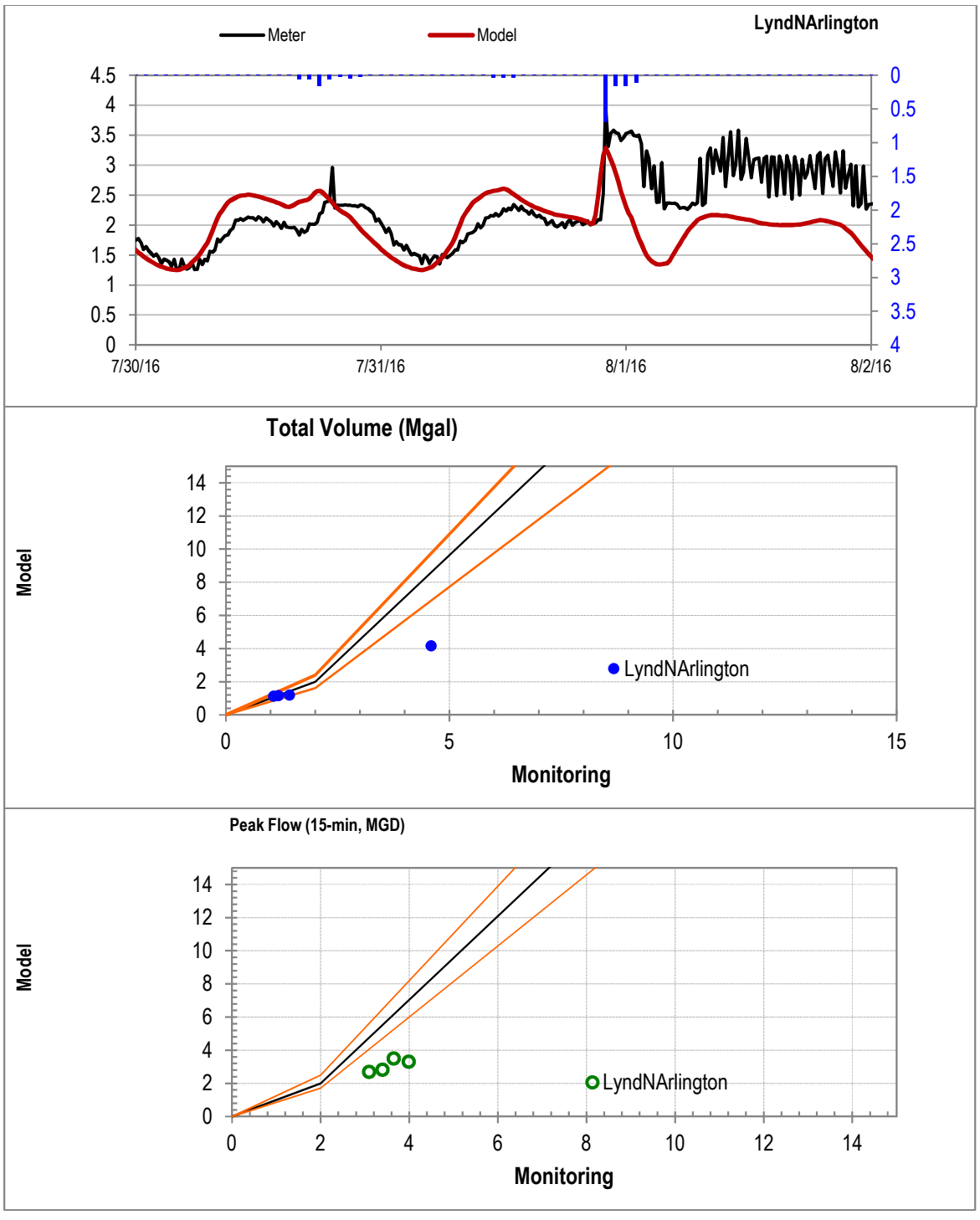

Nutley_GC
Meter
Model
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

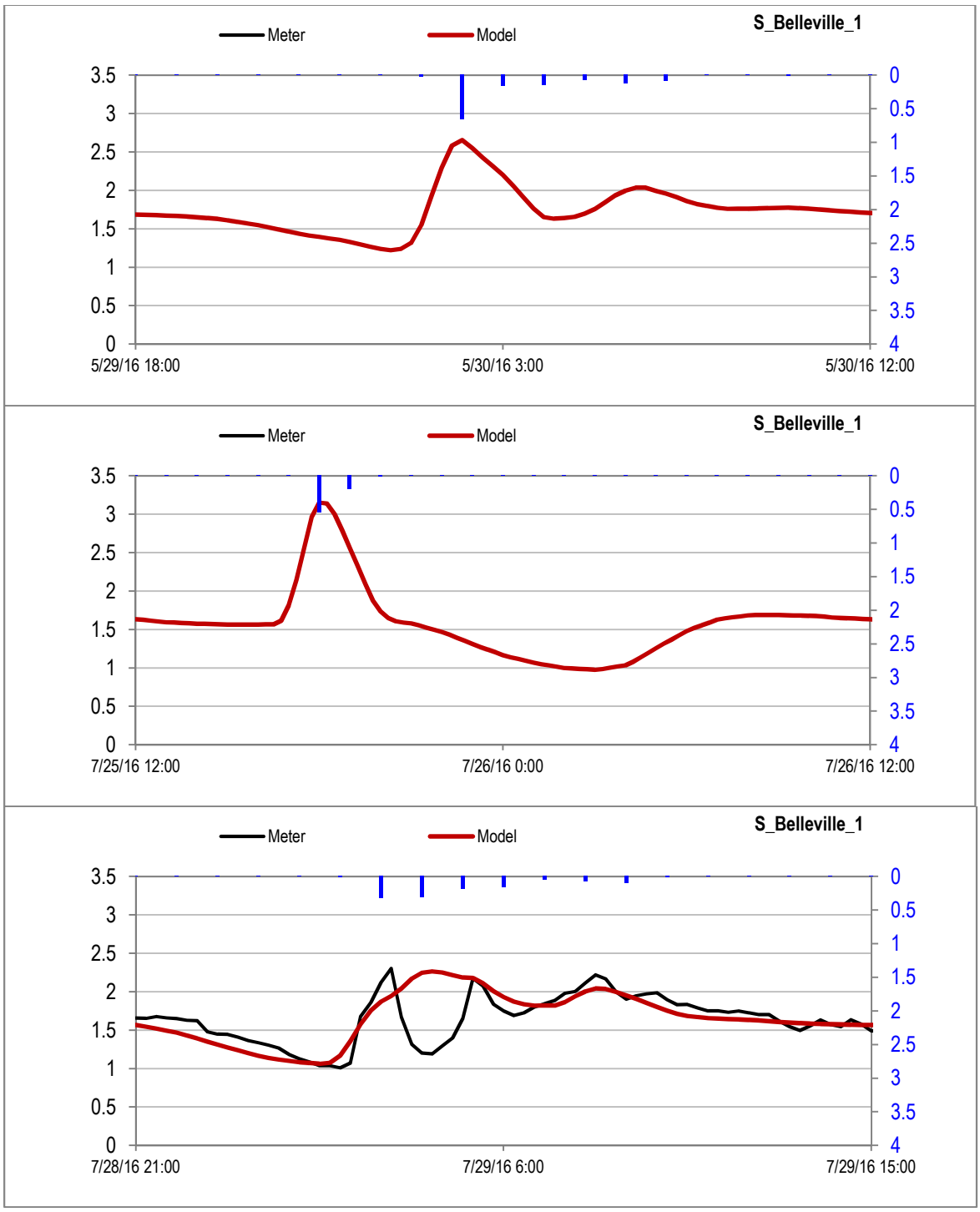

Total Volume (Mgal)
Model
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Monitoring
Nutley_GC

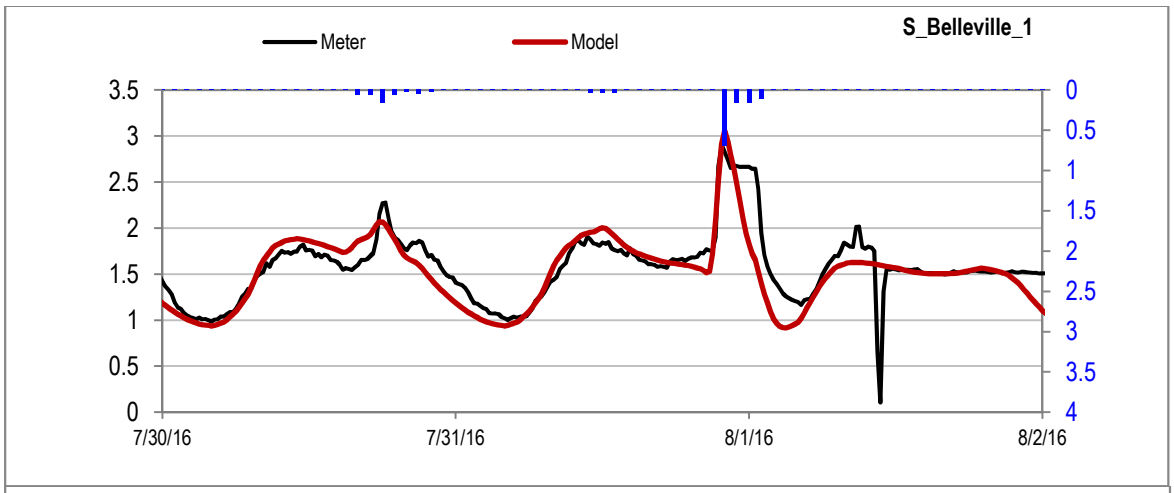

Peak Flow (15-min, MGD)
Model
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Monitoring
Nutley_GC

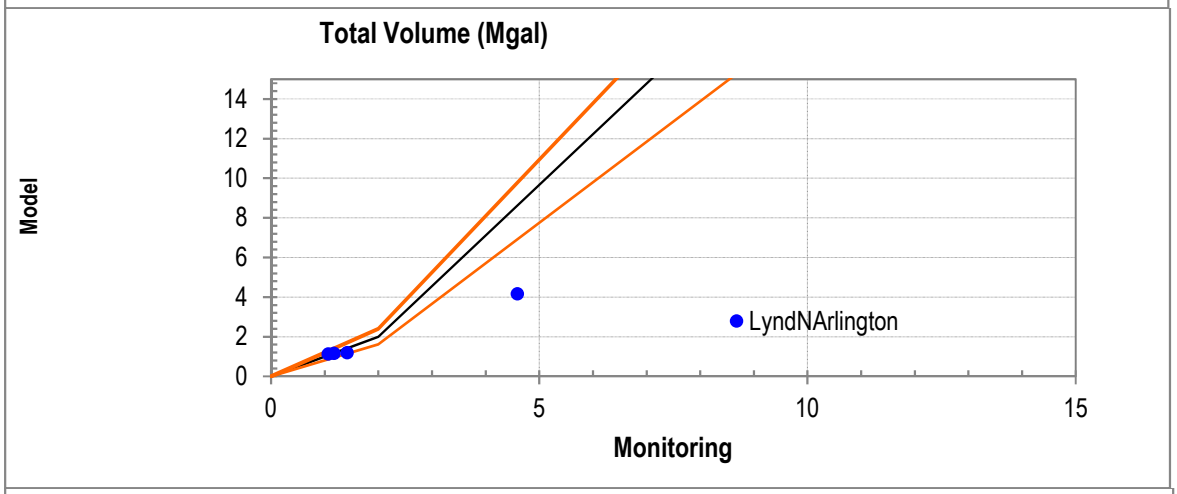

S_Nutley_2
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
S_Nutley_2
Monitoring
Peak Flow (15-min, MGD)
Model
S_Nutley_2
Monitoring

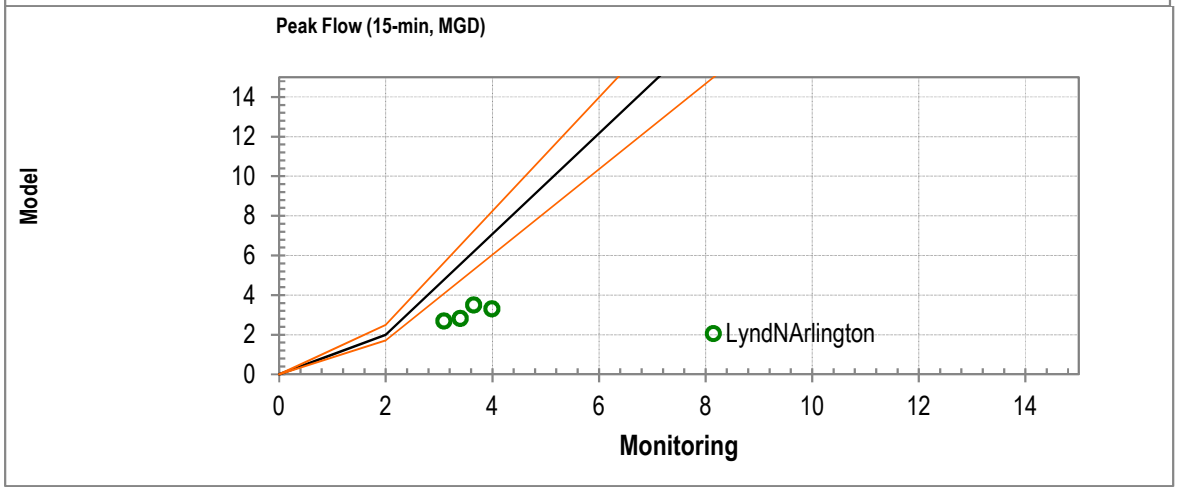

LyndNArlington
Meter
Model
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
LyndNArlington
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
LyndNArlington
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

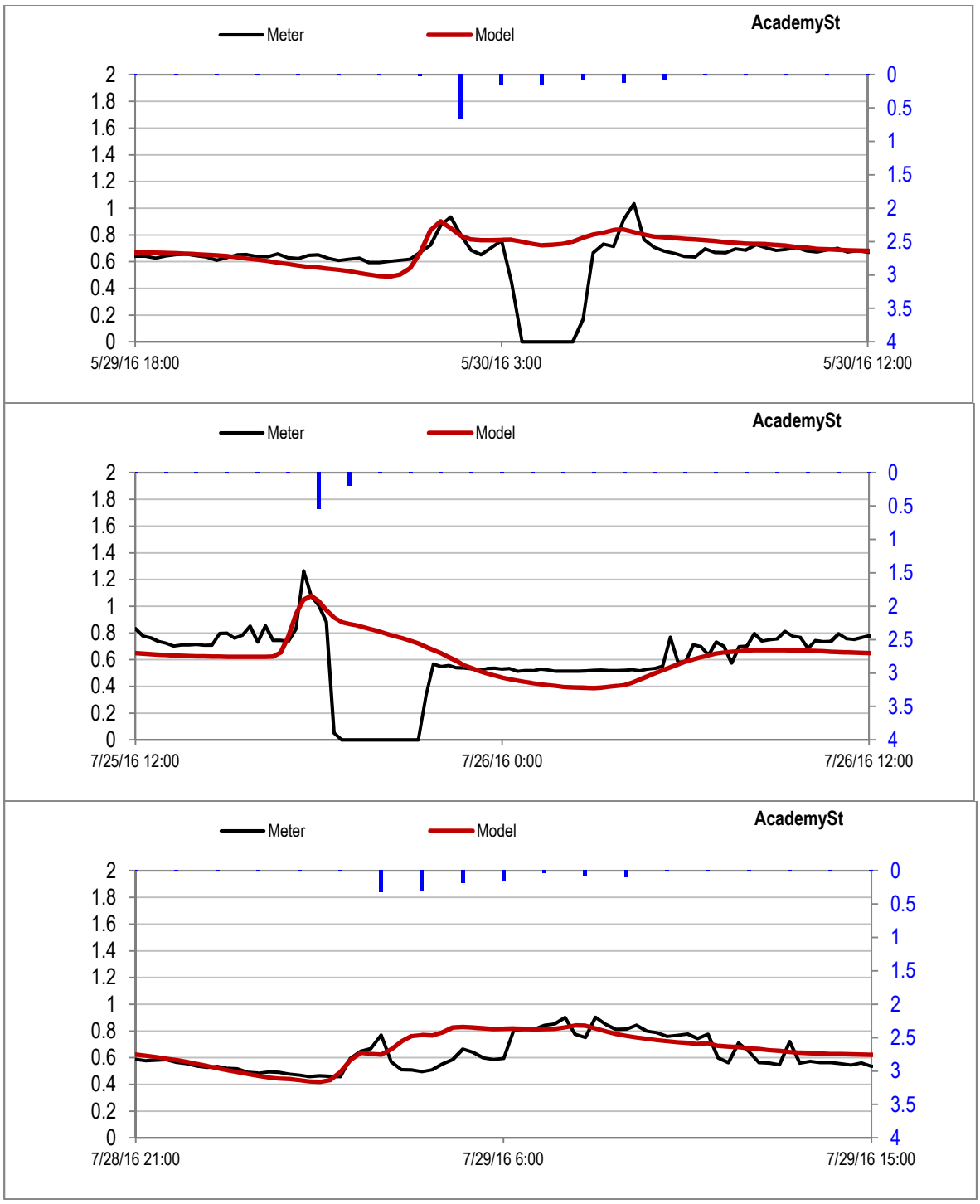

LyndNArlington
Meter
Model
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
14
12
10
8
6
4
2
0
0
5
10
15
LyndNArlington
Monitoring
Peak Flow (15-min, MGD)
Model
14
12
10
8
6
4
2
0
0
2
4
6
8
10
12
14
LyndNArlington
Monitoring

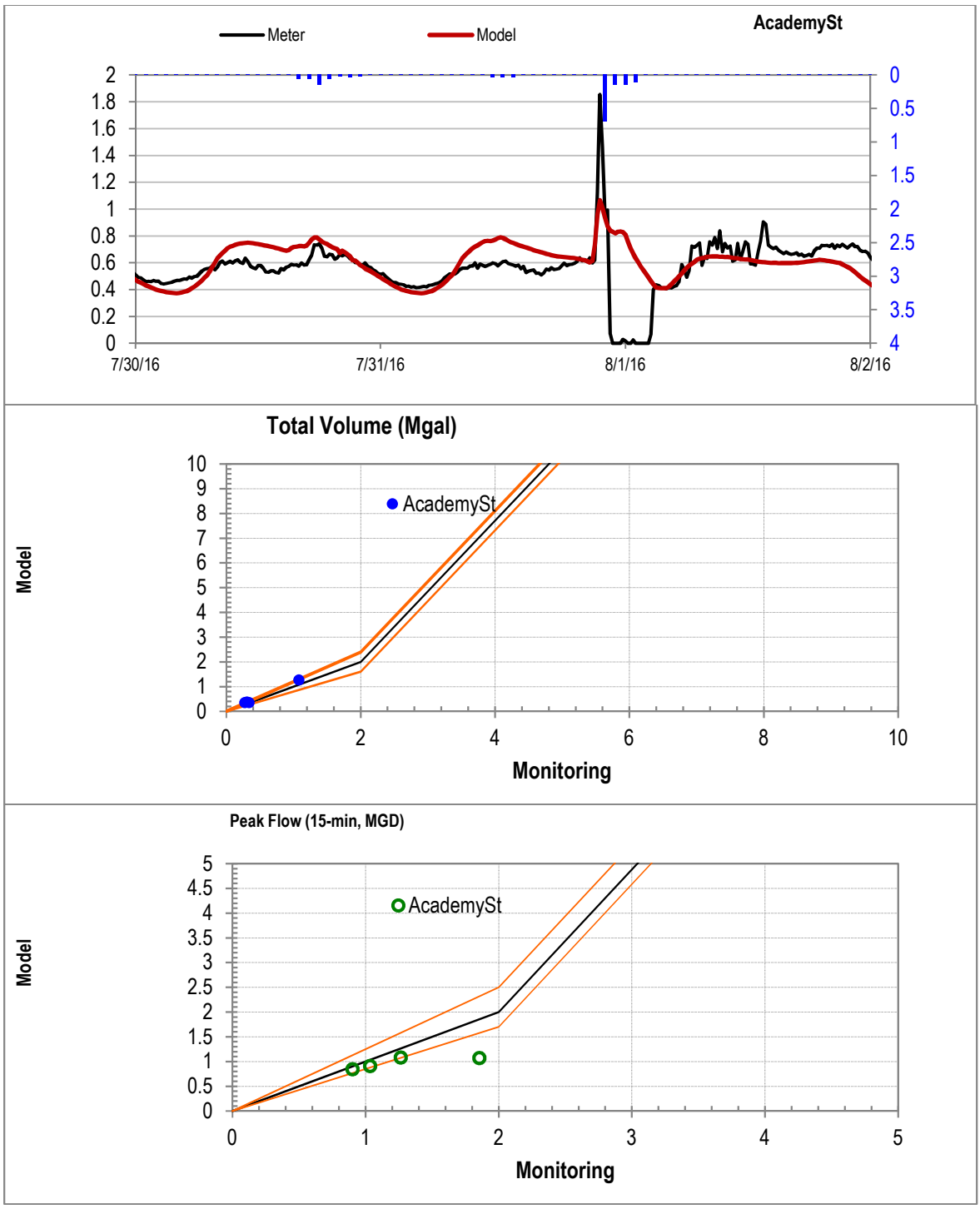

Meter
Model
S_Belleville_1
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Meter
Model
S_Belleville_1
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Meter
Model
S_Belleville_1
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

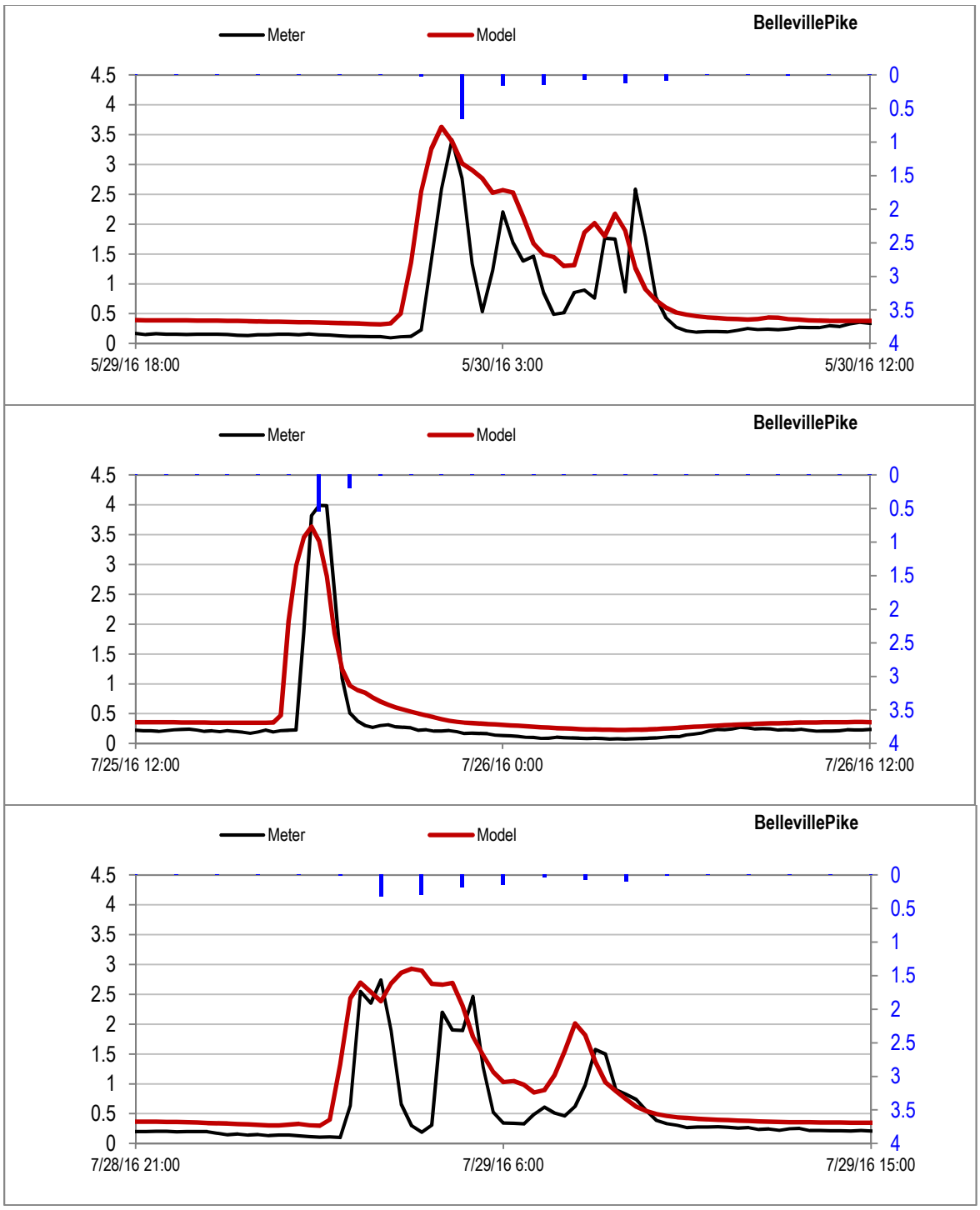

S_Belleville_1
Meter
Model
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

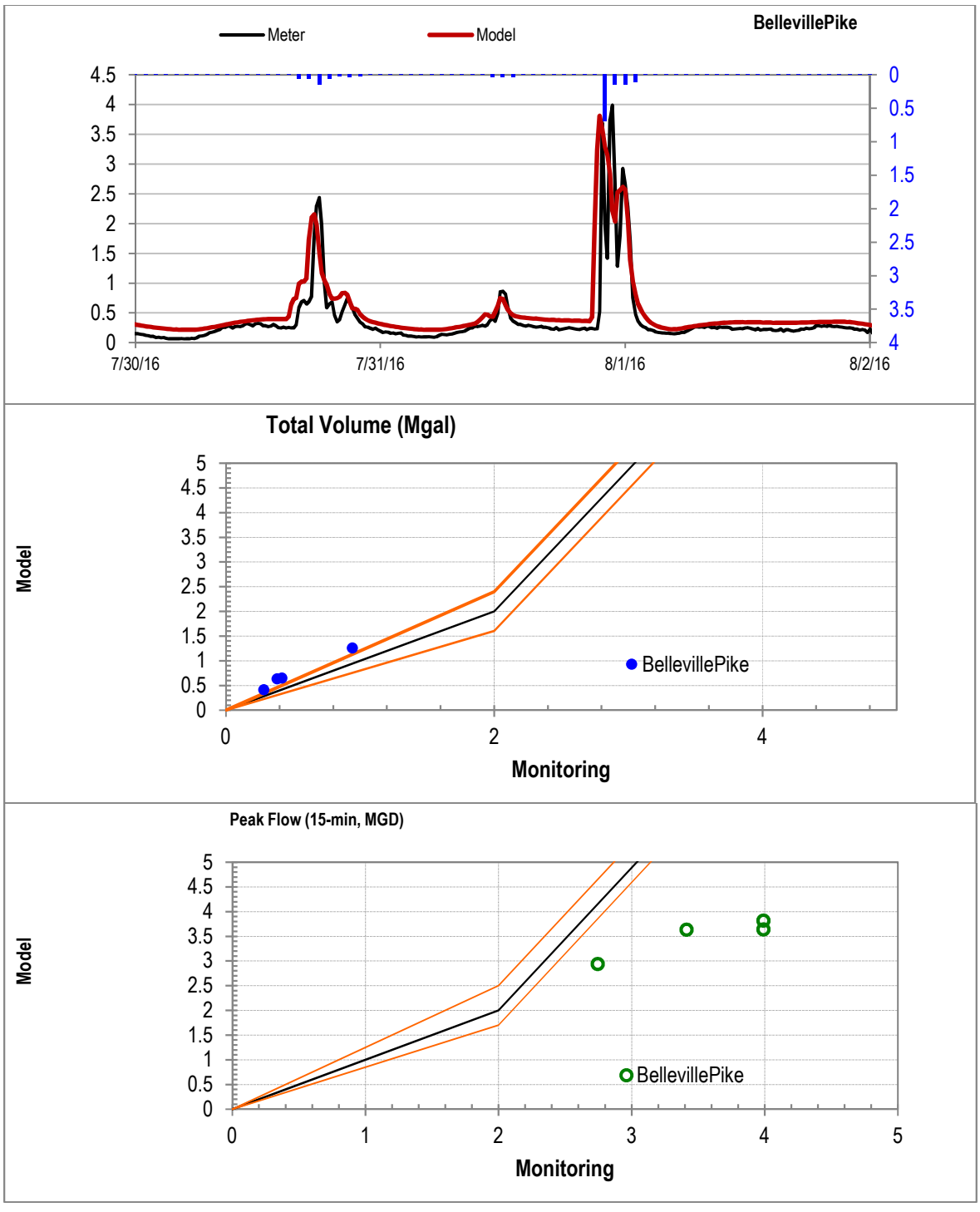

Total Volume (Mgal)
Model
14
12
10
8
6
4
2
0
0
5
10
15
LyndNArlington
Monitoring

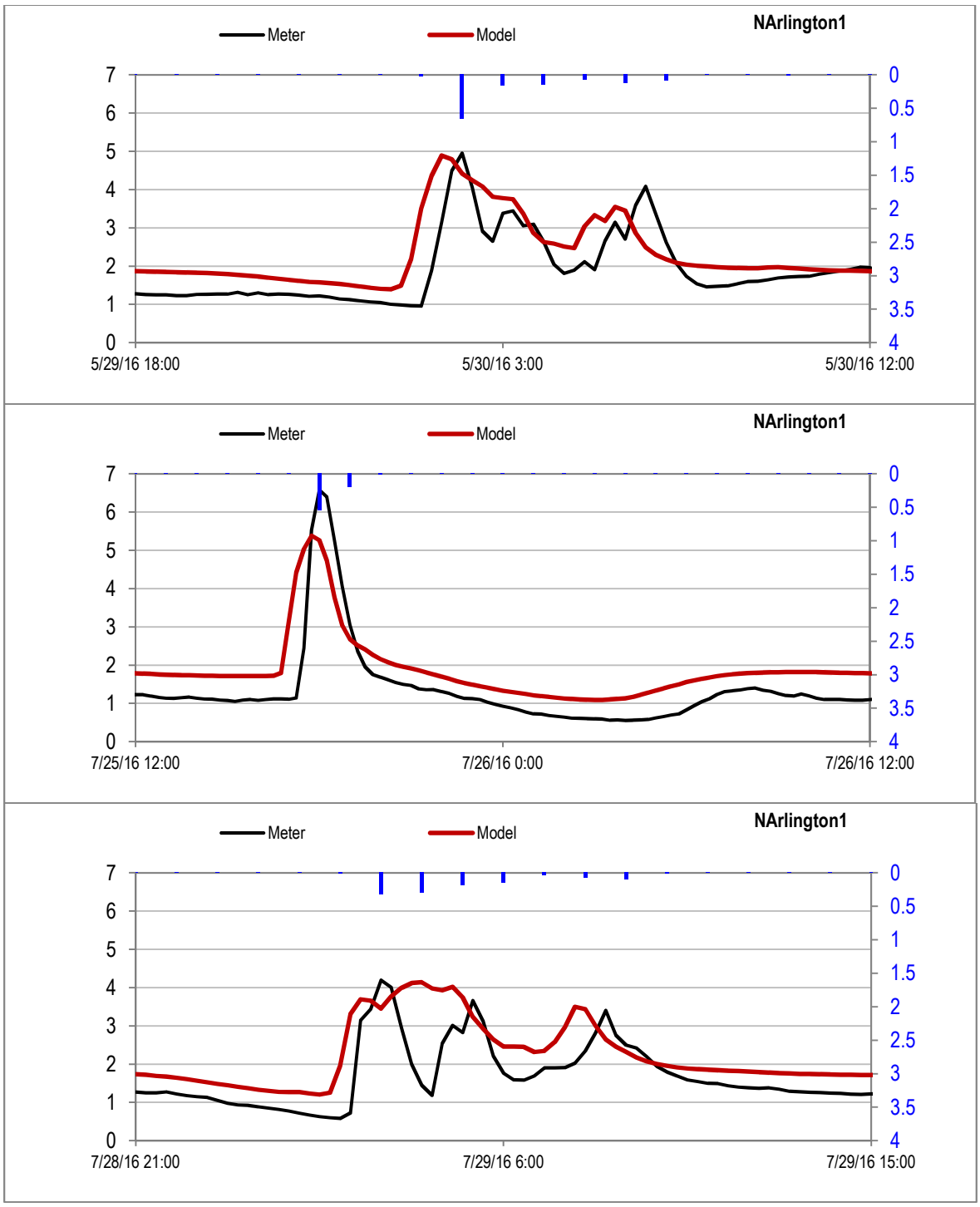

Peak Flow (15-min, MGD)
Model
14
12
10
8
6
4
2
0
0
2
4
6
8
10
12
14
LyndNArlington
Monitoring

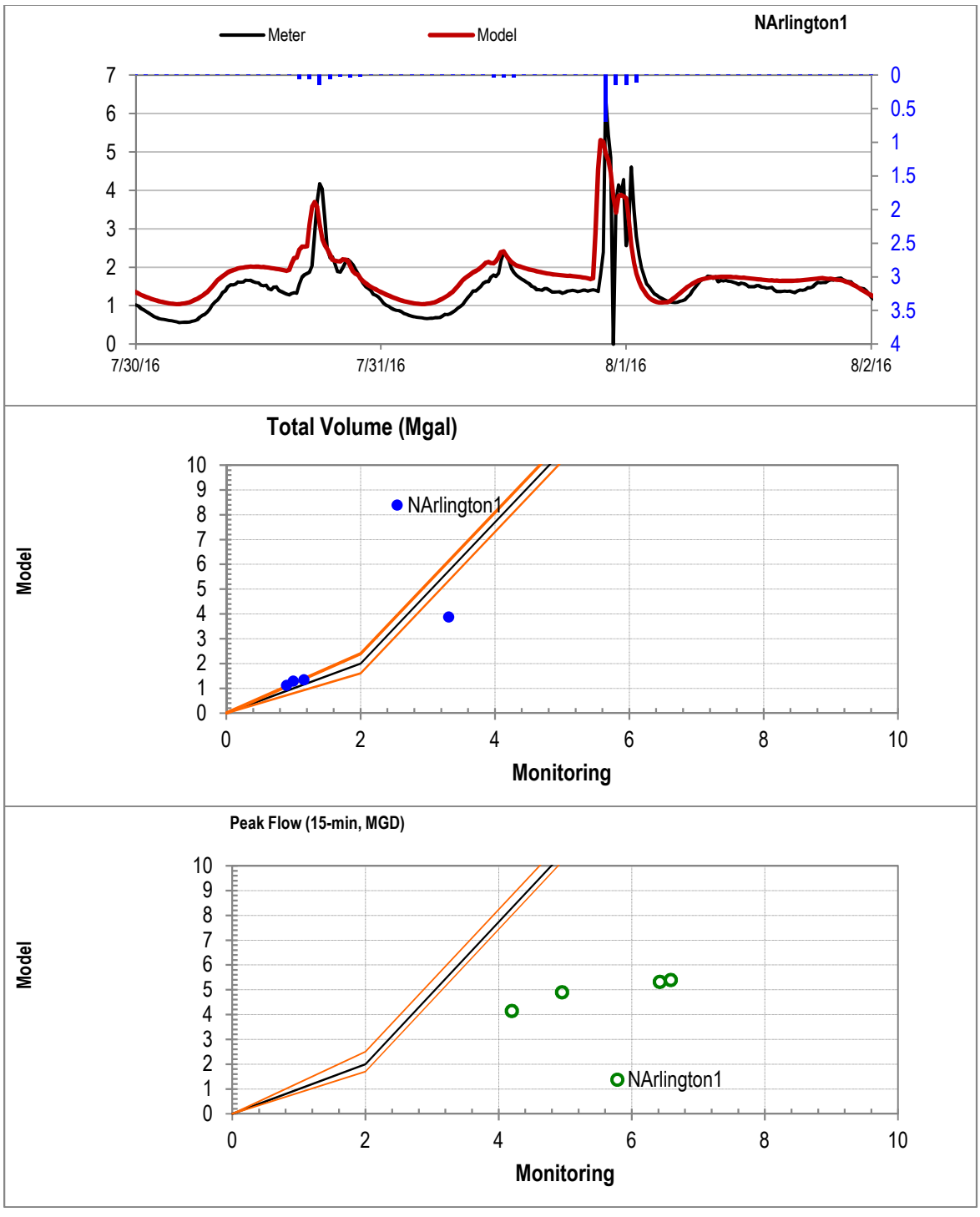

AcademySt
Meter
Model
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
AcademySt
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
AcademySt
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

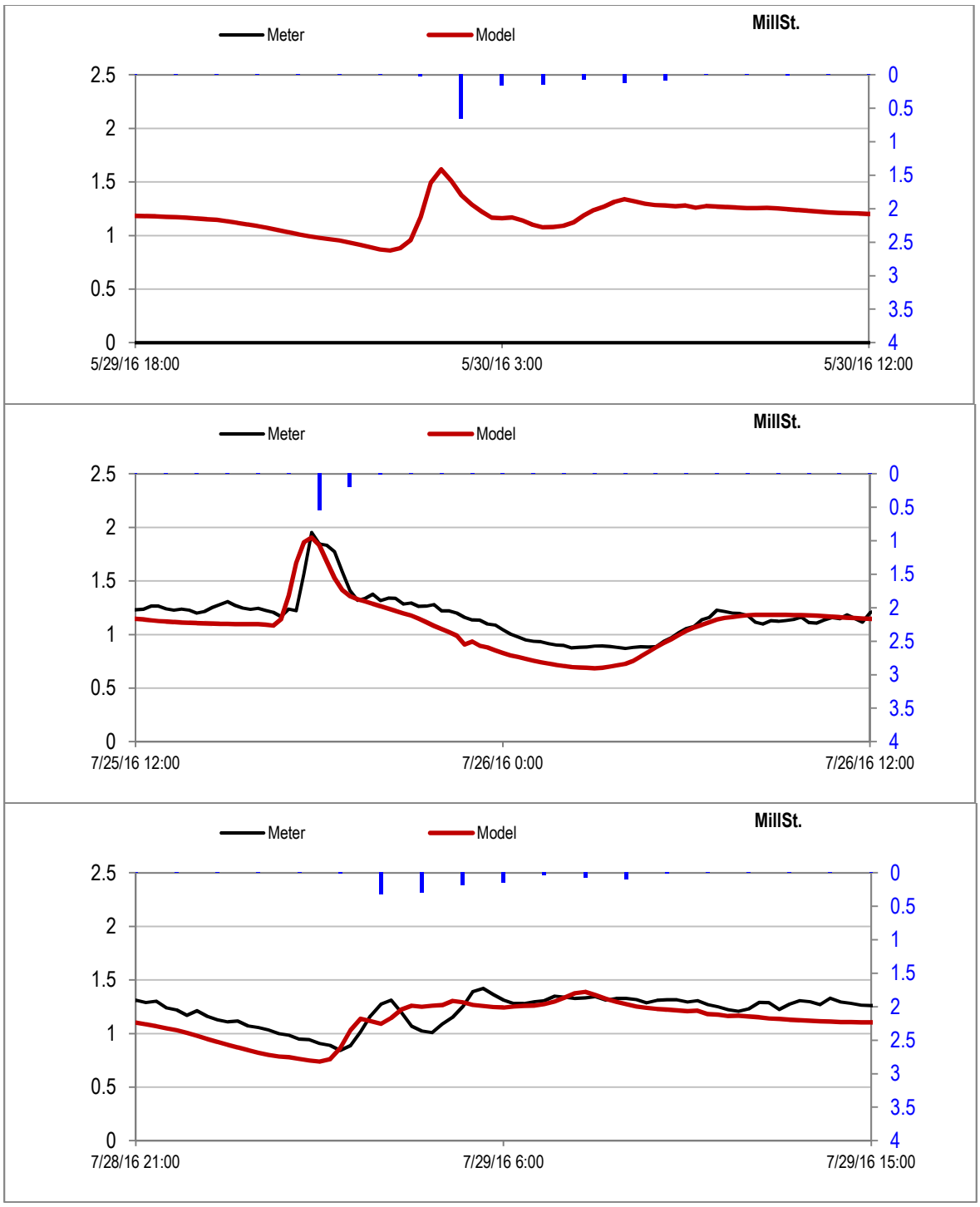

Meter
Model
AcademySt
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
AcademySt
Monitoring
Peak Flow (15-min, MGD)
Model
AcademySt
Monitoring

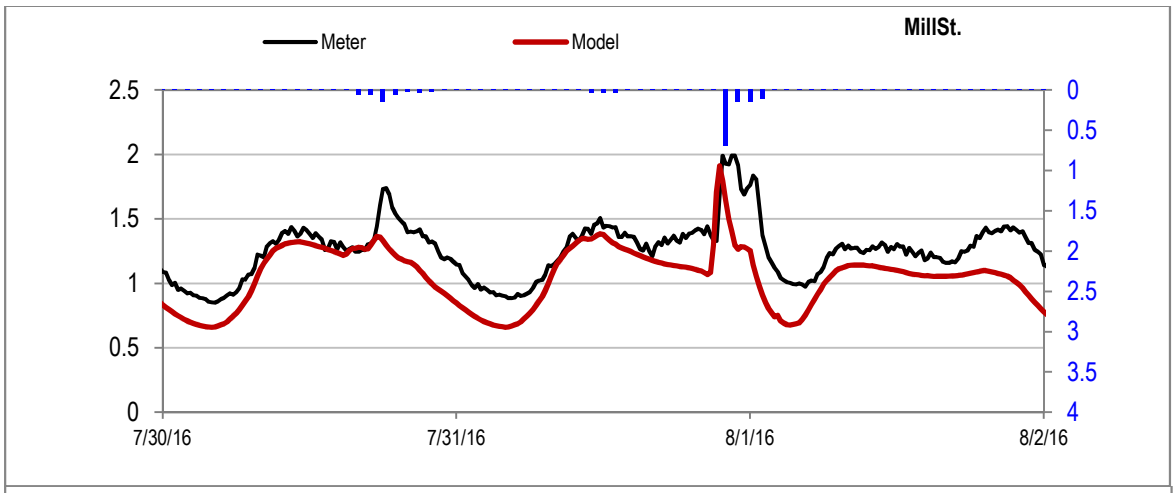

BellevillePike
Meter
Model
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
BellevillePike
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
BellevillePike
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

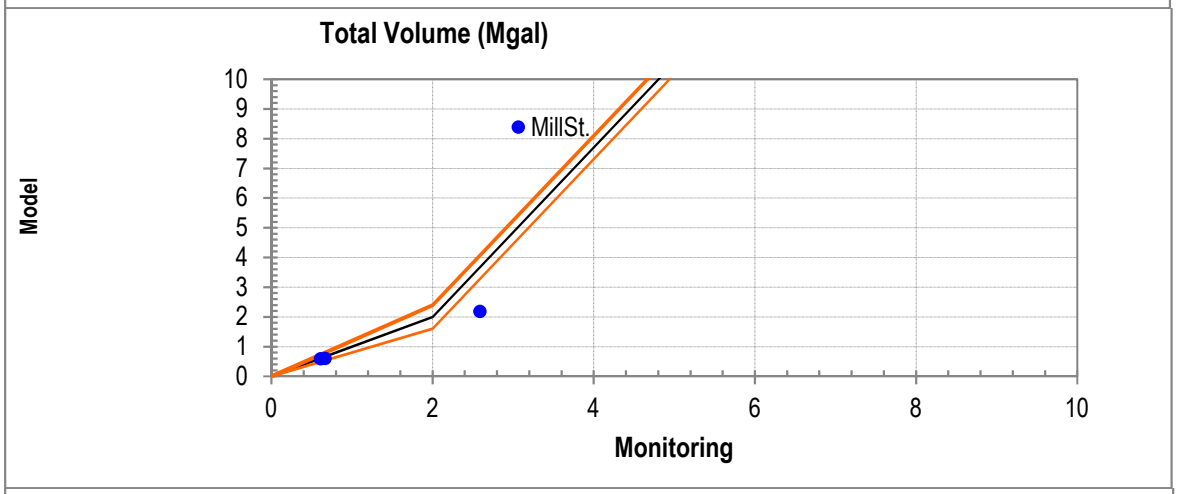

Meter
Model
BellevillePike
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
Monitoring
BellevillePike
Peak Flow (15-min, MGD)
Model
Monitoring
BellevillePike

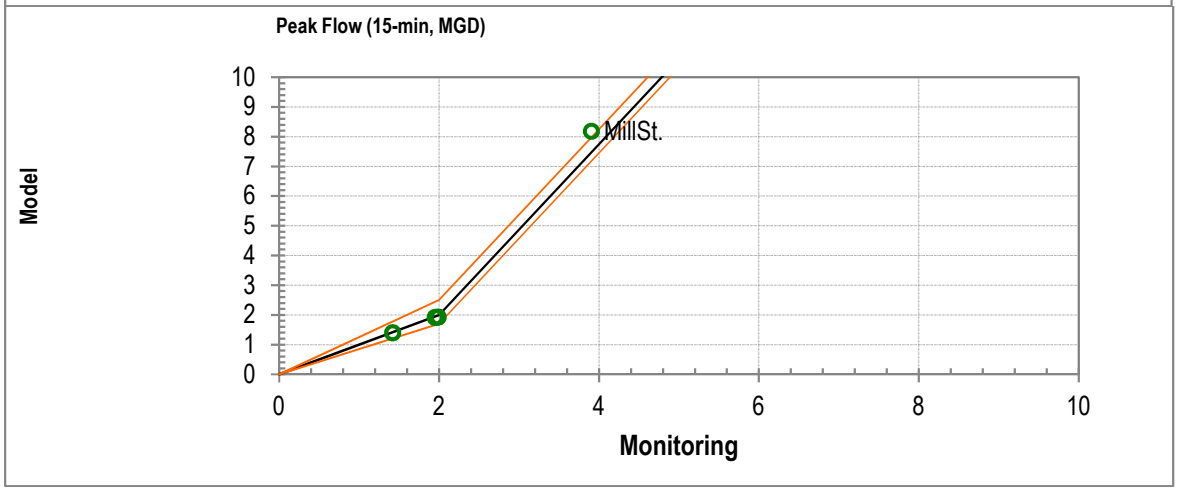

NArlington1
Meter
Model
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NArlington1
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
NArlington1
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

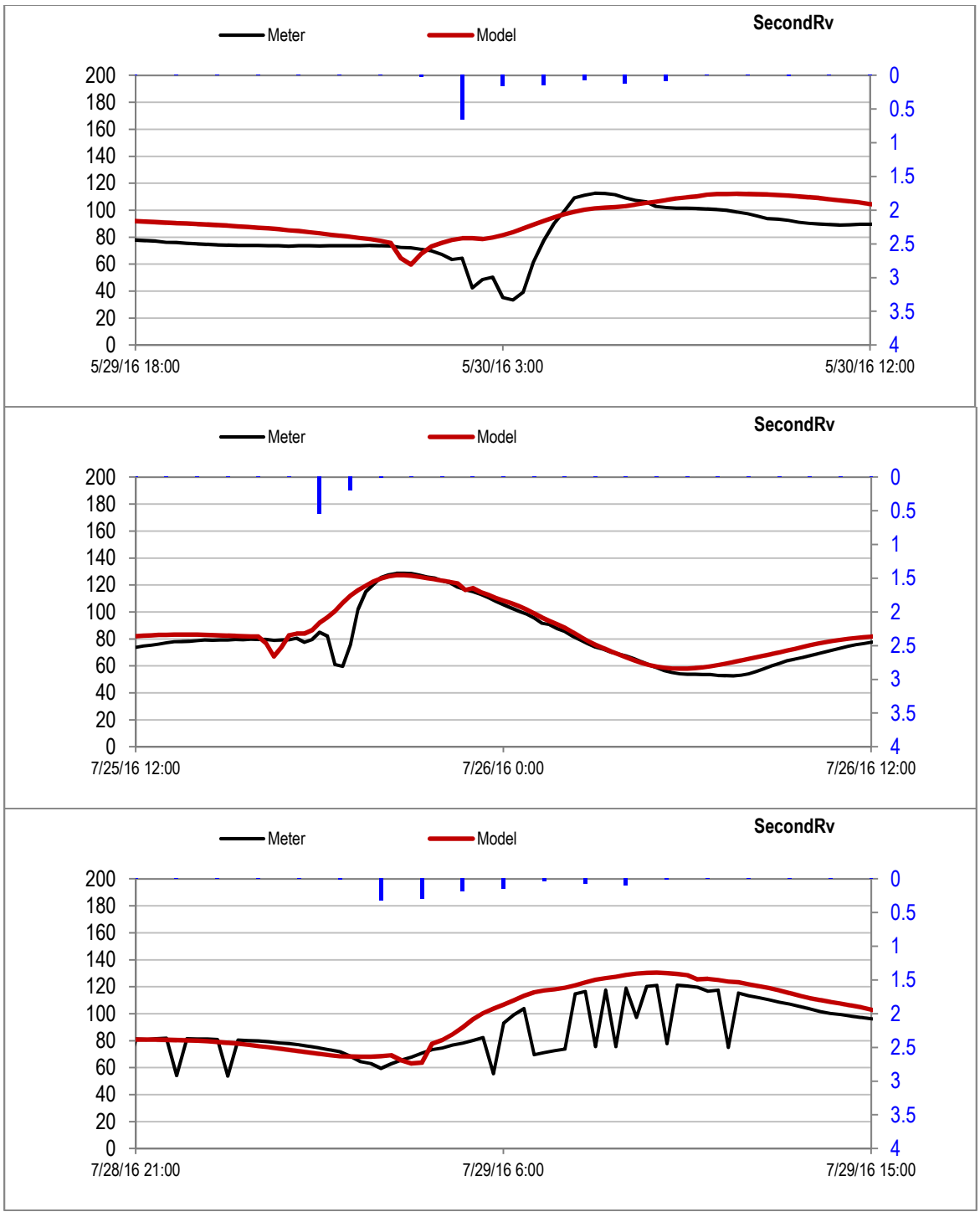

NArlington1
Meter
Model
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
NArlington1
Monitoring
Peak Flow (15-min, MGD)
Model
NArlington1
Monitoring

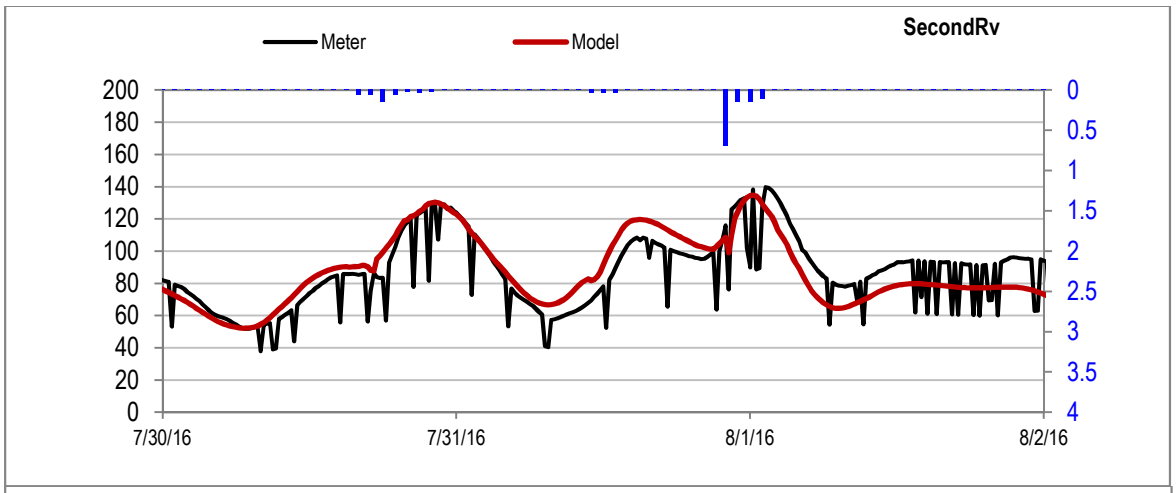

MillSt.
Meter
Model
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
MillSt.
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
MillSt.
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

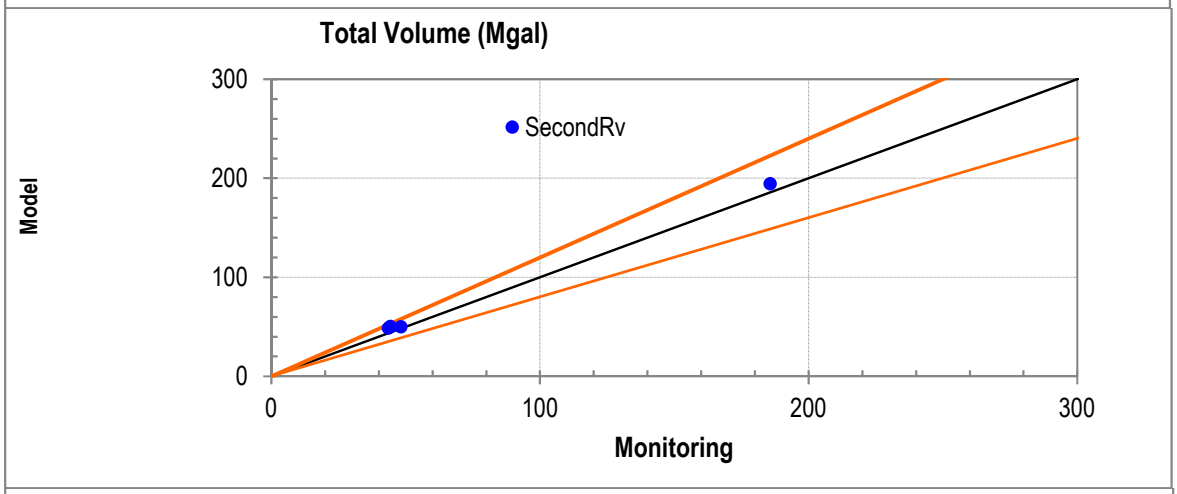

Meter
Model
MillSt.
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

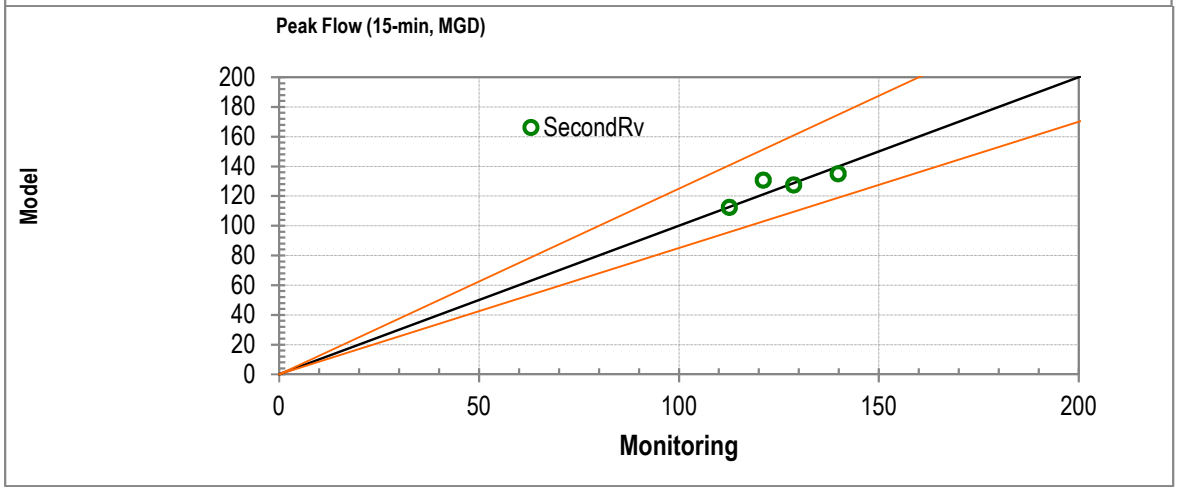

Total Volume (Mgal)
Model
MillSt.
Monitoring
0
2
4
6
8
10

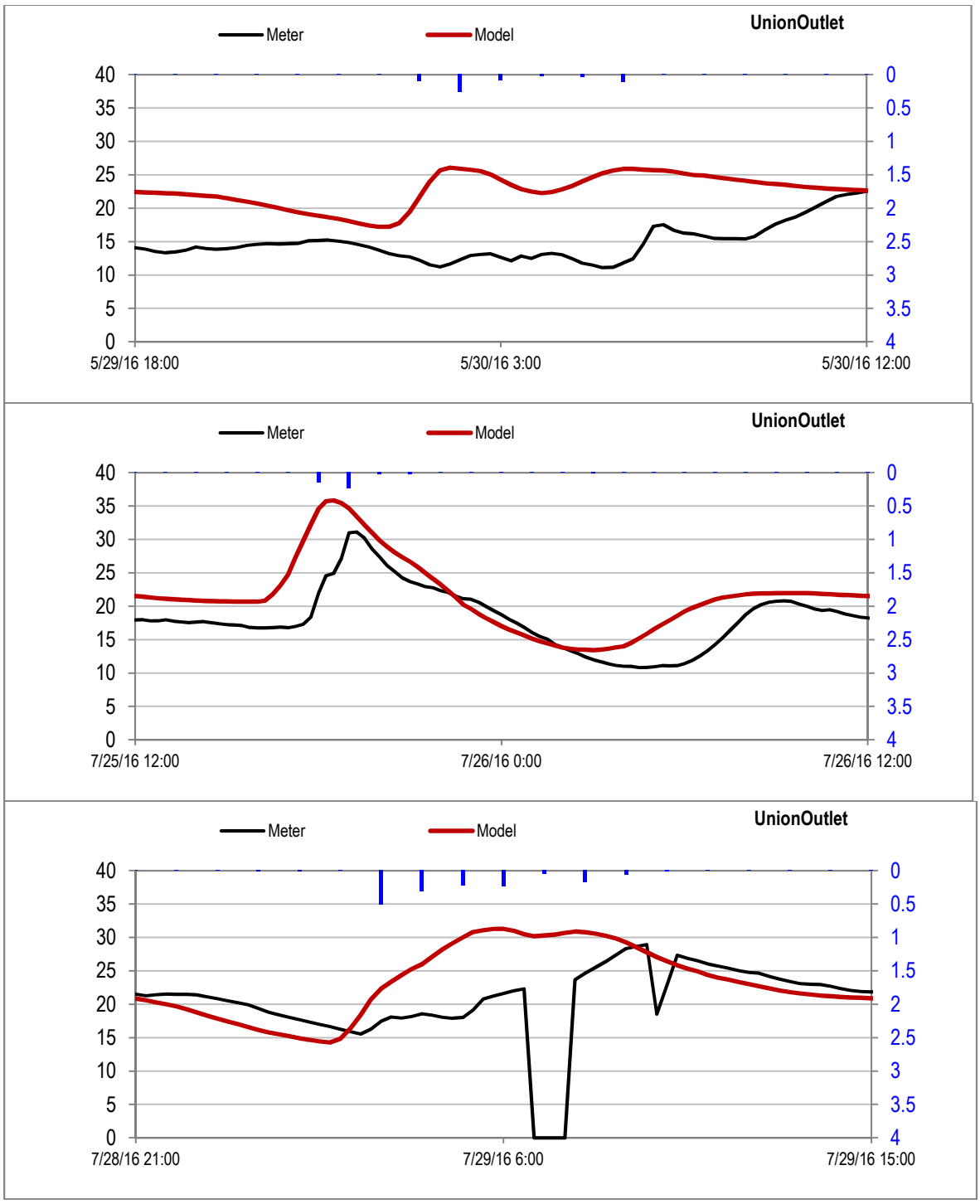

Peak Flow (15-min, MGD)
Model
MillSt.
Monitoring
0
2
4
6
8
10

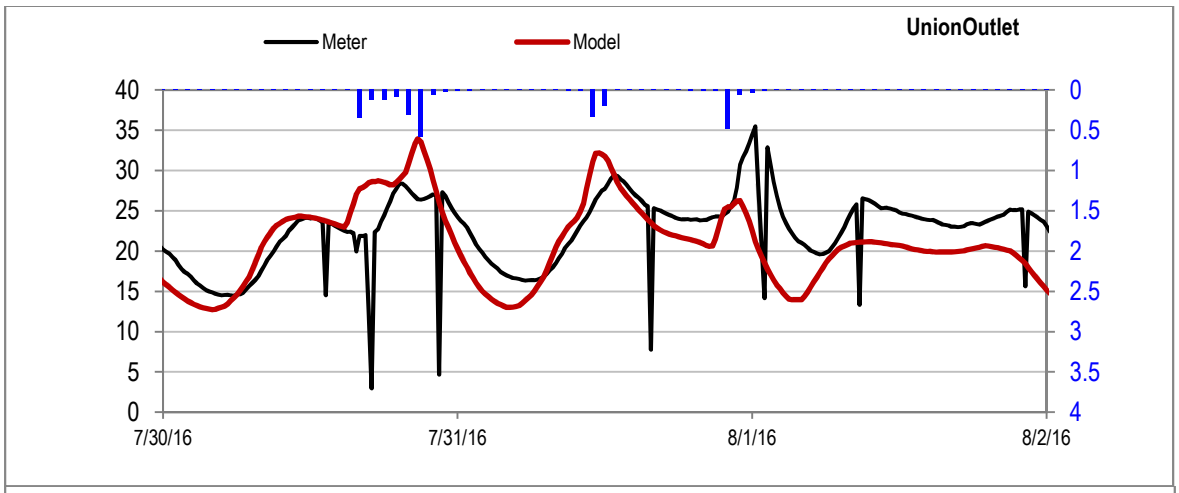

Meter
Model
SecondRv
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
Meter
Model
SecondRv
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
Meter
Model
SecondRv
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

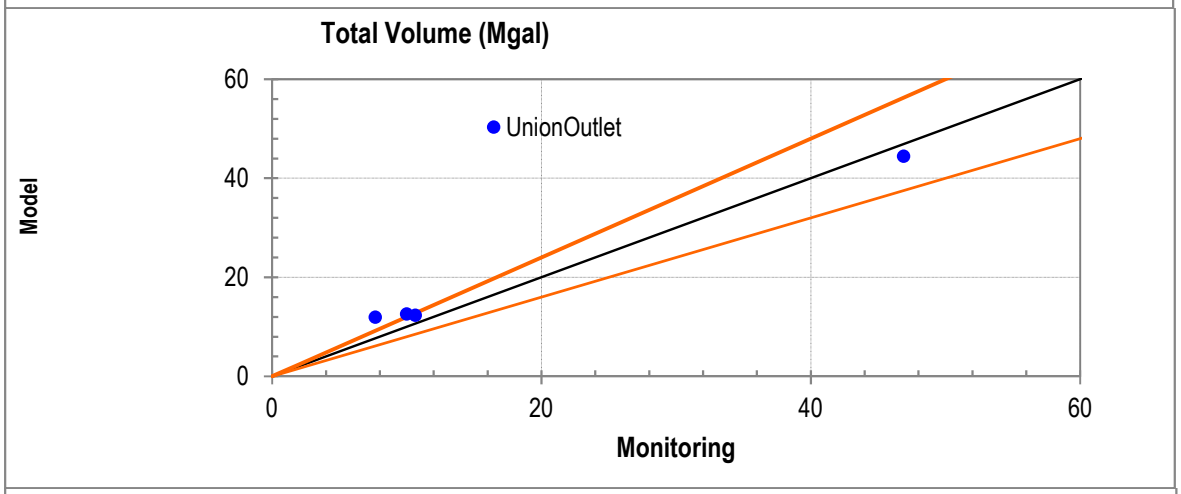

Meter
Model
SecondRv
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

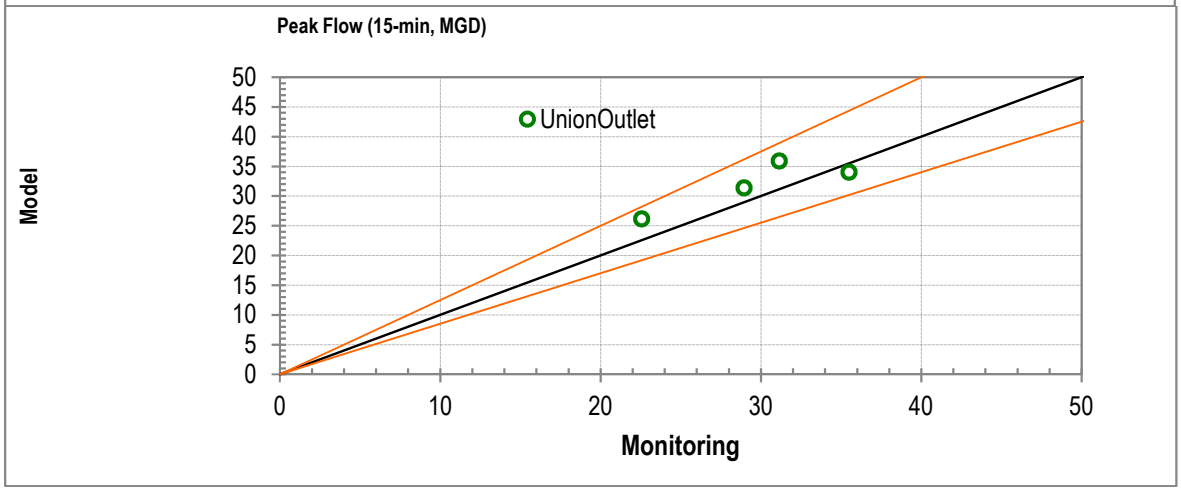

Total Volume (Mgal)
Model
SecondRv
300
200
100
0
0
100
200
300
Monitoring

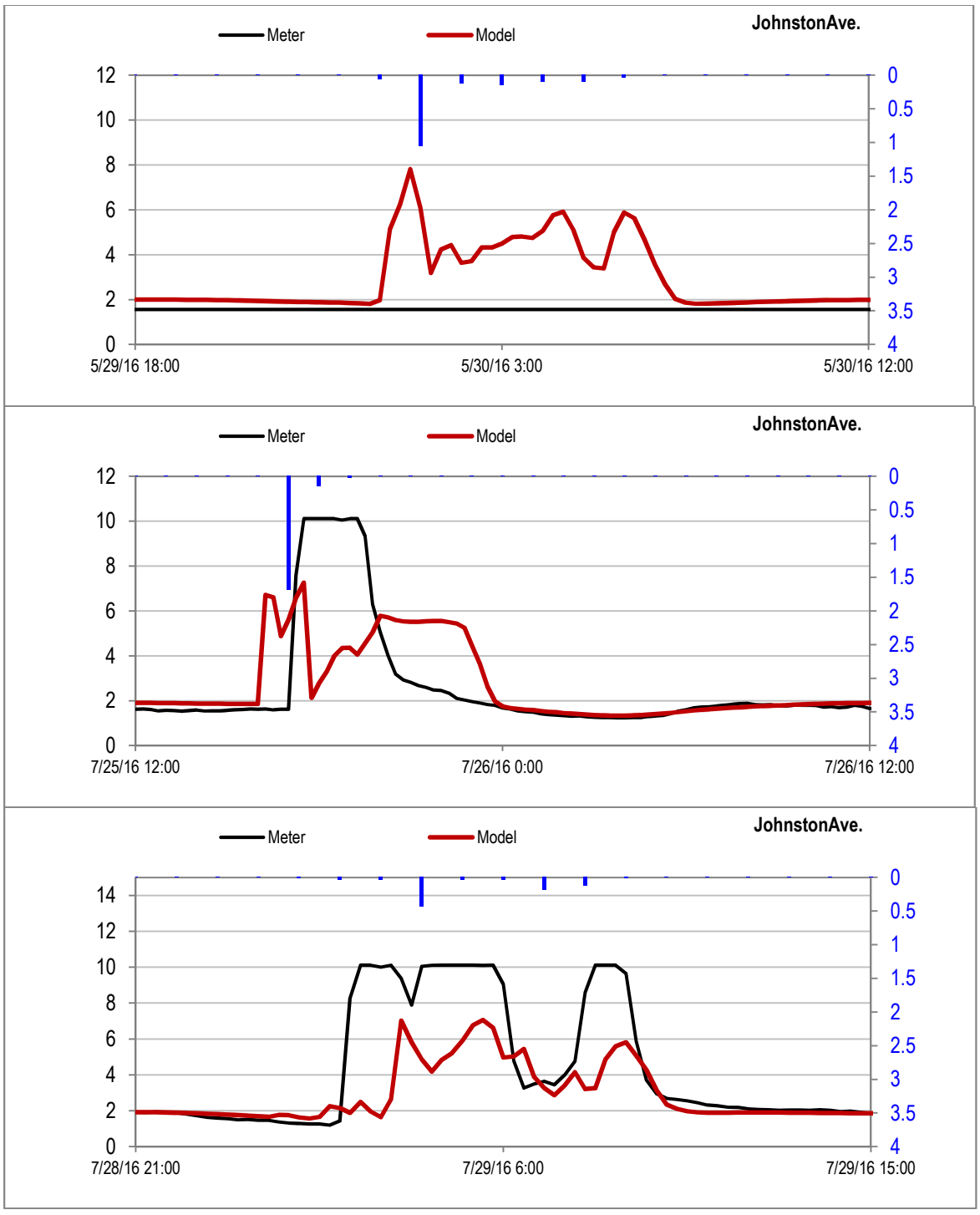

Peak Flow (15-min, MGD)
Model
SecondRv
200
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
Monitoring

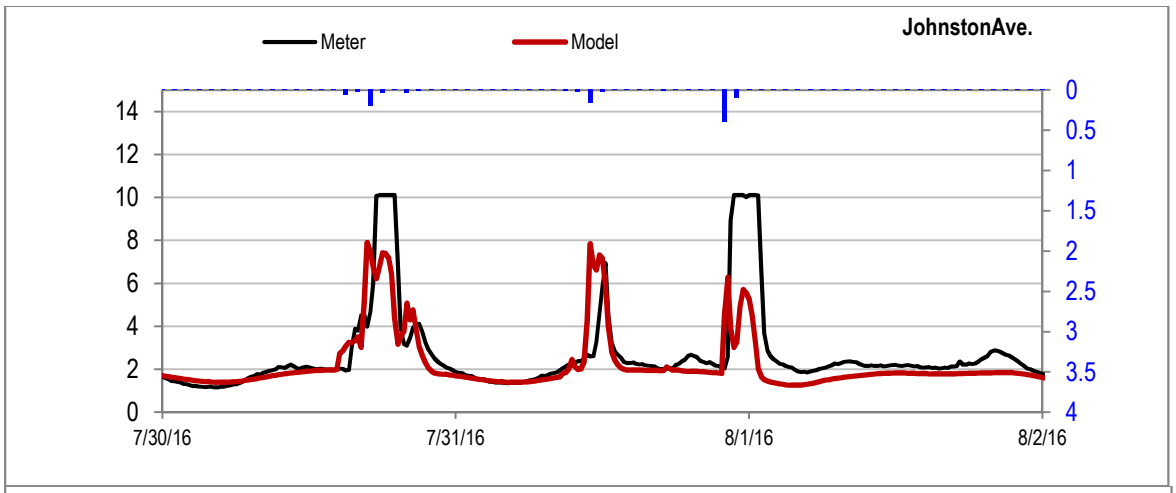

UnionOutlet
Meter
Model
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
UnionOutlet
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
UnionOutlet
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

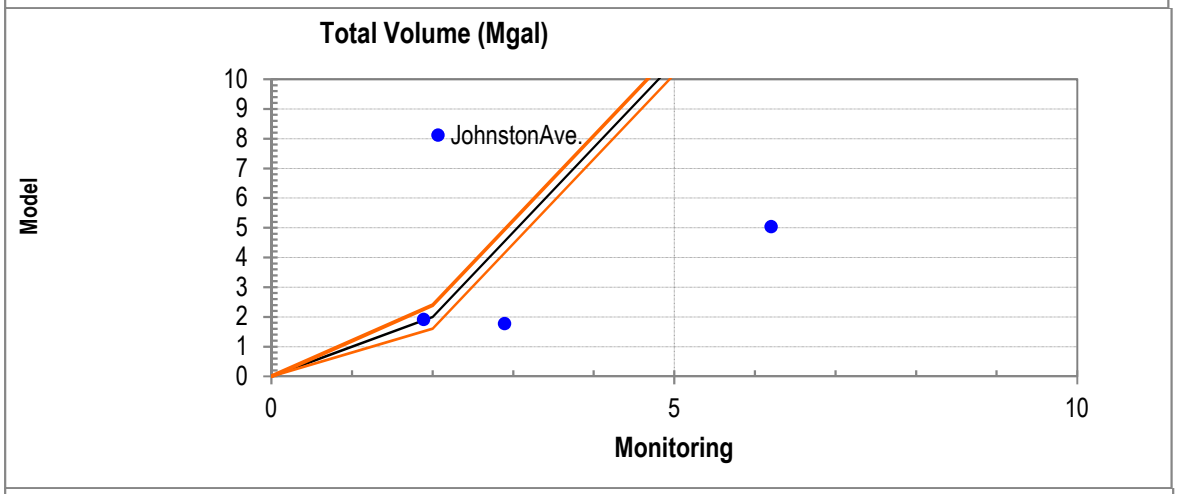

UnionOutlet
Meter
Model
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

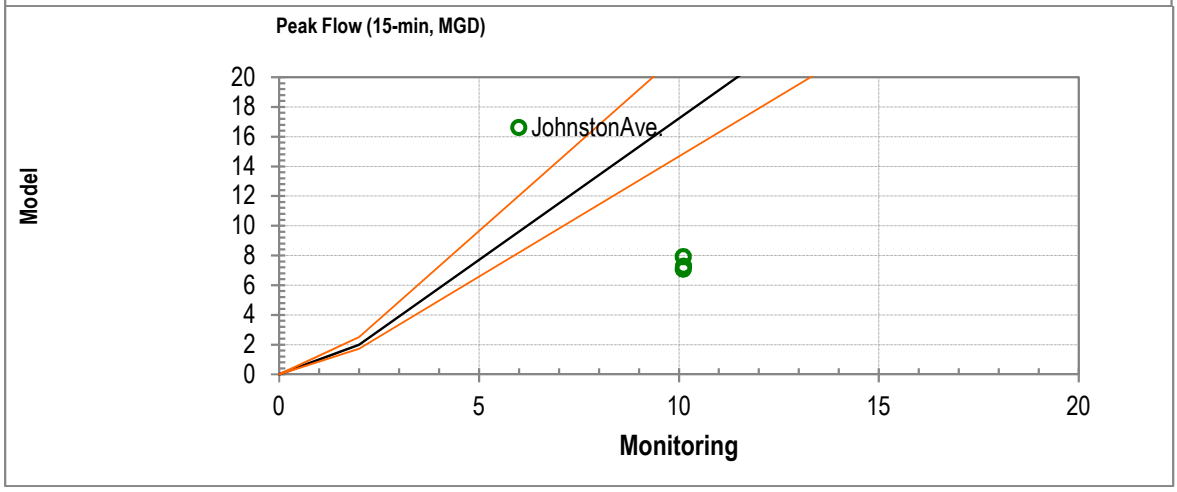

Total Volume (Mgal)
Model
UnionOutlet
60
40
20
0
0
20
40
60
Monitoring

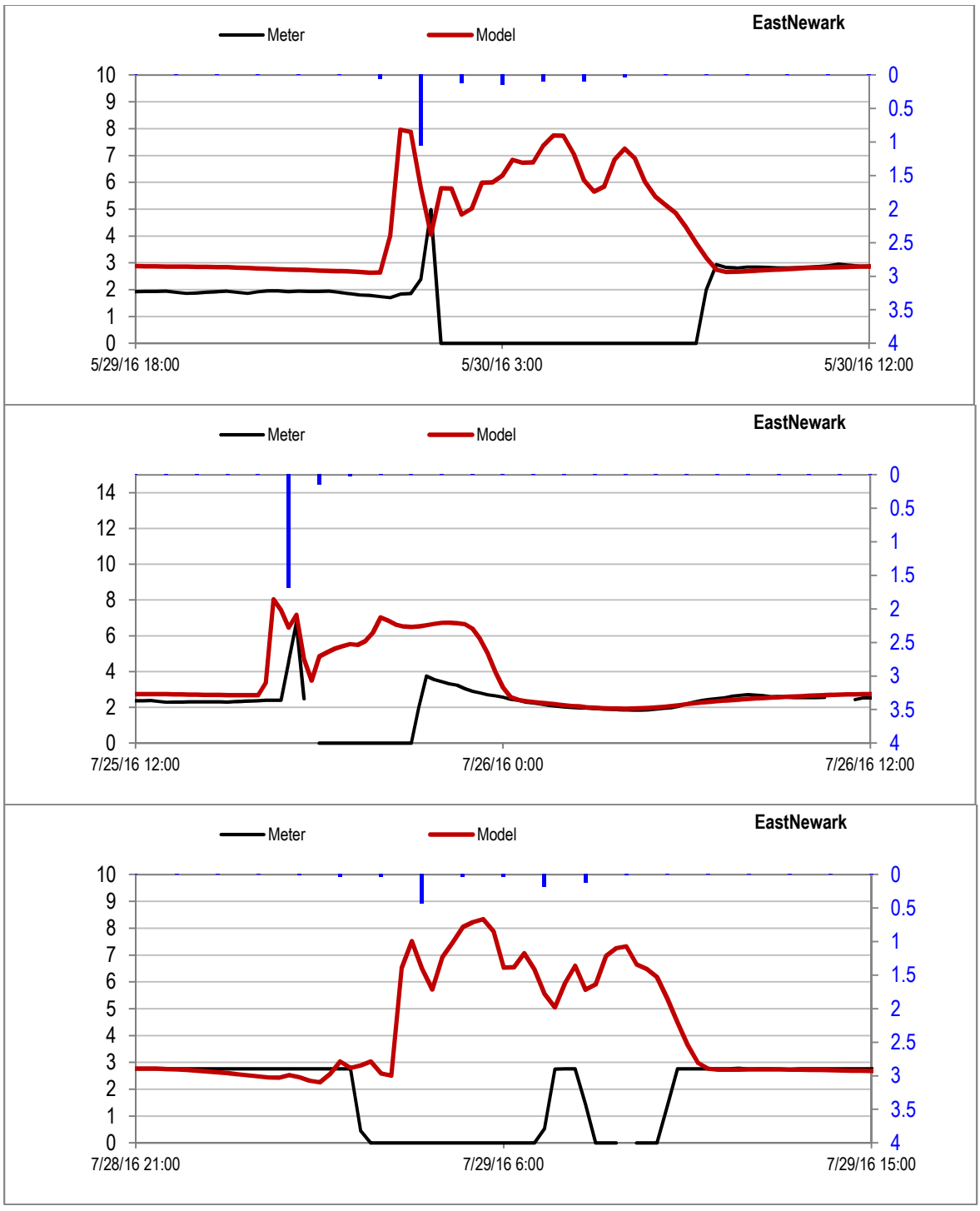

Peak Flow (15-min, MGD)
Model
UnionOutlet
50
45
40
35
30
25
20
15
10
5
0
0
10
20
30
40
50
Monitoring

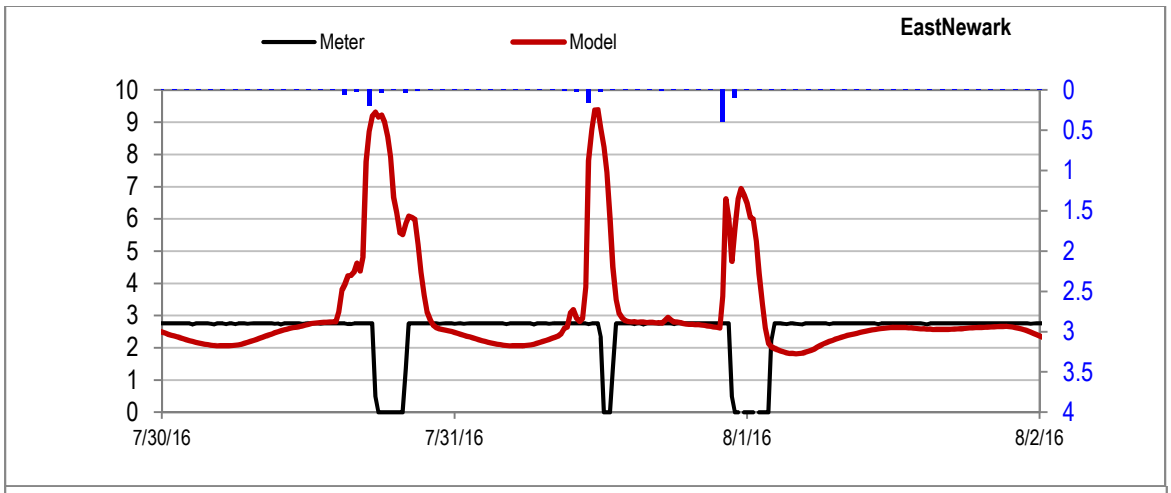

JohnstonAve.
Meter
Model
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
JohnstonAve.
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
JohnstonAve.
Meter
Model
14
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

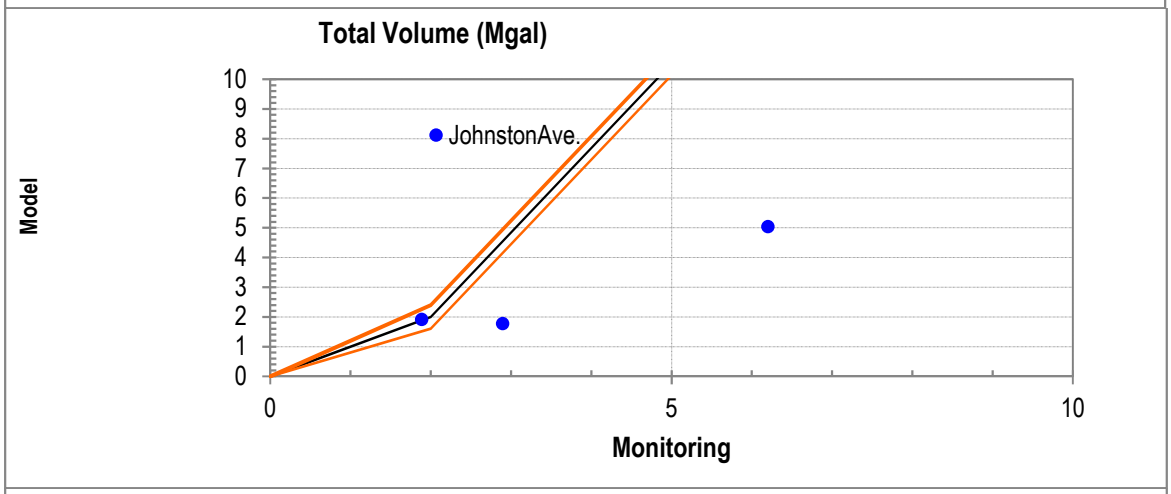

JohnstonAve.
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

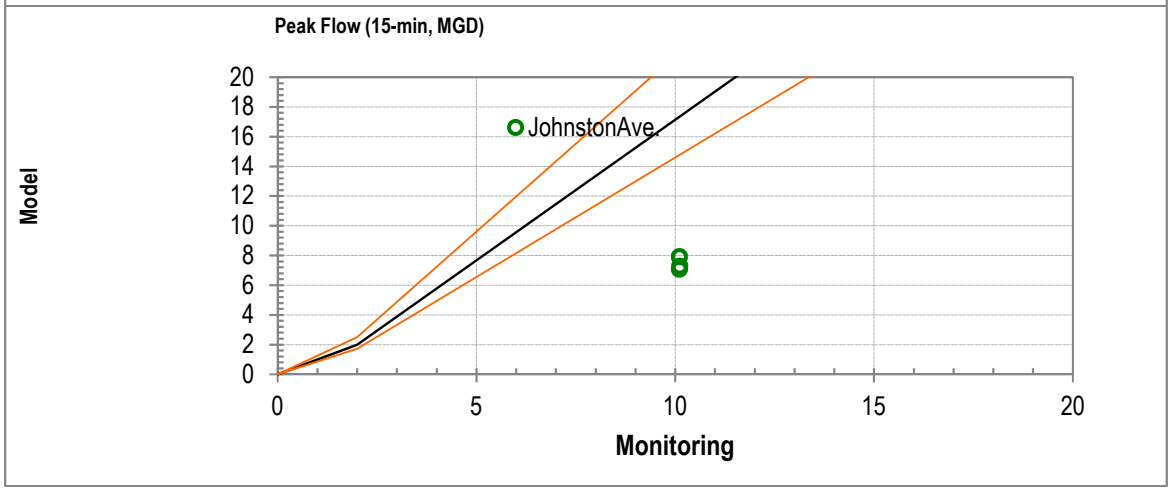

Total Volume (Mgal)
Model
JohnstonAve.
10
9
8
7
6
5
4
3
2
1
0
0
5
10
Monitoring

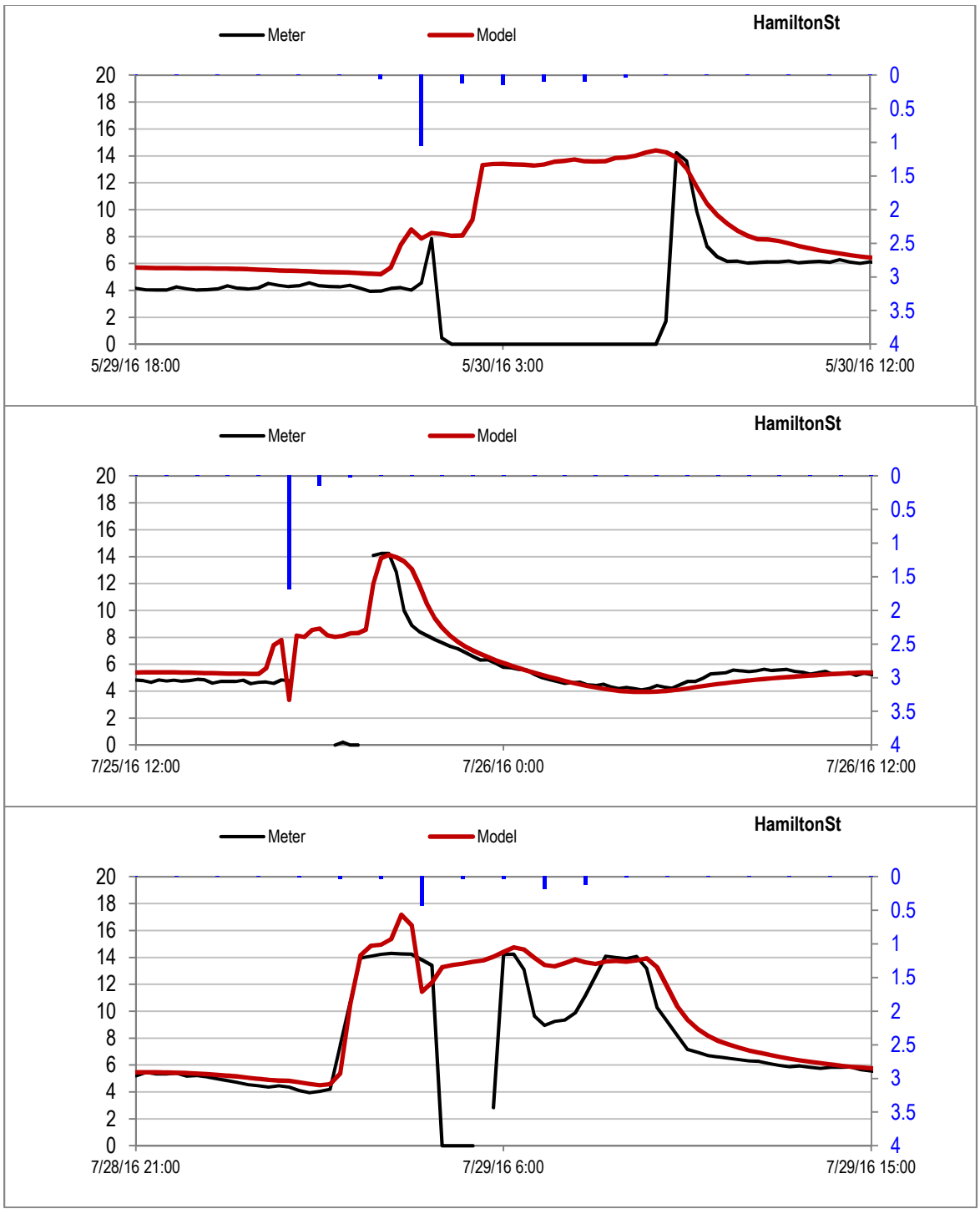

Peak Flow (15-min, MGD)
Model
JohnstonAve.
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Monitoring

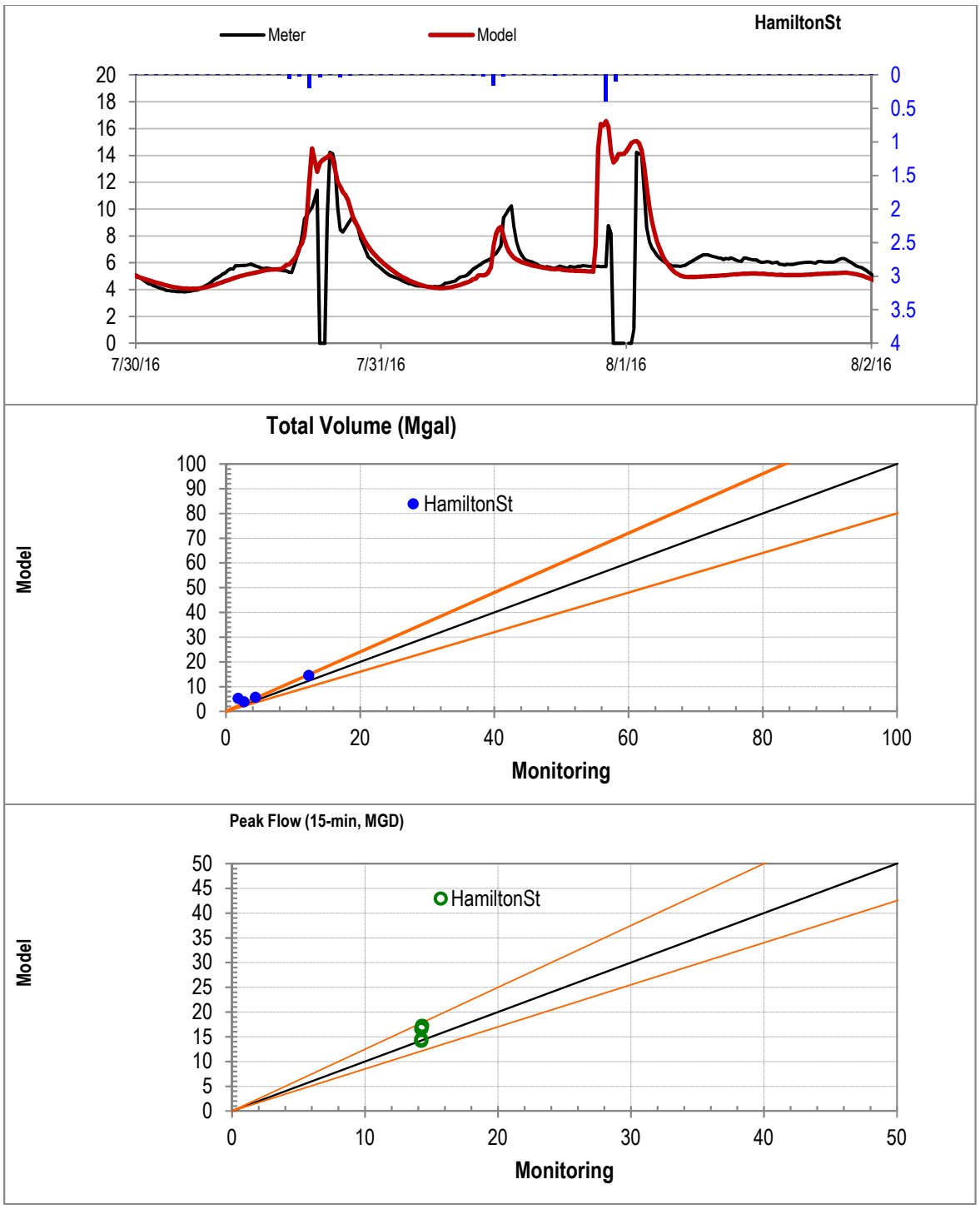

EastNewark
Meter
Model
10
9
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
EastNewark
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
EastNewark
Meter
Model
10
9
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

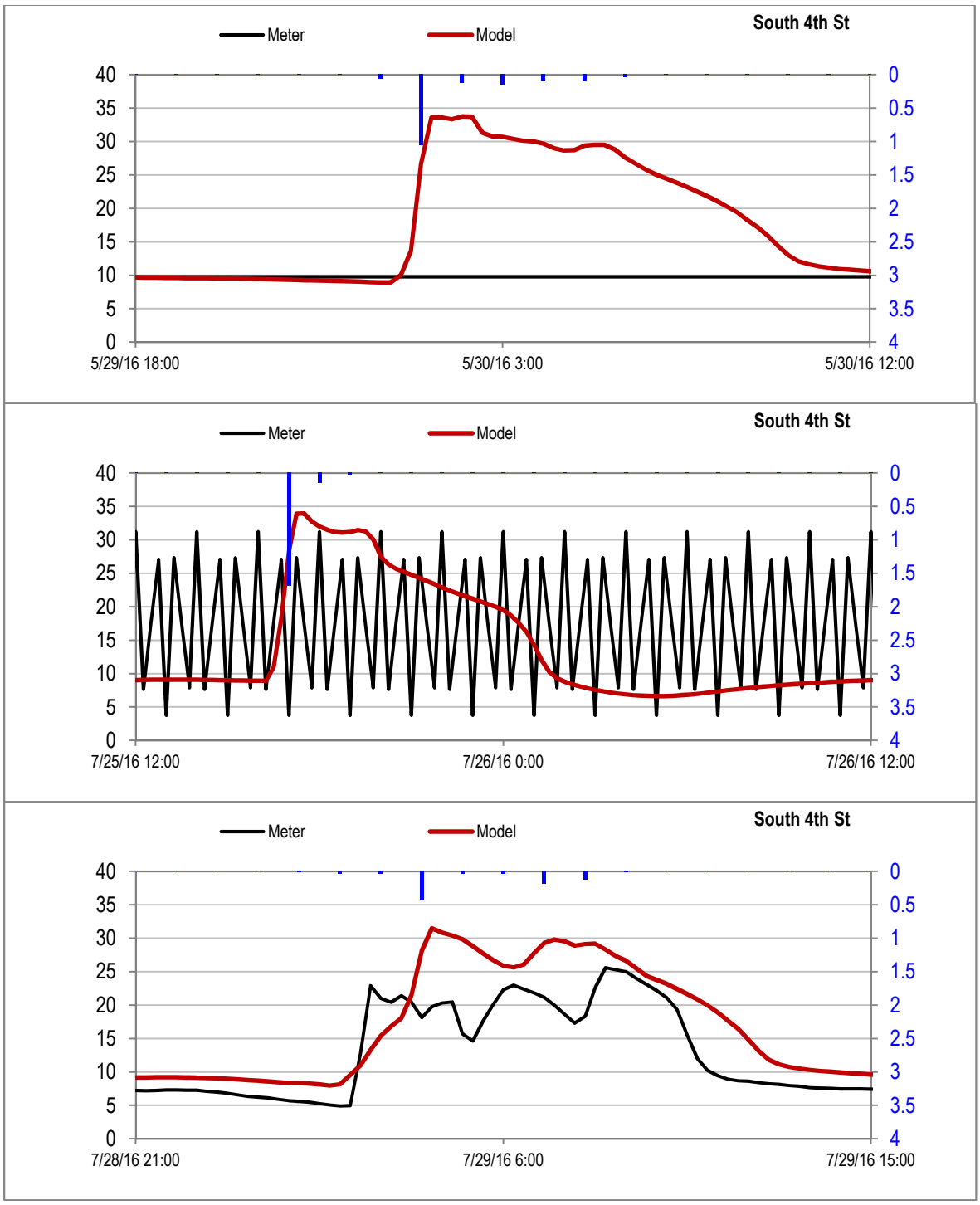

EastNewark
Meter
Model
10
9
8
7
6
5
4
3
2
1
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

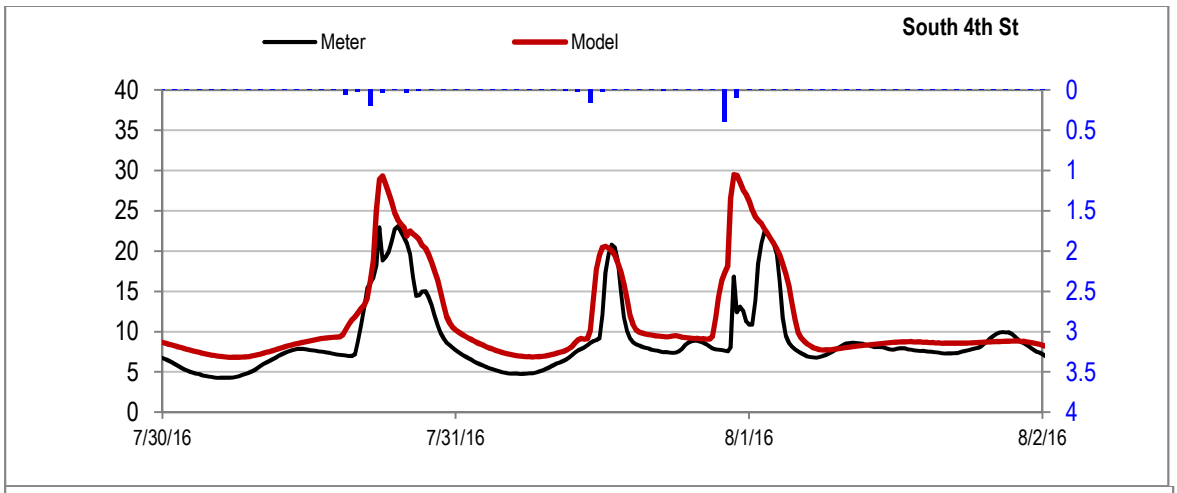

Total Volume (Mgal)
Model
JohnstonAve.
10
9
8
7
6
5
4
3
2
1
0
0
5
10
Monitoring

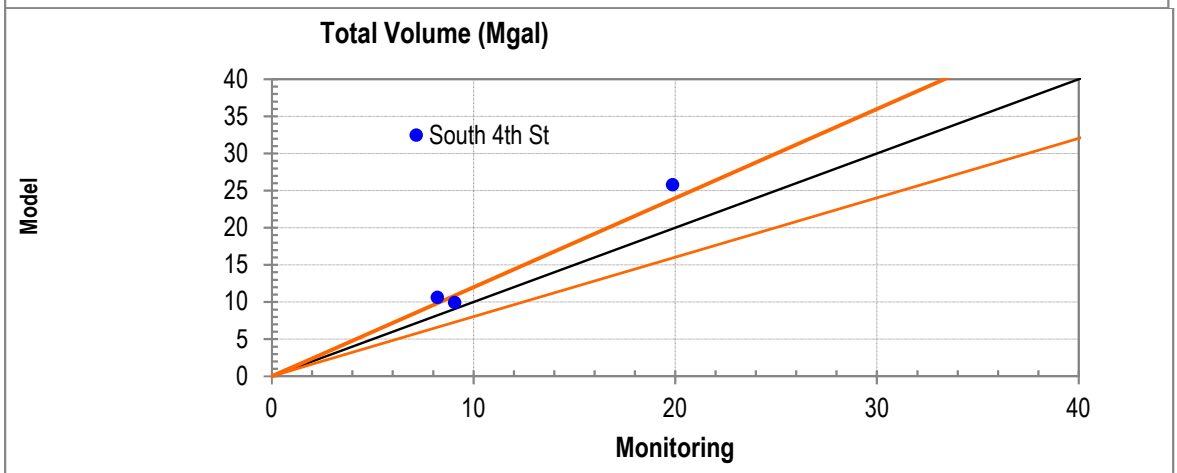

Peak Flow (15-min, MGD)
Model
JohnstonAve.
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Monitoring

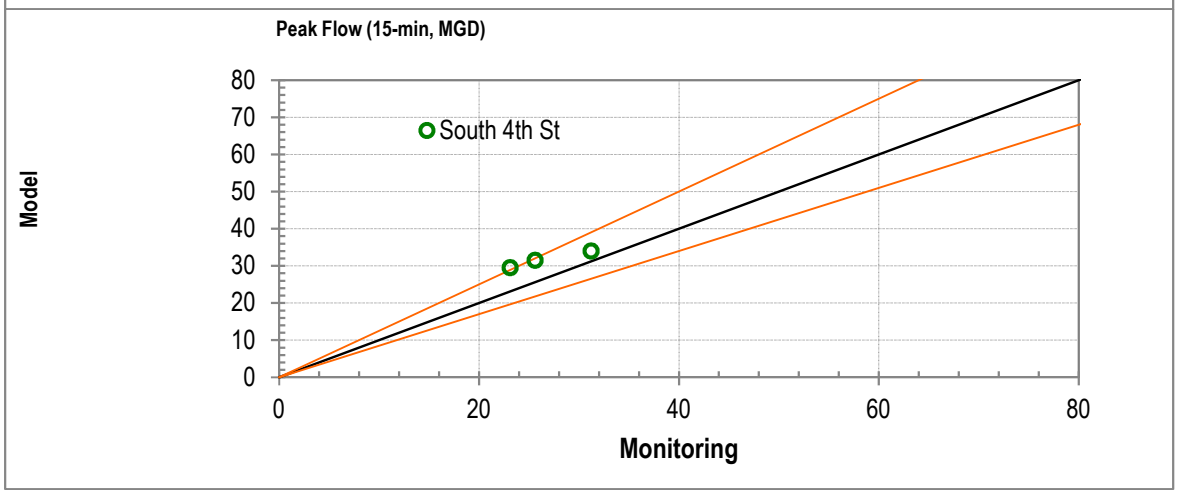

HamiltonSt
Meter
Model
20
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
HamiltonSt
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
HamiltonSt
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

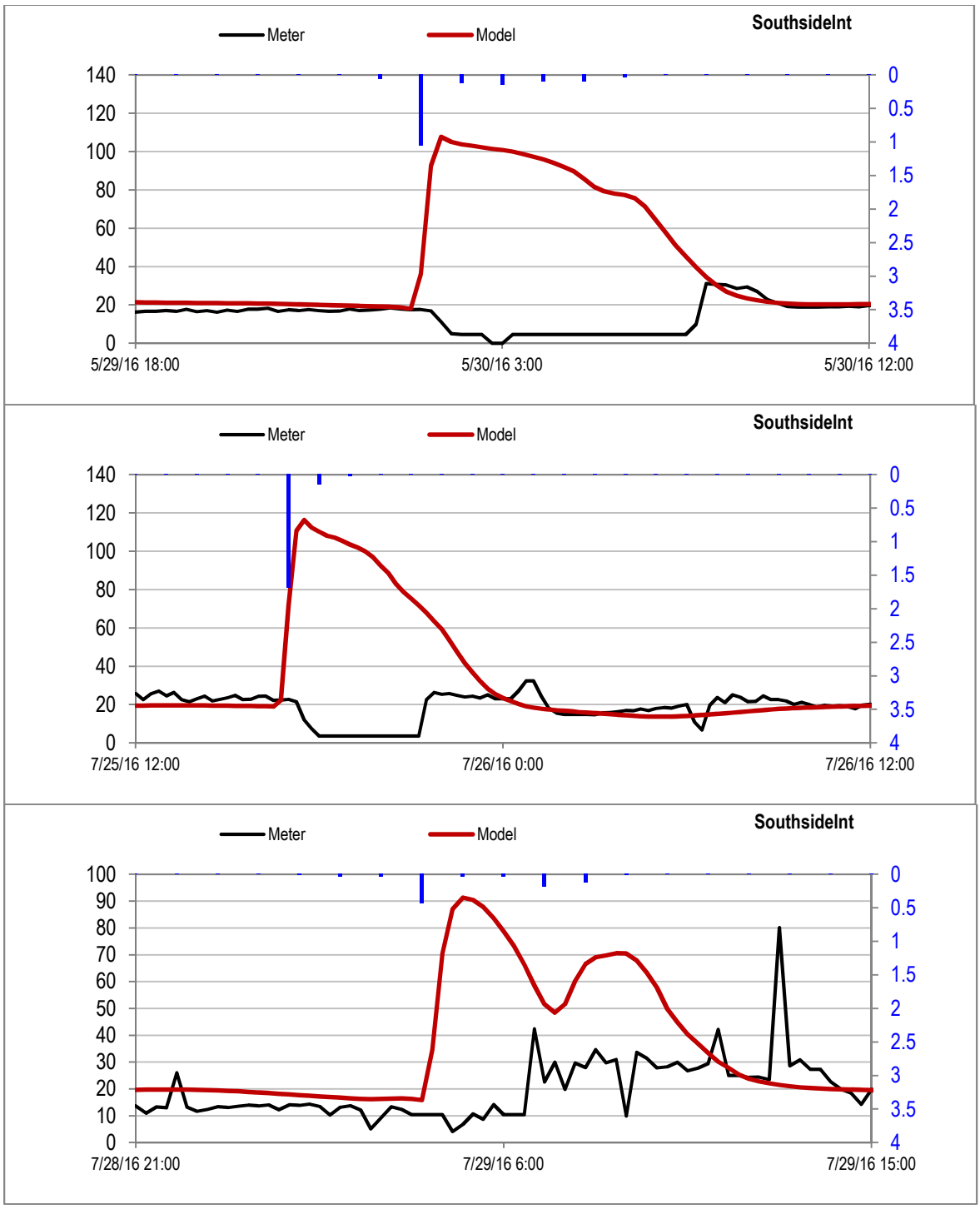

HamiltonSt
Meter
Model
20
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16
Total Volume (Mgal)
Model
HamiltonSt
100
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Monitoring
Peak Flow (15-min, MGD)
Model
HamiltonSt
50
45
40
35
30
25
20
15
10
5
0
0
10
20
30
40
50
Monitoring

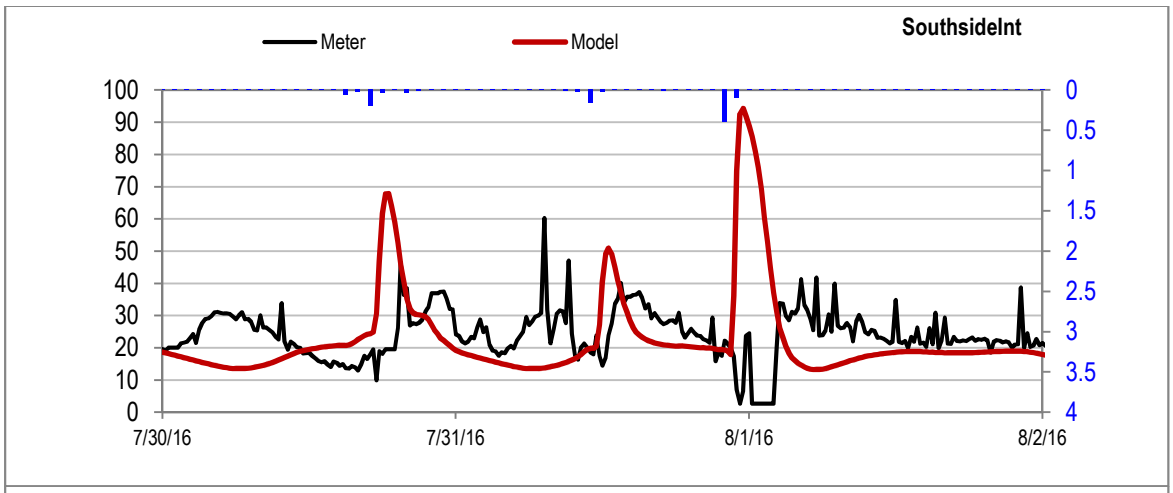

South 4th St
Meter
Model
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
South 4th St
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
South 4th St
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

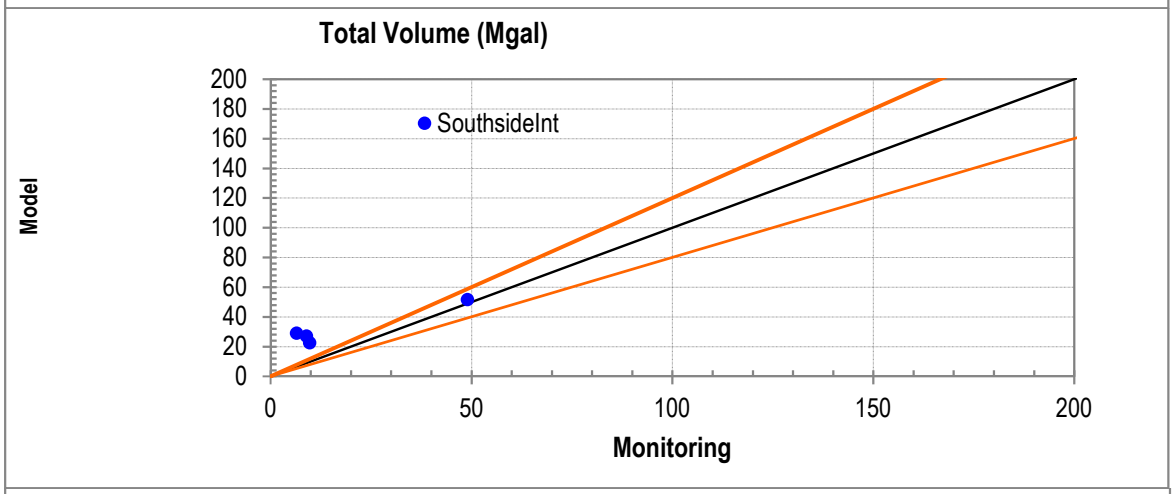

South 4th St
Meter
Model
40
35
30
25
20
15
10
5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

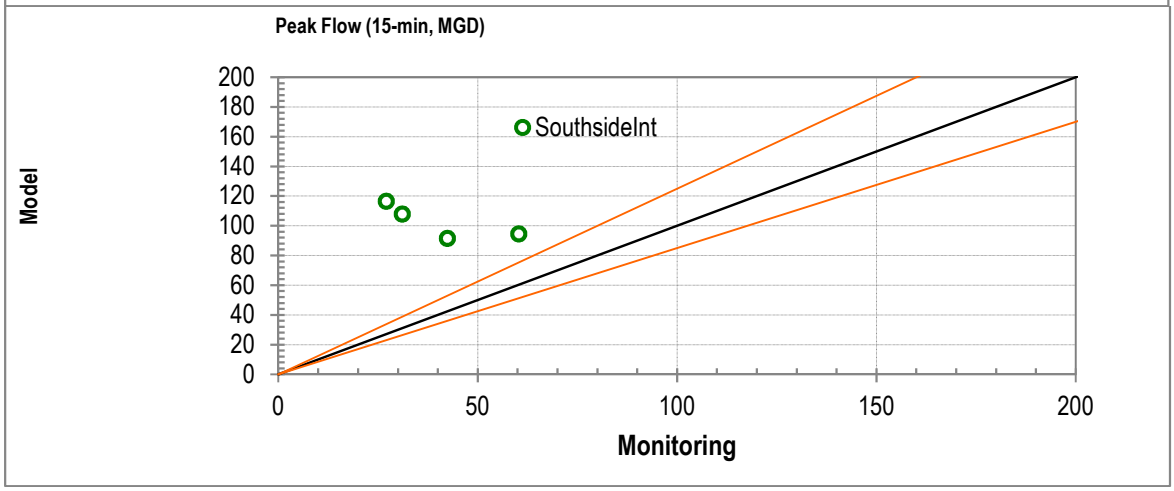

Total Volume (Mgal)
Model
South 4th St
40
35
30
25
20
15
10
5
0
0
10
20
30
40
Monitoring

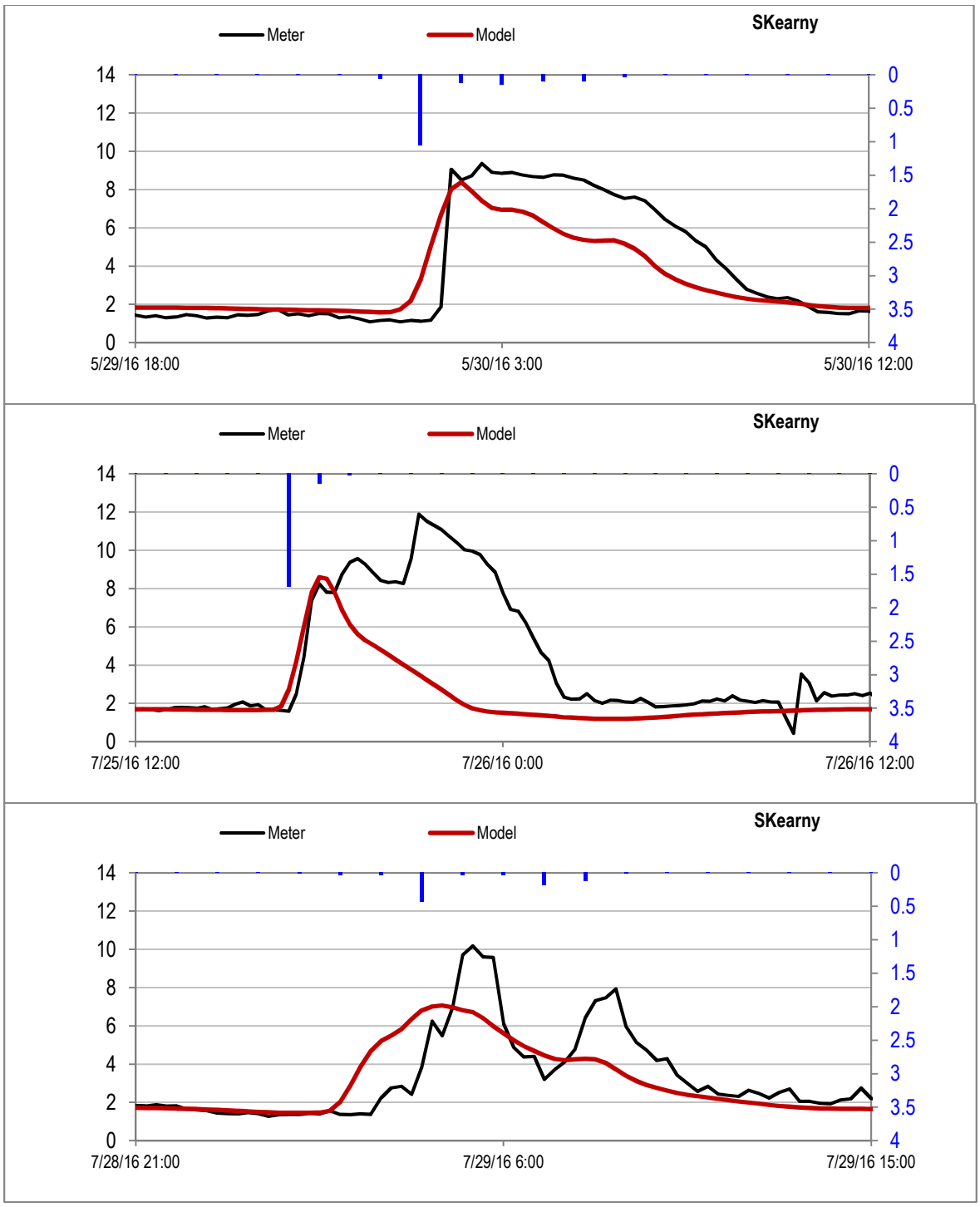

Peak Flow (15-min, MGD)
Model
South 4th St
80
70
60
50
40
30
20
10
0
0
20
40
60
80
Monitoring

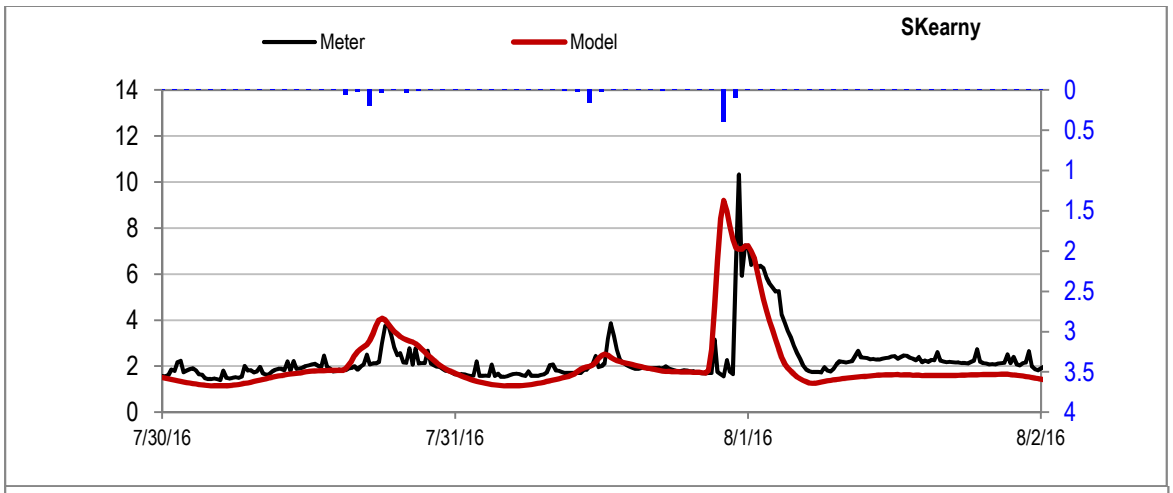

SouthsideInt
Meter
Model
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
SouthsideInt
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
SouthsideInt
Meter
Model
100
90
80
70
60
50
40
30
20
10
0
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

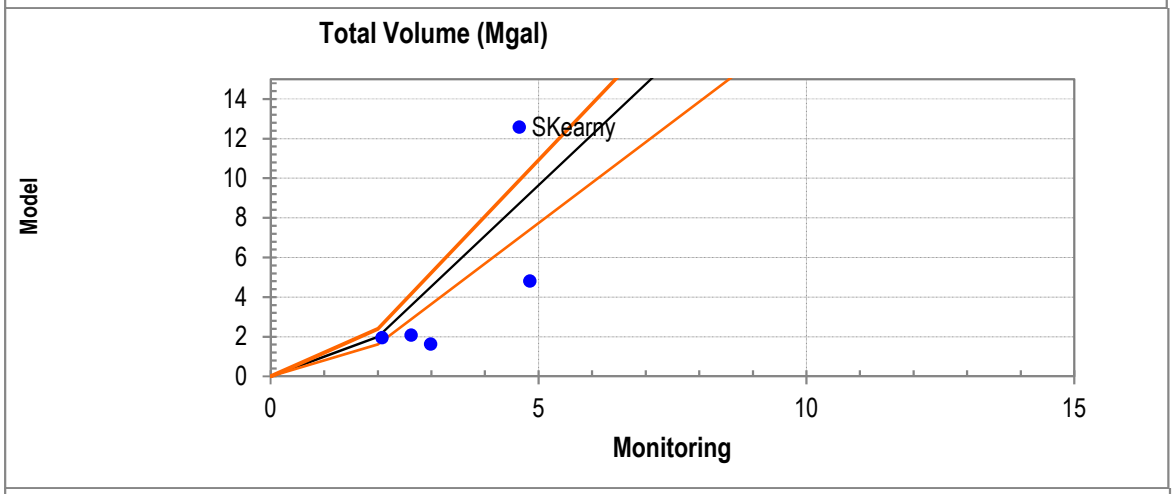

SouthsideInt
Meter
Model
100
90
80
70
60
50
40
30
20
10
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

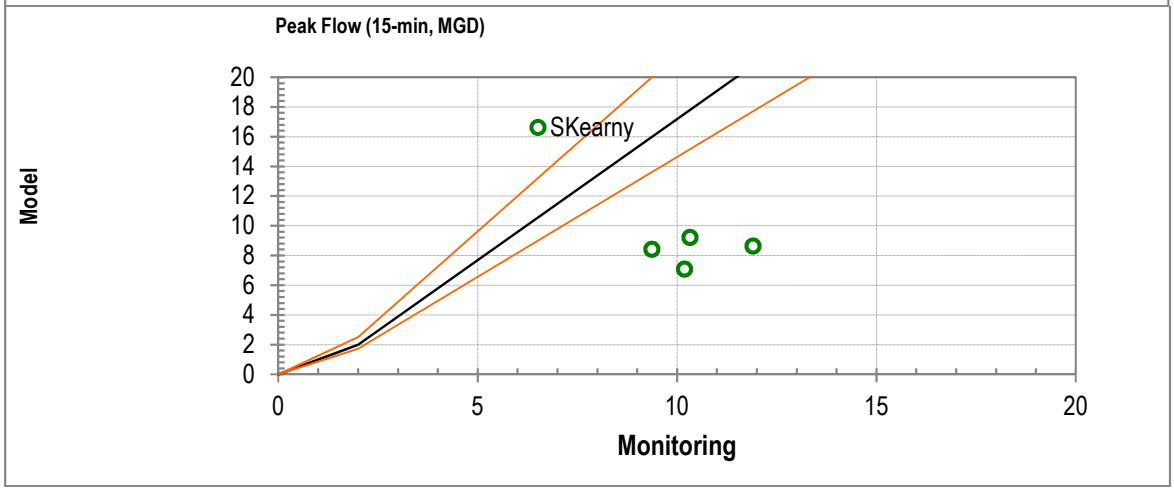

Total Volume (Mgal)
Model
SouthsideInt
200
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
Monitoring

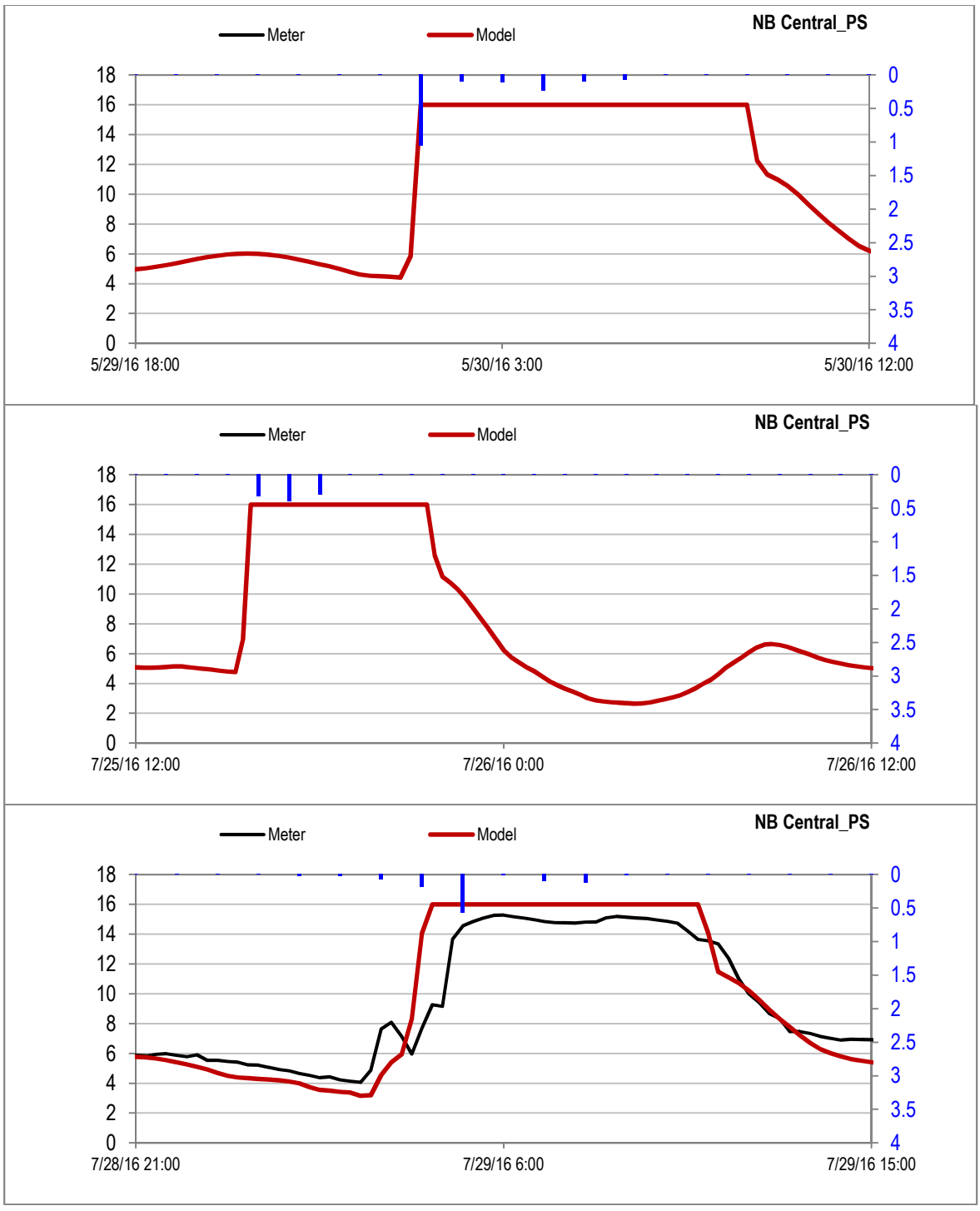

Peak Flow (15-min, MGD)
Model
SouthsideInt
200
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
Monitoring

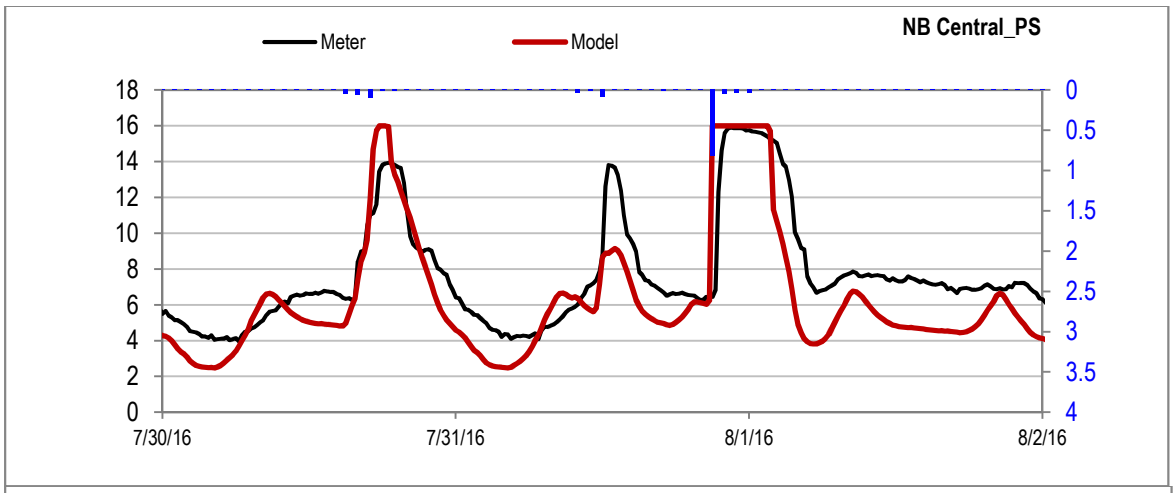

SKearny
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
SKearny
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
SKearny
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00

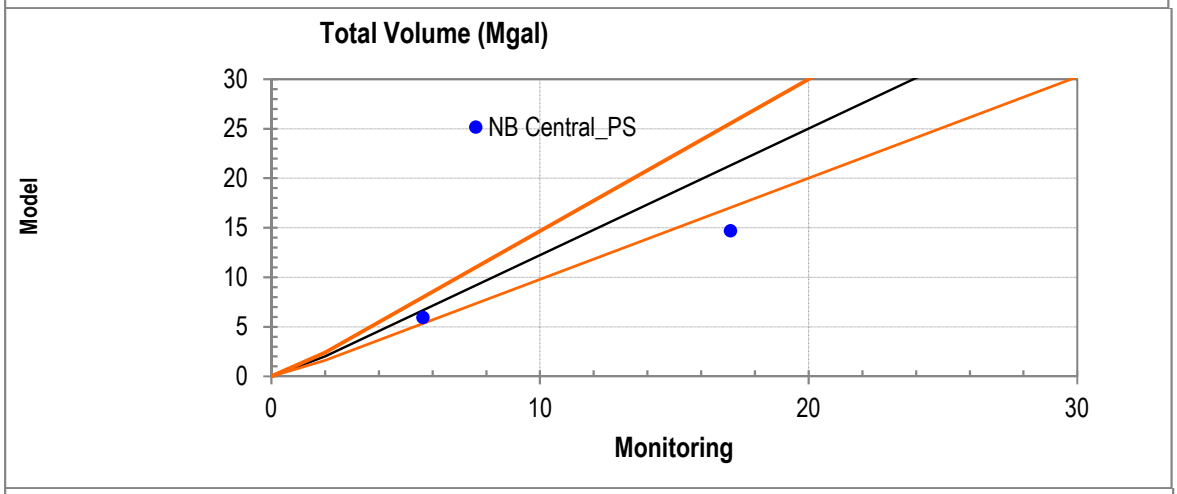

SKearny
Meter
Model
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16

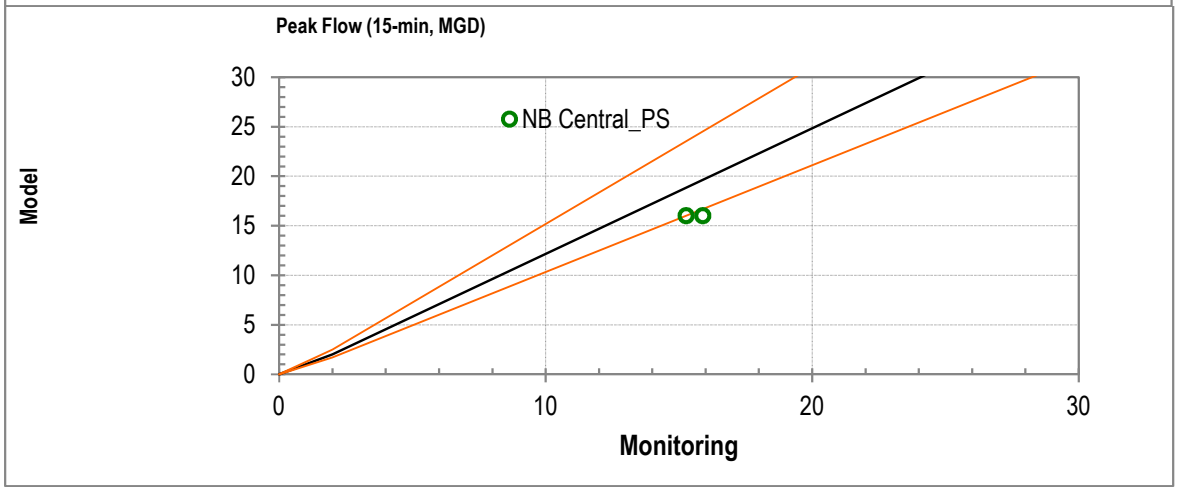

Total Volume (Mgal)
Model
SKearny
14
12
10
8
6
4
2
0
0
5
10
15
Monitoring

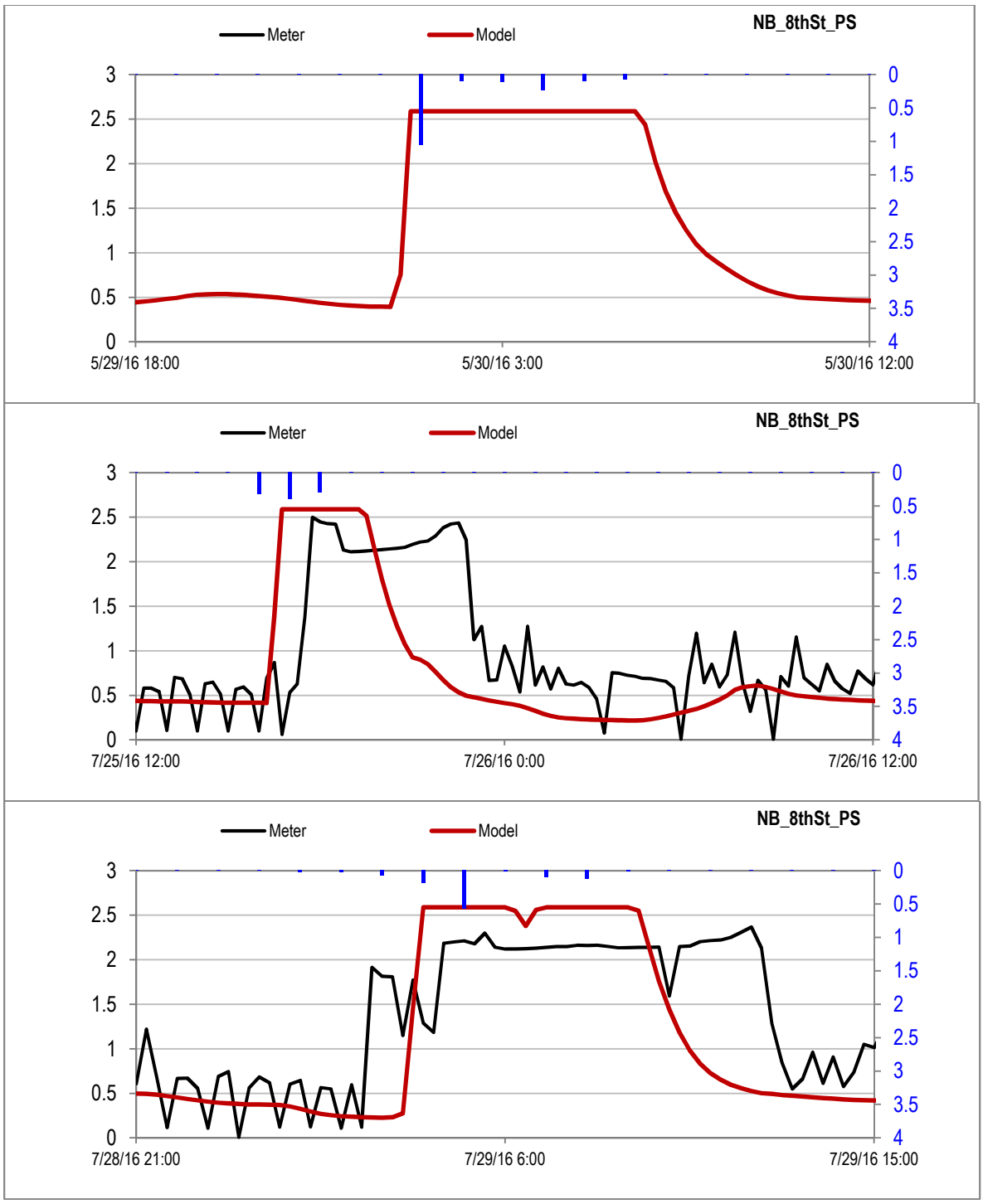

Peak Flow (15-min, MGD)
Model
SKearny
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Monitoring

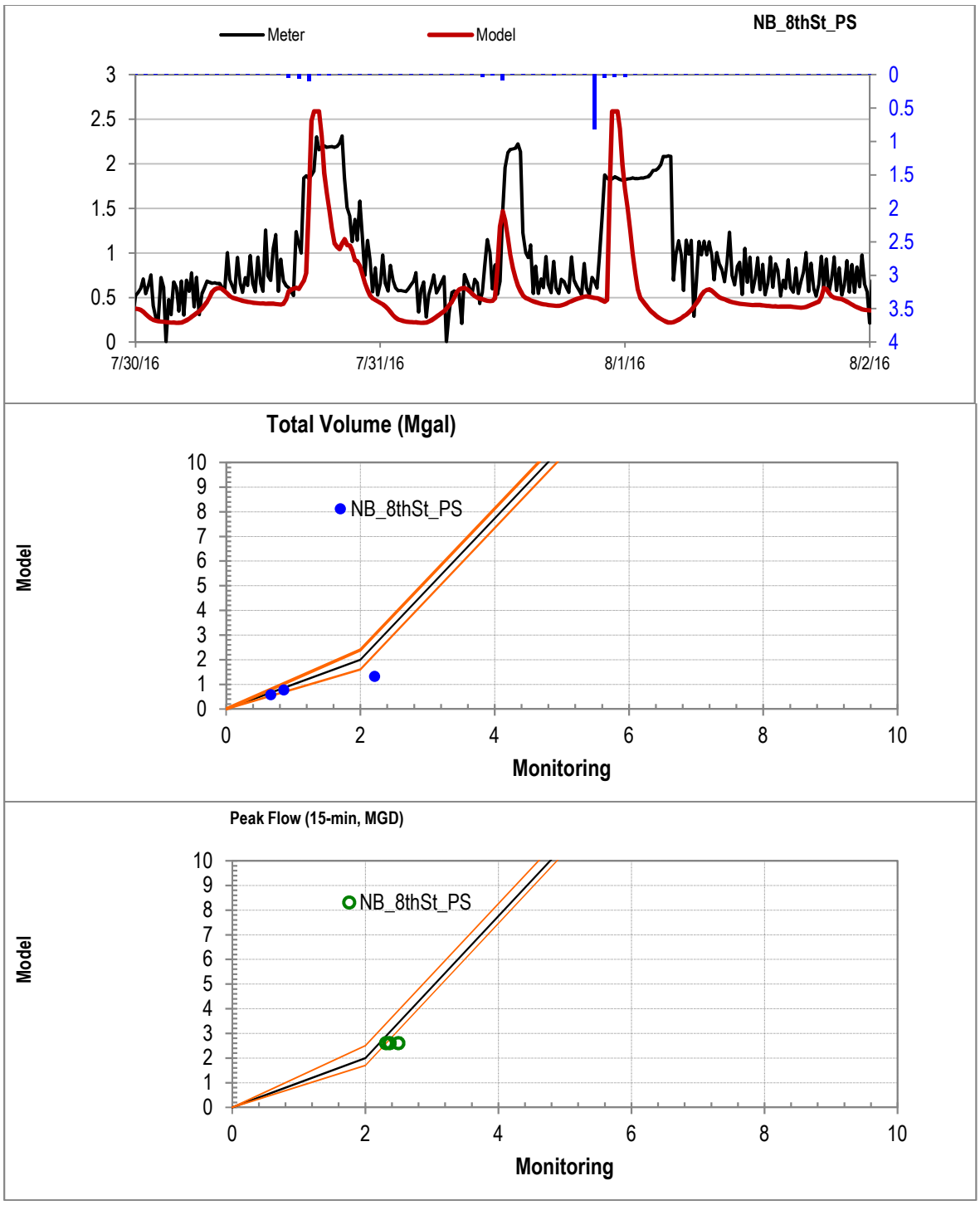

NB Central_PS
Meter
Model
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NB Central_PS
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
NB Central_PS
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00


NB Central_PS
Meter
Model
18
16
14
12
10
8
6
4
2
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
8/2/16


Total Volume (Mgal)
Model
NB Central_PS
30
25
20
15
10
5
0
0
10
20
30
Monitoring


Peak Flow (15-min, MGD)
Model
NB Central_PS
30
25
20
15
10
5
0
0
10
20
30
Monitoring


NB_8thSt_PS
Meter
Model
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
5/29/16 18:00
5/30/16 3:00
5/30/16 12:00
NB_8thSt_PS
Meter
Model
7/25/16 12:00
7/26/16 0:00
7/26/16 12:00
NB_8thSt_PS
Meter
Model
7/28/16 21:00
7/29/16 6:00
7/29/16 15:00


NB_8thSt_PS
Meter
Model
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5
4
7/30/16
7/31/16
8/1/16
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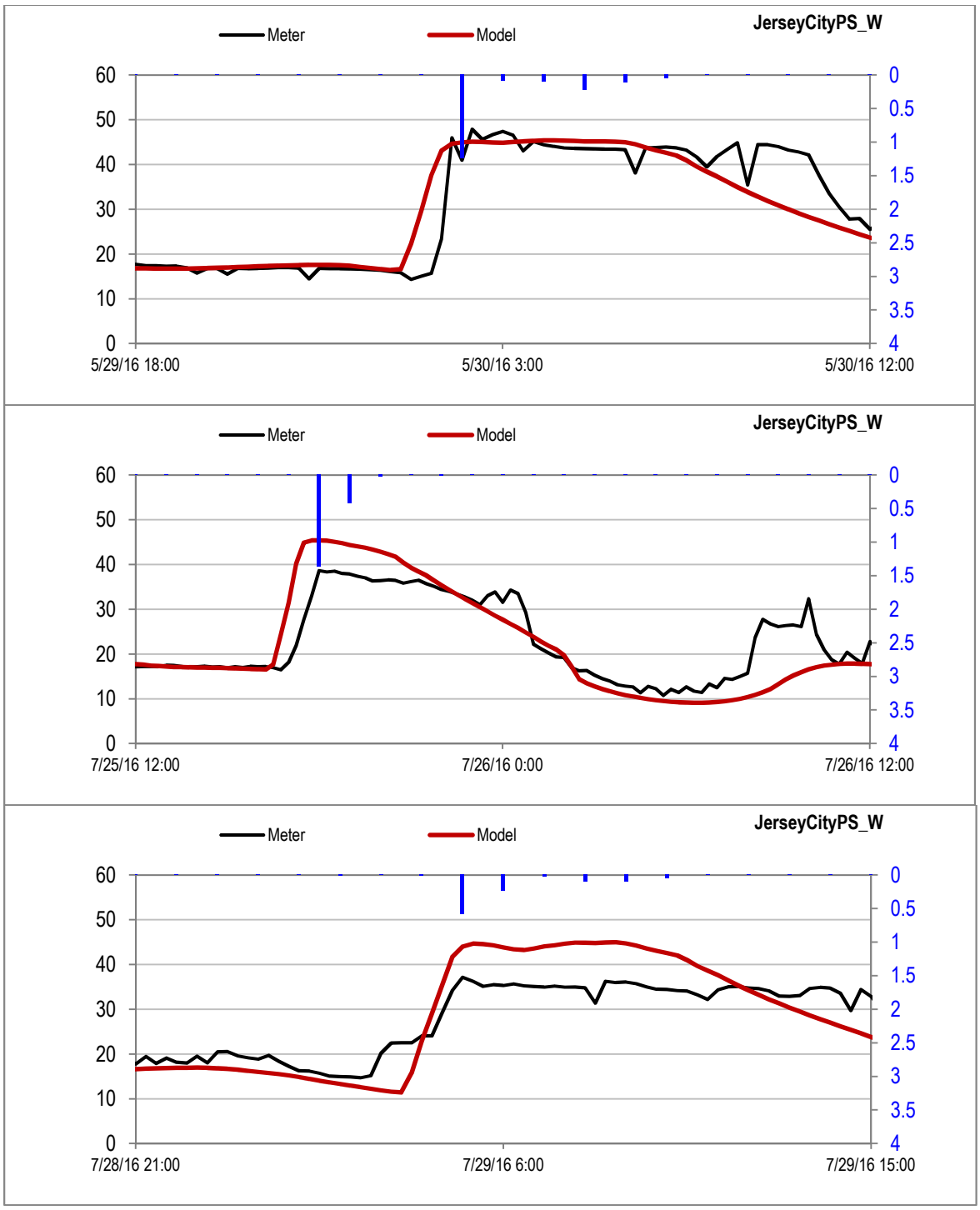
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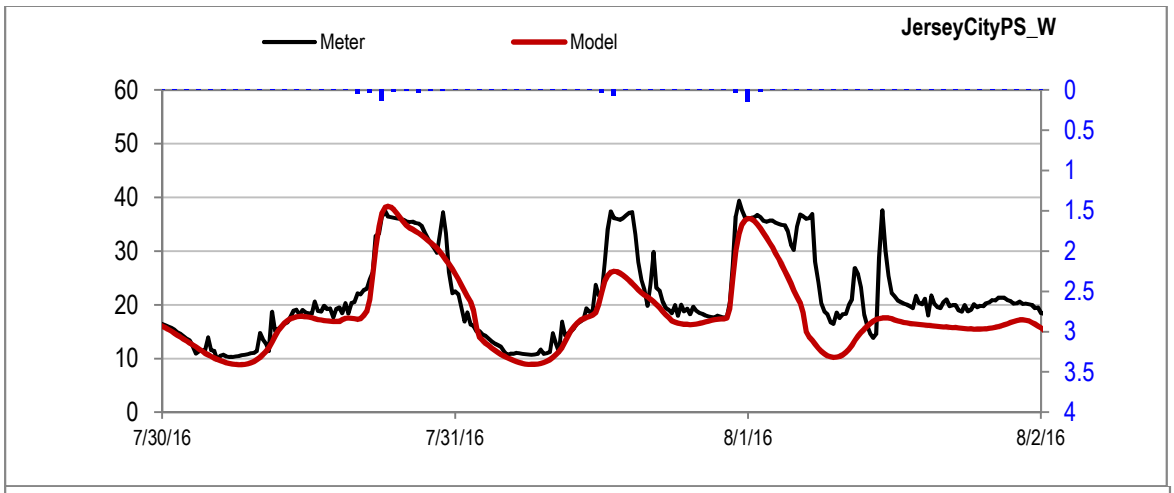
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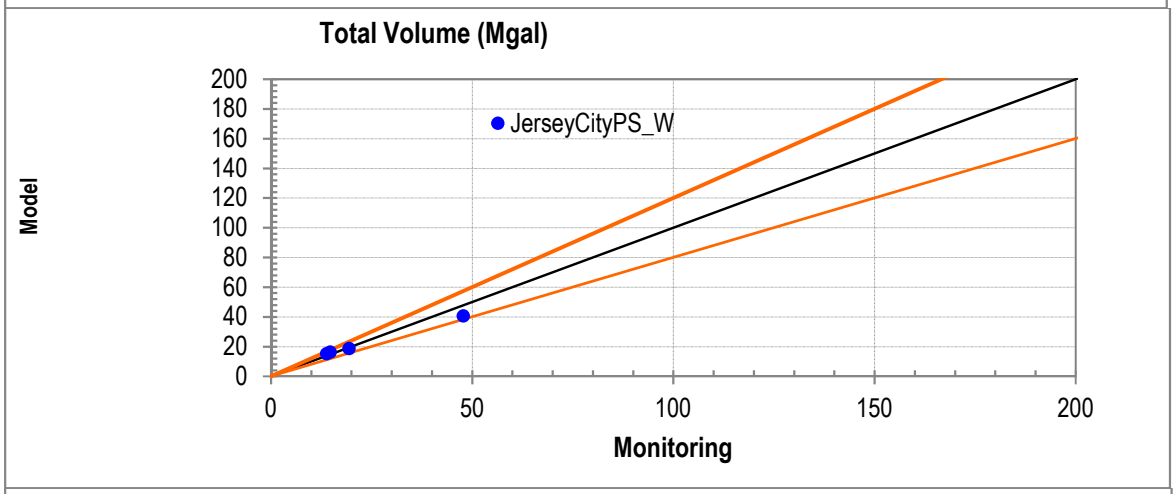
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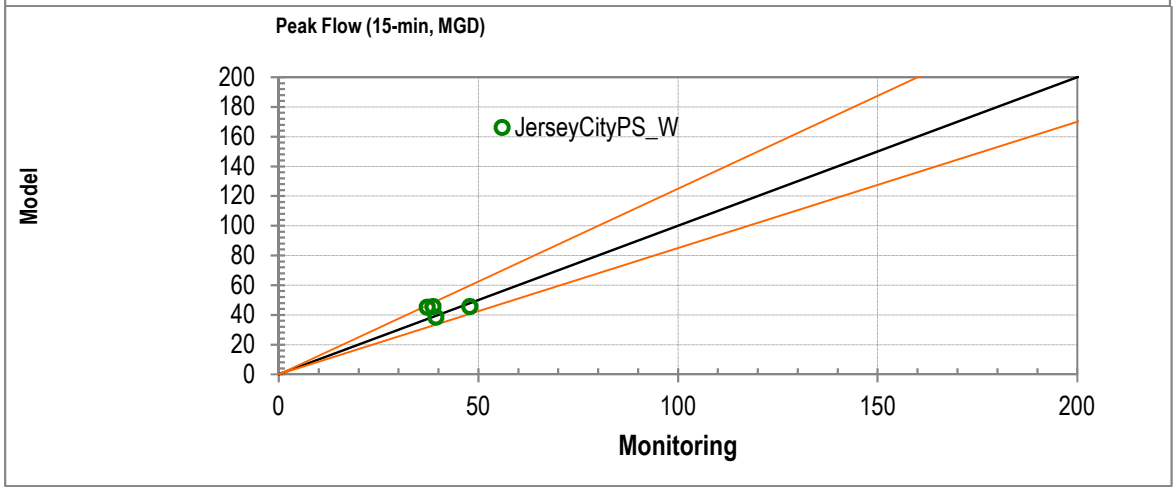
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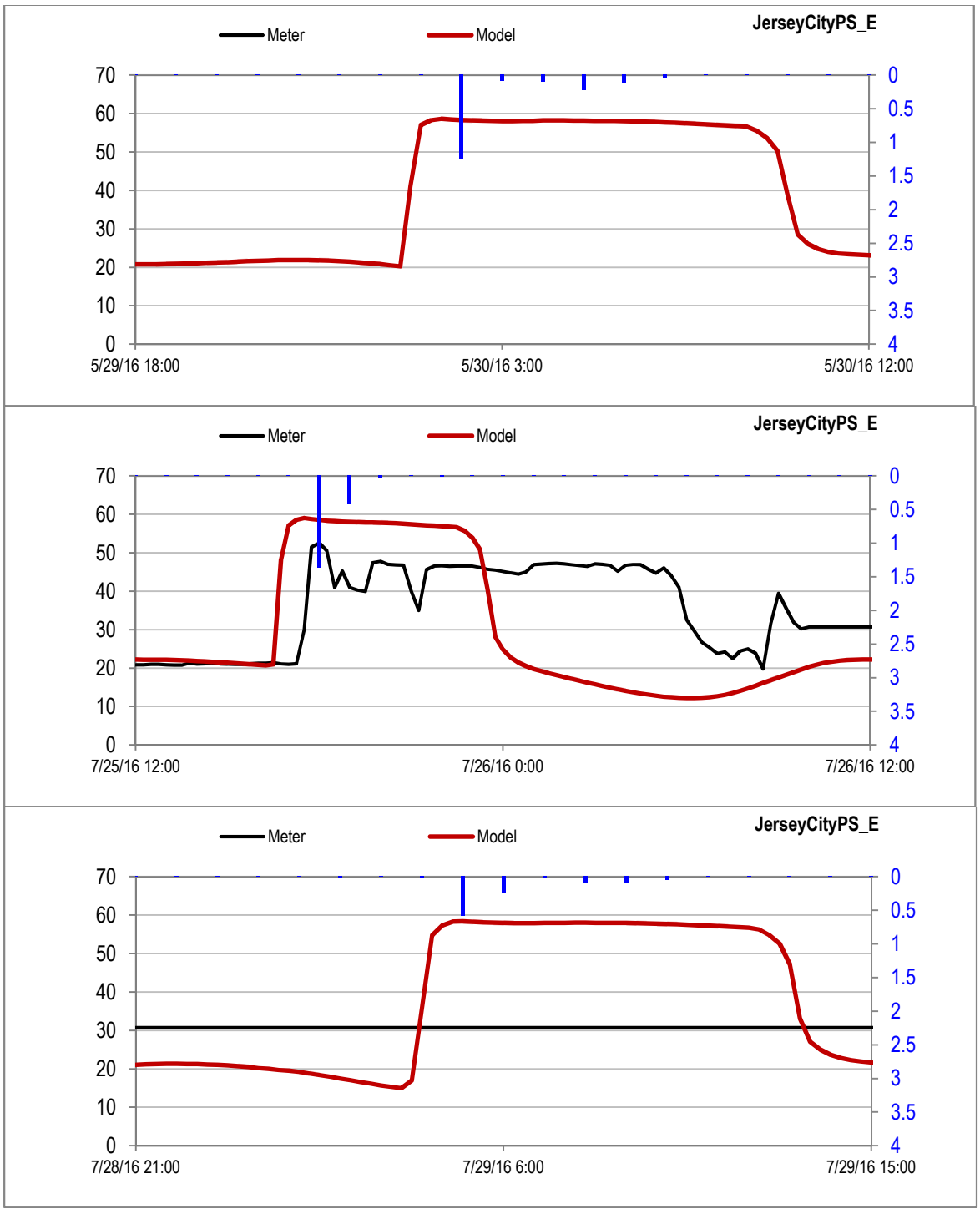
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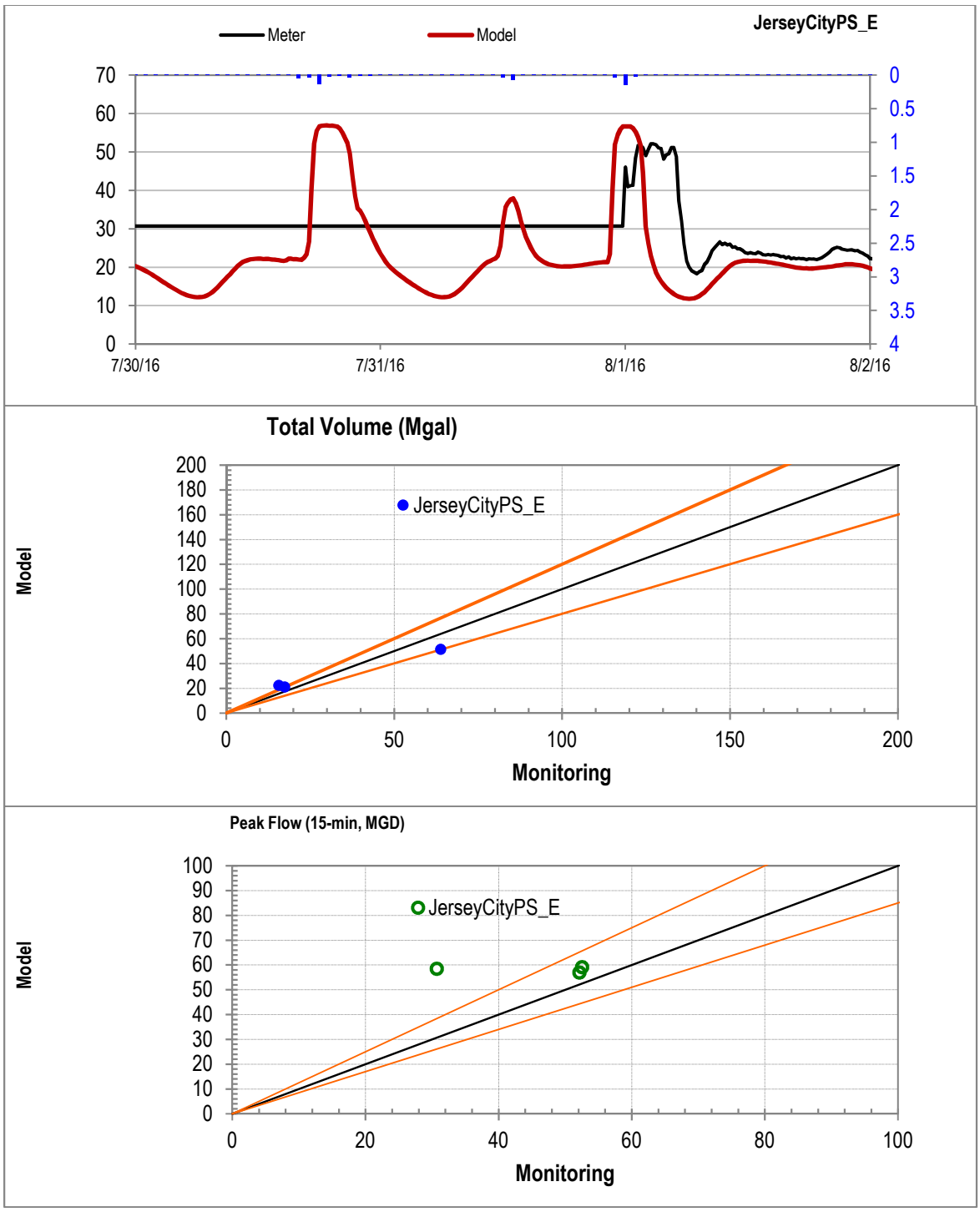
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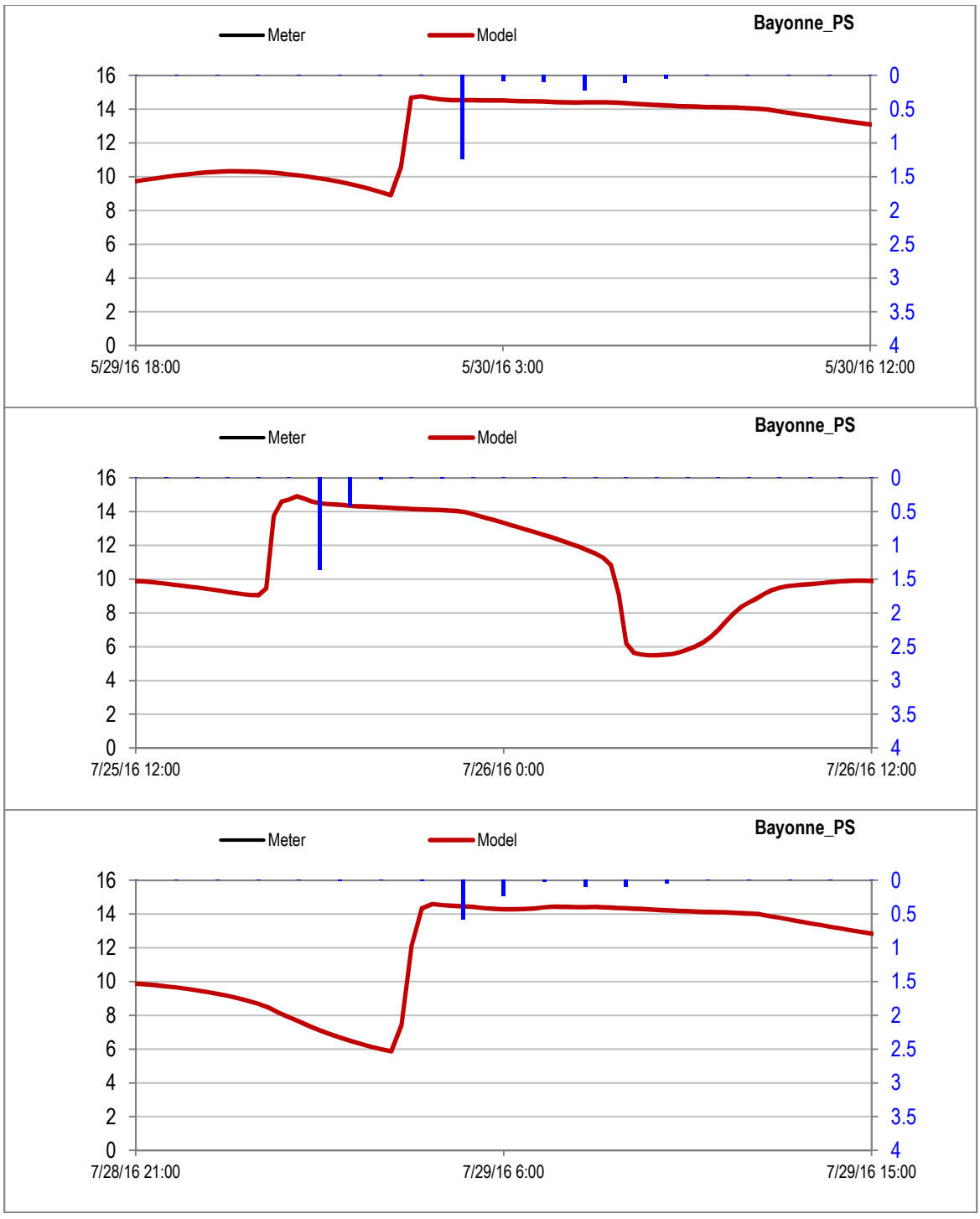
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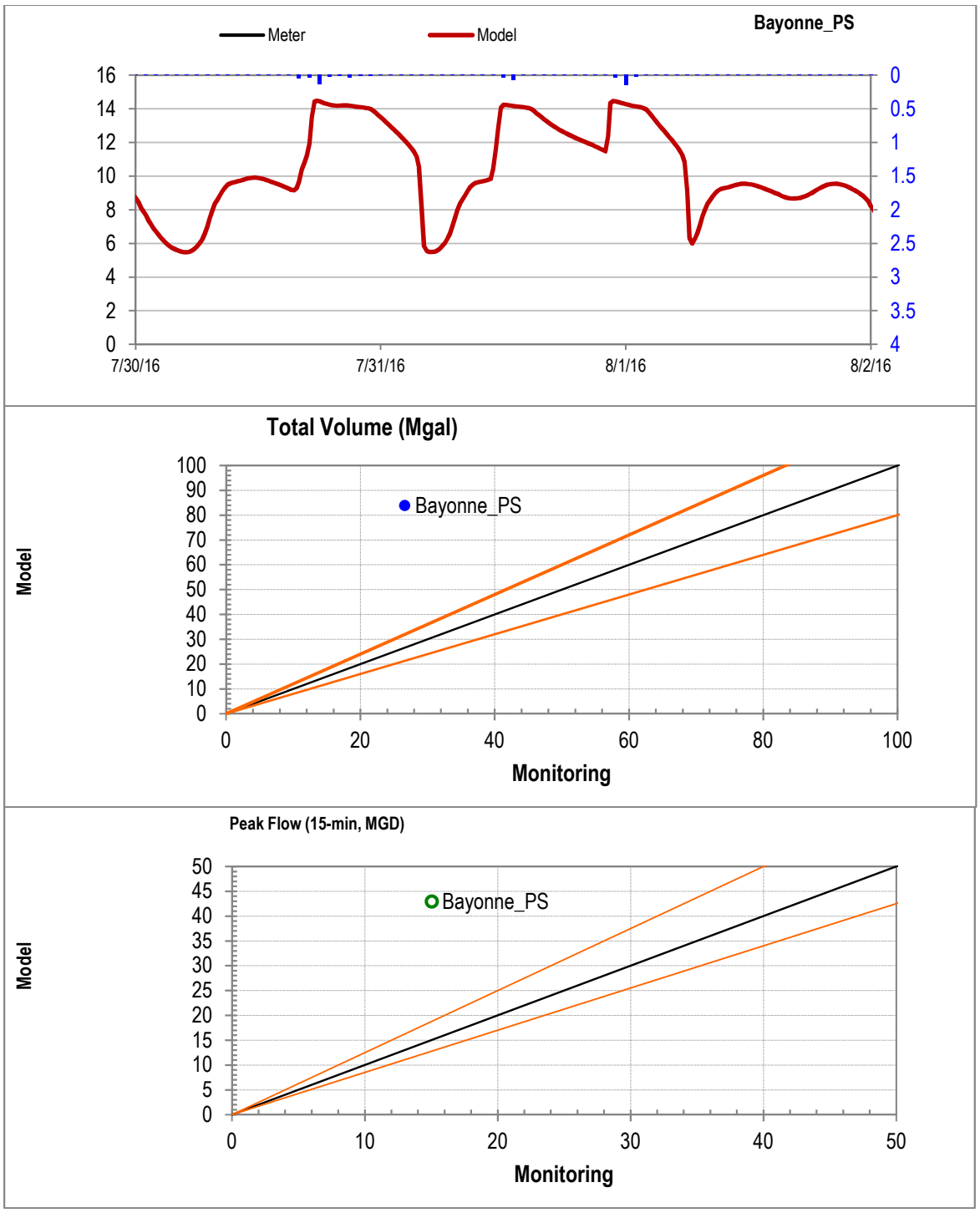
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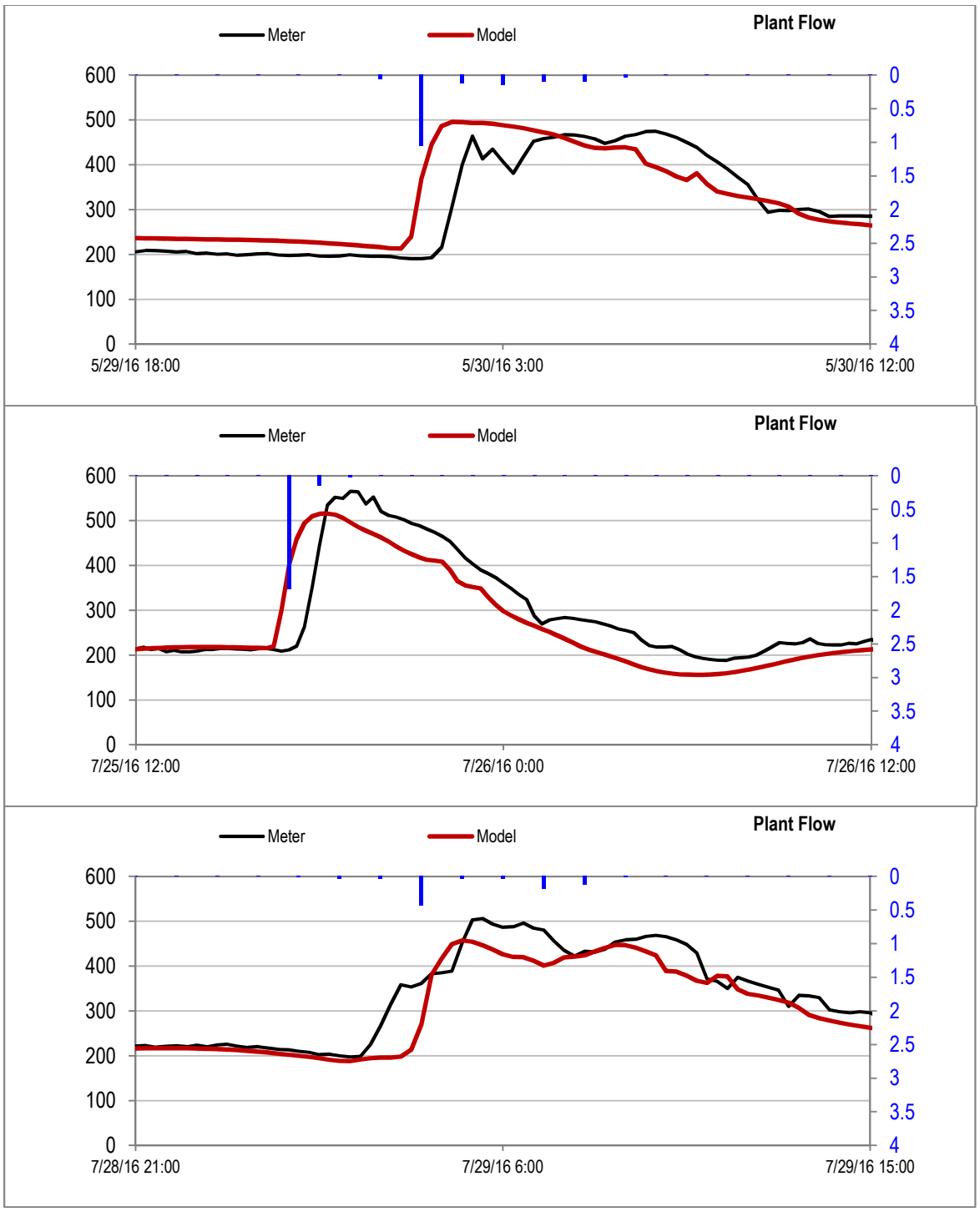
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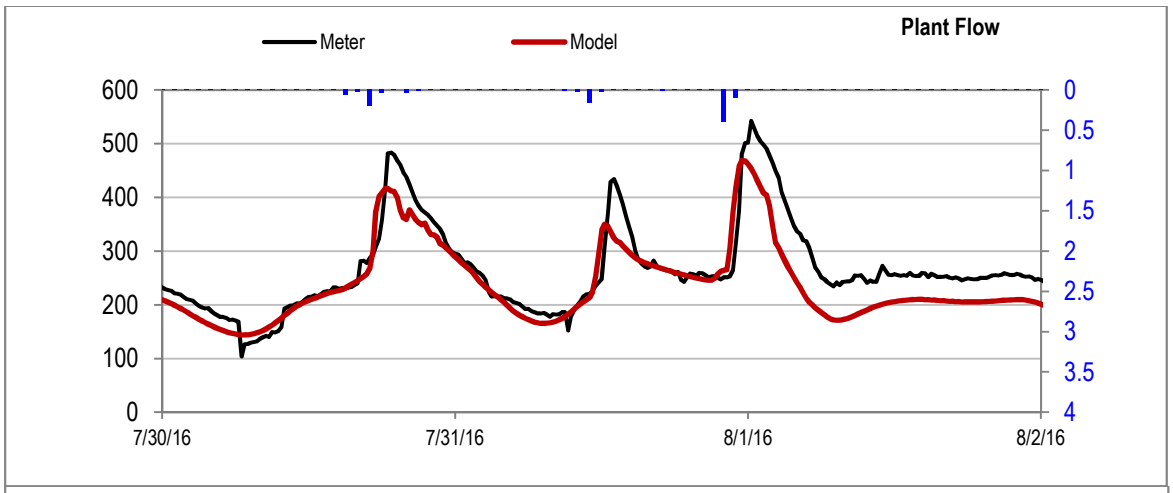
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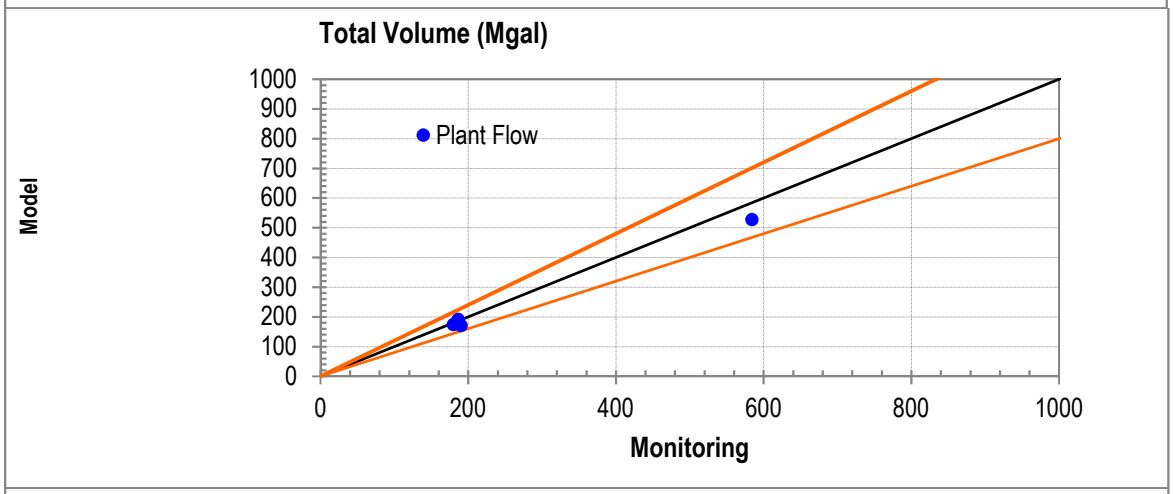
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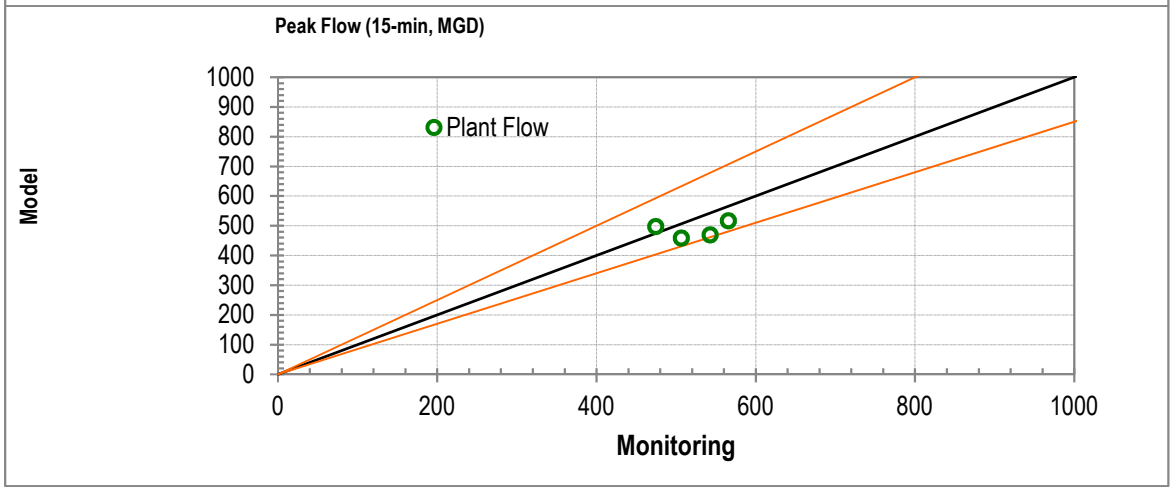
Monitoring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Monitoring

APPENDIX E

NJDEP Comment Letter
Dated October 9, 2018

State of New Jersey

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Water Pollution Management Element
Bureau of Surface Water Permitting
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 292-4860 / Fax: (609) 984-7938

CATHERINE R. McCABE
Commissioner

October 9, 2018

To: Distribution List

Re: Technical Comments on "Service Area System Characterization Report"

Passaic Valley Sewage Commission, NJPDES Permit No. NJ0021016
Bayonne City Municipal Utilities Authority, NJPDES Permit No. NJ0109240
Borough of East Newark, NJPDES Permit No. NJ0117846
Town of Harrison, NJPDES Permit No. NJ0108871
Town of Kearny, NJPDES Permit No. NJ0111244
City of Newark, NJPDES Permit No. NJ0108758
North Bergen Municipal Utilities Authority, NJPDES Permit No. NJ0108898
City of Paterson, NJPDES Permit No. NJ0108880

Dear Permittees:

Thank you for your submission dated June 2018 as submitted cooperatively by Passaic Valley Sewage Commission with the above referenced permittees. The New Jersey Department of Environmental Protection (the Department or NJDEP) acknowledges that all the above permittees have committed to a single, coordinated Long Term Control Plan where this report represents all the above permittees for the purposes of permit compliance.

The New Jersey Pollutant Discharge Elimination System (NJPDES) Combined Sewer Overflow (CSO) permit, at Part IV.D.1.b, requires submission of a certification by the CSO permittees indicating concurrence with the System Characterization Report. This issue is discussed in the Department's letter of August 16, 2018 as submitted to your attention. The Department notes that the June 2018 report does not include signed certifications for all the above referenced permittees and for Jersey City MUA. Please note that this permit requirement is not considered fulfilled until this issue is addressed.

A work plan was submitted for the System Characterization Report on December 29, 2015 for the Borough of East Newark, the Town of Harrison, the Town of Kearny, the City of Newark, the City of Paterson and PVSC for which the Department provided comments on February 16, 2016. A revised work plan submission was dated March 16, 2016 and was approved by the Department on March 30, 2016. A separate work plan was submitted for the System Characterization Report on December 28, 2015 for the Bayonne Municipal Utilities Authority, North Bergen MUA and PVSC for which the Department provided comments on April 11, 2016. Revised submissions were dated March 17, 2016, April 21, 2016 and May 4, 2016. The work plan was approved by the Department on August 1, 2016.

This letter serves to provide technical comments on your submission.

Overall Objectives of the Sewer System Characterization

The required information for the Sewer System Characterization is included in the NJPDES CSO permit at Combined Sewer Management (CSM) Part IV.G.1. In order to provide a backdrop to some of the technical issues identified in this letter, the Department would like to note the objectives of modeling in relation to the Sewer System Characterization as contained in EPA's Guidance for Long-Term Control Plans (EPA 832-B-95-002). Specifically, once the model is calibrated and verified, the primary objectives of Combined Sewer System (CSS) modeling applications include:

- To predict overflow occurrence, volume, and, in some cases, quality for rain events other than those which occurred during the monitoring phase. These can include a storm event of large magnitude (long recurrence period) or numerous storm events over an extended period of time.

- To predict the performance of portions of the CSS that have not been extensively monitored.

- To develop CSO statistics, such as annual number of overflows and percent of combined sewerage captured as described in the CSO Control Policy.

- To optimize CSS performance as part of Nine Minimum Control (NMC) implementation. In particular, modeling can assist in locating storage opportunities and hydraulic bottlenecks and demonstrate that system storage and flow to the POTW are maximized.

- To evaluate and optimize control alternatives, from simple controls described under the NMC to more complex controls proposed in a municipality's LTCP. An example of a simple control would be to raise weir heights to increase in-line storage. The model can be used to evaluate the resulting reductions in CSO volume and frequency.

NJDEP Technical Review

In light of the above objectives, the Department's comments are as follows:

General Comments

Comment 1: Section G.4, Page 100, Sewer System Quality Results. The report states:

> "An analysis of the data indicated that the measured stormwater concentrations were similar in the various land-use areas, so the data were combined to represent stormwater in general."

Was this true for all sampled locations? Was there any further adjustment? Was there any further evaluation of the representativeness of the stormwater data? Was there an attempt to use literature values and see how they compare with measured data? Please provide all raw stormwater data in tabular format that formed the basis for Table G-4. Also, Enterococci results are significantly higher as compared to Fecal Coliform and/or E. coli. Please provide some discussion as how these values compare to literature values.

Comment 2: Section I, Page 115, Hydrologic and Hydraulic Modeling. This section discusses models' integration. However, no detailed model calibration/validation information was provided for the individual systems. For example, the discussion focused on the PVSC Interceptor Model and assumes all individual landsides models developed for the collection system are successfully calibrated and

validated. Please provide a detailed discussion with supporting model calibration and validations for all CSO affected PVSC Municipalities.

Comment 3: Section I.2.6, Page 136, Model Evaluation Group (MEG) Review. Please provide a copy of the MEG's comments in the appendix and how these comments were addressed. Also, did the MEG review the final modeling results?

Comment 4: Section I.3.2, Page 143, Subcatchment. Please expand upon Table I-6 with all sub-catchments input parameters for the modeled areas. The table should include the following parameters: Surface Area, Basin Width, Percent Impervious and Directly Connected Impervious Area (Effective Impervious), Land Slope, Manning's Roughness Coefficients, Infiltration Coefficients and Depression Storage.

Comment 5: Figure I-39, Page 175, Correlation between Rainfall Depth and CSO Overflow Volume. Some of the correlations presented exhibit large variation, (e.g., Paterson and Harrison). Was this due to correlating all CSO outfalls within a Municipality in one graph? Please provide a graph depicting site specific correlation between Rainfall Depth and CSO Overflow for each CSO outfall. Also, please provide discussion and justification for assuming accepted model performance.

Comment 6: Table I-12, Page 176. The table does not provide the duration of overflows. The main objective of running the H&H model is to quantify volume, frequency and duration of discharge, please refer to the permit requirement at Part IV.G.1.d.iii. Also, in the last sentence below the table, it is stated that the duration for each discharge can be found in the monthly discharge monitoring reports (DMRs) report. This statement is confusing and should be deleted since these results are for the typical year which predated any DMR data.

Comment 7: CSO overflow volume as estimated for the typical year 2004, with an average rainfall depth of 48.37 inches, is significantly less than the previously estimated CSO volume in historic studies for the typical year 1988 with a significantly less rainfall depth. Please provide clarification on how and why there is such a discrepancy in the estimated CSO volumes. It is suggested that you re-run the model using the 1988 rainfall with the updated model, provide the results, and provide a comparison analysis.

Comment 8: Part IV.G.1.b of the permit requires a thorough review of the entire collection system that conveys flows to the PVSC System, including areas of sewage overflows. Therefore, the report must include a discussion of areas that are prone to flooding based on observed and reported incidents, including dates of occurrence, type of storm events that caused the flooding, and antecedent conditions, if known.

Comment 9: Please provide a pie chart depicting the total runoff generated from the PVSC combined sewer area and assumed water loss, i.e., water budget. For example, please provide estimated quantities of the total runoff, volume diverted to the combined sewer, direct runoff to nearby receiving waterbodies, evaporation, infiltration, etc.

Specific Comments

Comment 10: Section E.3, Page 67, Dry Weather Flow (DWF) Analysis. Figure E-2 shows a graphical representation of the DWF for just the Paterson Interceptor. However, the report cites that the overall and monthly DWFs for all monitoring sites were analyzed. Please include the results of these analysis in tabular format for all the monitoring sites in the final report.

Comment 11: Section E.4, Page 69, Wet Weather Flow Analysis. While the methodology used to quantify the wet weather flow is acceptable, the report does not provide a sufficient detailed analysis of the wet weather flow at all monitoring stations. Please include in the appendix all monitoring stations where wet weather flow analyses were conducted.

Comment 12: Section E.5, Page 70, Wet Weather Event Selection for Model Calibration and Validation Flow Analysis. Table E-2, outlines the rainfall events used in the model calibration/validation. First, specify the location of the rain gauges of these rainfall events as to whether they were based on Newark Airport or on other gage stations. Secondly, please clarify how these rainfall events compare to rainfall captured at other stations within the system.

Comment 13: Section E.5, Page 70, Wet Weather Event Selection for Model Calibration and Validation Flow Analysis. Further justification is needed for selecting the July 31, 2016 rainfall event. This event has the longest duration, 14 hours; however, both rainfall depth and average intensity are extremely low compare to other shorter events - in fact, this event resulted in zero flow at certain locations. It is recommended that the July 29, 2016 rainfall event be used as the long duration event and add one of the events listed in Table E-4, for short duration, i.e., July 16, 2016 or July 9, 2016. In addition, can any of the rainfall events, e.g., June 6, 2016, listed in the Baseline Compliance Monitoring Program (BCMP) report on Page 32, Table 12 be used for the landside model calibration/validation?

Comment 14: Section E.9, Page 73, Collection of PVSC Water Resources Recovery Facility Operational Data Regarding the PVSC flow data during the period of model calibration/validation, please present the data in tabular format, if possible.

Comment 15: Section E.10, Page 73 Summary. The summary states that "The Newark Airport rain gauge was analyzed to determine which wet weather events would be used for model calibration." Please provide an example or further justification on how these analyses were performed as the report does not provide such information.

Comment 16: Section F.2, Page 76, Pollutants of Concern in the Receiving Waters. Please add "fresh water tributaries" next to the E. coli indicator for Newark and Upper New York Bay.

Comment 17: Section F.4.6, Page 80 Designated Uses and Water Quality Criteria from NJ Code. Please specify which part of the Passaic River these impairments are listed for. For example, list impairments by specific waterbody, i.e., Upper Passaic River near Paterson, Lower Passaic River and so on.

Comment 18: Table F-6, Page 92. Under the column entitled "Designated Uses", please be advised that an SE1 classification does not always mean the waterbody is designated for shellfishing. Even if an SE1 waterbody is specifically designated for shellfishing, the pathogen criteria will be much more stringent than primary contact criteria.

Comment 19: Section G.3.3, Page 97, Sewer System Quality Sampling. The report states that:

> "The original Quality Assurance Project Plan (QAPP) targeted 18 CSO and 8 stormwater locations, distributed throughout the PVSC region by municipality and land use. See **Figure G-1** for an overview of the sampling locations. The goal of the sampling protocol was to obtain three wet-weather events of sufficient depth, intensity, and duration for valid model calibration at each targeted location…"

And then, states that:

> "…only one of the 18 CSO locations was successfully sampled three times, and four of the targeted CSO locations were not sampled at all due to access or other logistical issues."

Please add a short discussion, or reference to other sections of the report as to how the lack of such data been addressed and the model was successfully calibrated and validated.

Comment 20: Section G.3.6, Page 99-100, System Characterization and Landslide Modeling QAPP Goals. Please ensure that the listed objectives of the system characterization and modeling agrees with these objectives outlined in the Work Plan and as stated above.

Comment 21: Section G.4, Page 100, Sewer System Quality Results. The report states:

> "The CSO data will be used to verify the CSO concentrations calculated by using a combination of sewer system model output and estimated sanitary and stormwater pathogen concentrations. This "Mass Balance Approach" will be used to estimate pathogen loading from CSOs in the receiving water model."

Does the above statement suggest that final estimates of CSO loadings will not be provided until after successfully calibrating and validating the receiving water model? If so, comparison analysis of the derived loadings against literature values must be performed to ensure accurateness and/or representativeness of the final loading estimates.

Comment 22: Section G.4.1, Page 100-101, Plant Influent Sampling and Results. The report states that fecal coliform and E. coli showed seasonal variation. How was this addressed in the model development?

Comment 23: Section I.1.1, Page 117-118, PVSC Interceptor Model. On page 117, the report states that the model did not include the Hudson County Force Main. However, on page 118, it states that:

> "Sewers collected from its collection system are conveyed to the wet well at the Bayonne Pump Station at the Oak Street and pumped to the Hudson County Force Main, which conveys the combined flows from the Jersey City, the North Bergen and Bayonne to the PVSC WRRF for treatment…"

Please provide more clarification.

Comment 24: Section I.3.2, Page 148, Manning's "n" Roughness Coefficients. The report states initial values were set to 0.02 for impervious surfaces and 0.05 for pervious surfaces. Please provide the final values used after successful model calibration and a comparison to the range of acceptable literature values.

Comment 25: Section I.5.2, Page 158, Wet Weather Calibration. The report states that the acceptable range for simulated wet weather flow volume is within -20% to +20%. Please justify your selection of this range. Dry weather simulated flow will be within 10% of observed flow which is consistent with the value outlined in the report.

Comment 26: Section I.5.2, Page 160-182, Wet Weather Calibration. The report states that not all wet weather events selected for model calibration were eventually used. For example, on page 169, it states:

"1. Monitored data was not available for an extended portion of the May 29th, 2016 event. Therefore, this event was not considered during model calibration.
2. The monitored data for the July 29th, 2016 and July 30th, 2016 events also has some missing or periods of zero flow. The calibration effort for this site focused on matching peak flows and the hydrograph pattern."

Was there an attempt to use other rainfall events that may result in a better calibration? This question also pertains to the calibration plots on pages 170, 171, and 172. Also, some of the simulated total volume and peak flow (specifically page 163 – calibration plot for PVSC Interceptor WRRF) are mostly underpredicting. Please provide additional discussion as to how this was addressed in calculating the final total volume.

Comment 27: Table I-13, Page 180, Percent Capture. This section should be omitted from this report as it is more applicable in the Development and Evaluation of Alternatives Report, which is to be submitted on July 1, 2019.

Comment 28: Appendix A, Combined Sewer Overflow and Stormwater Sampling Results. Please provide the data in excel format as well.

Please incorporate these changes to the report and submit a revised version to the Department no later than 60 days from the date of this letter.

Thank you for your continued cooperation.

Sincerely,

Dwayne Kobesky
CSO Team Leader
Bureau of Surface Water Permitting

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North Bergen, NJ 07047

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Teresa Guloy, Bureau of Surface Water Permitting
Susan Rosenwinkel, Bureau of Surface Water Permitting
Joe Mannick, Bureau of Surface Water Permitting
Tim Ebersberger, Bureau of Nonpoint Pollution Control

Finizio, Marlene

From: Kobesky, Dwayne <Dwayne.Kobesky@dep.nj.gov>
Sent: Thursday, December 06, 2018 2:59 PM
To: McKenna, Bridget; Hope, Michael; Rosenwinkel, Susan; Mannick, Joe; Kempel, Nancy
Cc: Eley, Marques; Sheldon S. Lipke (slipke@SJLConsultants.com); mwitt; Finizio, Marlene; Fang, Yuan; Gibby, Eloise; Dupuis, Timothy J.; David Ksyniak (ksyniakda@cdmsmith.com)
Subject: RE: [EXTERNAL] RE: [EXTERNAL] Technical Comments on the Service Area System Characterization Report

Hi Bridget,

In response to your request for an extension of time, the Department is granting you your request of a 45 day extension to resubmit the System Characterization Reports for the PVSC District and the North Bergen MUA/Guttenberg District Reports to address the comments received from the MEG.

Please let me know if you have any questions.

Dwayne

From: McKenna, Bridget <BMcKenna@PVSC.COM>
Sent: Thursday, December 6, 2018 8:14 AM
To: Kobesky, Dwayne <Dwayne.Kobesky@dep.nj.gov>; Hope, Michael <mhope@greeley-hansen.com>; Rosenwinkel, Susan <Susan.Rosenwinkel@dep.nj.gov>; Mannick, Joe <Joe.Mannick@dep.nj.gov>; Kempel, Nancy <Nancy.Kempel@dep.nj.gov>
Cc: Eley, Marques <MEley@PVSC.COM>; Sheldon S. Lipke (slipke@SJLConsultants.com) <slipke@SJLConsultants.com>; mwitt <mwitt@chasanlaw.com>; Finizio, Marlene <mfinizio@greeley-hansen.com>; Fang, Yuan <yfang@greeley-hansen.com>; Gibby, Eloise <egibby@greeley-hansen.com>; Dupuis, Timothy J. <dupuistj@cdmsmith.com>; David Ksyniak (ksyniakda@cdmsmith.com) <ksyniakda@cdmsmith.com>
Subject: RE: [EXTERNAL] RE: [EXTERNAL] Technical Comments on the Service Area System Characterization Report

Good morning,
PVSC held its 4th MEG meeting yesterday. As a result of comments received from the MEG members, PVSC is respectfully requesting a 45 day extension to resubmit the System Characterization Reports for the PVSC District and the North Bergen MUA/Guttenberg District Reports to address the comments received yesterday.
Should you have any questions regarding this request or require additional information please call or email me.
Thanks very much,
Bridget

Bridget M. McKenna | Chief Operating Officer
Passaic Valley Sewerage Commission | 600 Wilson Avenue | Newark, New Jersey 07105
(P) 973-817-5976 | (F) 973-817-5709 | email: bmckenna@pvsc.com

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From: Kobesky, Dwayne [mailto:Dwayne.Kobesky@dep.nj.gov]
Sent: Wednesday, December 05, 2018 9:15 AM

To: Hope, Michael <mhope@greeley-hansen.com>; Rosenwinkel, Susan <Susan.Rosenwinkel@dep.nj.gov>; Mannick, Joe <Joe.Mannick@dep.nj.gov>; Kempel, Nancy <Nancy.Kempel@dep.nj.gov>
Cc: McKenna, Bridget <BMcKenna@PVSC.COM>; Eley, Marques <MEley@PVSC.COM>; Sheldon S. Lipke (slipke@SJLConsultants.com) <slipke@SJLConsultants.com>; mwitt <mwitt@chasanlaw.com>; Finizio, Marlene <mfinizio@greeley-hansen.com>; Fang, Yuan <yfang@greeley-hansen.com>; Gibby, Eloise <egibby@greeley-hansen.com>; Dupuis, Timothy J. <dupuistj@cdmsmith.com>; David Ksyniak (ksyniakda@cdmsmith.com) <ksyniakda@cdmsmith.com>
Subject: [EXTERNAL] RE: [EXTERNAL] Technical Comments on the Service Area System Characterization Report

Hi Mike,

Thank you. Receipt confirmed.

Dwayne

From: Hope, Michael <mhope@greeley-hansen.com>
Sent: Tuesday, December 4, 2018 5:09 PM
To: Rosenwinkel, Susan <Susan.Rosenwinkel@dep.nj.gov>; Kobesky, Dwayne <Dwayne.Kobesky@dep.nj.gov>; Mannick, Joe <Joe.Mannick@dep.nj.gov>; Kempel, Nancy <Nancy.Kempel@dep.nj.gov>; DEP NJCSOProgram <NJCSOProgram@dep.nj.gov>
Cc: McKenna, Bridget <BMcKenna@PVSC.COM>; Eley, Marques <MEley@PVSC.COM>; Sheldon S. Lipke (slipke@SJLConsultants.com) <slipke@SJLConsultants.com>; mwitt <mwitt@chasanlaw.com>; Finizio, Marlene <mfinizio@greeley-hansen.com>; Fang, Yuan <yfang@greeley-hansen.com>; Gibby, Eloise <egibby@greeley-hansen.com>; Dupuis, Timothy J. <dupuistj@cdmsmith.com>; David Ksyniak (ksyniakda@cdmsmith.com) <ksyniakda@cdmsmith.com>
Subject: RE: [EXTERNAL] Technical Comments on the Service Area System Characterization Report

Good afternoon.

We are in receipt of the New Jersey Department of Environmental Protection's (NJDEP's) letter, dated October 9, 2018, which transmitted technical comments on the Service Area System Characterization (Report) for the Passaic Valley Sewerage Commission (PVSC) and the Permittees within the PVSC Sewer District. Comment No. 1 and Comment No. 28 have requested the combined sewer overflow and stormwater sampling data to be provided in Microsoft Excel format.

Attached and in response to these comments, on behalf of PVSC and the Permittees within the PVSC Sewer District, please find the requested combined sewer overflow and stormwater data in Microsoft Excel format.

Please note that the revised Report in order to address the remaining NJDEP's comments as transmitted in the above referenced letter will be sent under a separate email.

Thank you,

GREELEY AND HANSEN
Michael J. Hope, P.E.
Managing Director
1700 Market Street, Suite 2130
Philadelphia, Pennsylvania 19103
P: 215.553.7917
greeley-hansen.com

From: Kobesky, Dwayne [mailto:Dwayne.Kobesky@dep.nj.gov]
Sent: Tuesday, October 09, 2018 2:52 PM
To: McKenna, Bridget <BMcKenna@PVSC.COM>; boroughofeastnewark@verizon.net; Newark - Adebowale, Andrea <Adebowalea@ci.newark.nj.us>; 'fmargron@patersonnj.gov' <fmargron@patersonnj.gov>; 'tboyle@baynj.org' <tboyle@baynj.org>; rrussomanno@townofharrison.com; 'Smith, Robert J.' <rsmith@kearnynj.org>; Fpnbmua <fpnbmua@aol.com>
Cc: Rosenwinkel, Susan <Susan.Rosenwinkel@dep.nj.gov>; Alebus, Marzooq <Marzooq.Alebus@dep.nj.gov>; Guloy, Teresa <Teresa.Guloy@dep.nj.gov>; Mannick, Joe <Joe.Mannick@dep.nj.gov>; Ebersberger, Timothy <timothy.ebersberger@dep.nj.gov>
Subject: [EXTERNAL] Technical Comments on the Service Area System Characterization Report

Good Afternoon,

Please find the attached Technical Comments on the Service Area System Characterization Report.

Thank you,

Dwayne Kobesky
New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Surface Water Permitting
401 East State Street, P.O. Box 420
Mail Code 401-02B
Trenton, NJ 08625-0420
(609) 292-4860
Dwayne.Kobesky@dep.nj.gov

APPENDIX F

NJDEP Comment Letter
Dated February 26, 2019

State of New Jersey

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Water Pollution Management Element
Bureau of Surface Water Permitting
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 292-4860 / Fax: (609) 984-7938

CATHERINE R. McCABE
Commissioner

February 26, 2019

To: Distribution List

Re: Review of Revised "Service Area System Characterization Report"

Passaic Valley Sewage Commission, NJPDES Permit No. NJ0021016
Bayonne City Municipal Utilities Authority, NJPDES Permit No. NJ0109240
Borough of East Newark, NJPDES Permit No. NJ0117846
Town of Harrison, NJPDES Permit No. NJ0108871
Town of Kearny, NJPDES Permit No. NJ0111244
City of Newark, NJPDES Permit No. NJ0108758
North Bergen Municipal Utilities Authority, NJPDES Permit No. NJ0108898
City of Paterson, NJPDES Permit No. NJ0108880

Dear Permittees:

Thank you for your submission dated January 21, 2019 which contains a revised version of the "Service Area System Characterization Report" as well as a "Summary of Changes" document. The original submission was dated June 2018 and was in response to Part IV.D.3.b.ii of the above referenced NJPDES permit. The New Jersey Department of Environmental Protection (the Department or NJDEP) provided technical comments on your original submission on October 9, 2018 where this revised submission is in response to those comments. The Department acknowledges that both the original and revised submissions were made in a timely manner. This letter is written to provide a determination on your most recent submission.

The Department has conducted a technical review of your report and has the following remaining technical comments. Any comments that pertain to the October 9, 2018 document are identified as "Former NJDEP Comment" with the relevant number.

Comment 1: Section E.3, Dry Weather Flow (DWF) Analysis. The Department acknowledges that the Dry Weather Flow values for individual flow meters were included in the revised report as Figure E-4 as an average. Please acknowledge whether or not the time period for Figure E-4 corresponds with July 23, 2016 to July 31, 2016. (Former NJDEP Comment 10).

Comment 2: Section E.7, Rainfall Event Analysis; Section E.8, Wet Weather Event Selection for Model Calibration and Validation; and Section I.5.2, Wet Weather Flow Calibration/Validation. In Former NJDEP Comment 13 in the Department's October 9, 2018 letter, the selection of the July 31, 2016 rainfall event was questioned with a suggestion that the July 29, 2016 rainfall event be considered. It is unclear if the July 31, 2016 rainfall event was replaced with the July 29, 2016 and the July 30, 2016 rainfall events. Specifically, "Table E-5- Calibration and Validation Rainfall Events" in the revised version lists events from July 29, 2016 and July 30, 2016 (without July 31, 2016) as does "Table

E-2: Event Wet Weather Volume and Peak for Temporary Metering Locations" and "Table E-3: Top 10 Rainfall Events (Volume Based), 5/20/16-8/10/16". Please clarify.

Comment 3: Section I.2.7, Model Evaluation Group. The Department is aware that this subject "Service Area System Characterization Report" is one of the reports that is being reviewed by the Model Evaluation Group and acknowledges that there is a new section in the revised report (Section I.2.7) describing this review. In addition, Appendix B contains summaries and meeting minutes as well as an e-mail from the Model Evaluation Group dated March 6, 2016 regarding Session 1 as held on February 5, 2016. Please provide additional information as to whether or not any other input or formal concurrence or approval has transpired with the Model Evaluation Group regarding Session 2 (March 17, 2017), Session 3 (September 15, 2017), Session 4 (December 5, 2018), or regarding the final "Service Area System Characterization Report." (Former NJDEP Comment 3)

Comment 4: Section I.3.2, Subcatchment; Section I.3.3, Trunk sewer and Main Interceptor. On page 185 of the revised report, the following is stated:

> "A typical range of Manning's "n" suggested by the SWMM is 0.011-0.024 for impervious area and 0.05-0.80 for pervious area. The initial values were set to 0.02 for impervious surfaces and 0.05 for pervious surfaces."

The Manning's N values were included in Appendix C of the revised report as a standard value of 0.05 for pervious surfaces and 0.02 for impervious surfaces. As per Former NJDEP Comment 24, please confirm if there were any adjustments to the Manning's N values as part of the calibration/validation process. Other sections of the report suggest that adjustments were made. For example, on page 185 of the revised report, the following is stated:

> "Most of the gravity sewer mains and PVSC Interceptor in the final PVSC model were imported from the previous models during model integration. Sewer size, shape, invert, and Manning's "n" value were inherited from the previous models as well."

Whereas page 180 of the revised report states:

> "Manning's "n" and subcatchment slope are usually held constant during calibration, as adjusting these values has the same effect as adjusting W (the differing exponents mean that the response may be inverted or less pronounced, but the overall effect on the hydrograph is the same)."

Please clarify. (NJDEP Comment 24)

Comment 5: Please provide a pie chart depicting the total runoff generated for 2004 from the combined sewer areas and assumed water loss, i.e., water budget (Former Comment 9). To provide further detail on an acceptable option, this chart can be generated for the total runoff generated from the modeled combined sewer area using data exported from the existing conditions hydraulic model simulation for the 2004 representative year precipitation record. The volume of precipitation falling upon the overall combined sewer area can be partitioned into 3 broad components, which is consistent with data available through the modeling software. The total annual surface runoff volume calculated to enter the modeled collection system can be divided into a treated runoff volume and an overflow runoff volume, while the balance of the water budget outflows (i.e. losses), such as evaporation, interception, infiltration, and direct runoff to water bodies, can be classified as overall water losses. In summary, a simple pie chart showing the approximate percentage of treated runoff volume, overflow runoff volume, and water losses within the combined sewer areas would suffice.

Comment 6: Section I.6.3, Table I-13 of the revised report depicts percent capture for the 2004 Typical Year and shows 83.8% capture for PVSC Interceptor Communities; 67.2% capture for North Bergen;

and 43.64% for Bayonne. As described in Former NJDEP Comment 27, the Department objected to inclusion of this information in the July 2018 submission based on the rationale that it is more appropriate for the Development and Evaluation of Alternatives Report, which is to be submitted on July 1, 2019.

However, because this table is still included in the revised report the Department is hereby expressing its objections. The Department acknowledges that percent capture is a component of the CSO Control Policy where this section is referenced within the Presumption Approach as follows:

"ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis."

Similar language is included in the NJPDES permit at Part IV.G.4.f.ii also as one of the criteria for the Presumption Approach:

"ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a hydraulically connected system-wide annual average basis."

While an equation was not provided within Section I.6.3 of the revised report, it appears that the resultant calculation of 83.8% for the PVSC Interceptor Communities is not limited to combined sewer communities and includes separately sewered communities in the overall average. Please note the above permit language specifically references the "CSS"; therefore, any percent capture calculation that includes separately sewered communities is in direct conflict with the NJPDES permit.

Please incorporate these changes to the report and submit a revised version to the Department no later than 30 days from the date of this letter.

Thank you for your continued cooperation.

Sincerely,

Dwayne Kobesky
CSO Team Leader
Bureau of Surface Water Permitting

C: Marzooq Alebus, Bureau of Surface Water Permitting
Teresa Guloy, Bureau of Surface Water Permitting
Susan Rosenwinkel, Bureau of Surface Water Permitting
Joe Mannick, Bureau of Surface Water Permitting
Tim Ebersberger, Bureau of Nonpoint Pollution Control
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