

APPENDIX A

HYDROLOGY TABLES

Table A-1.—Flow Duration and Averages by Month for Historical Gage Record water year (WY) 2000 – 2007 (cfs).

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: GRF													
0	9407.0	888.0	944.0	1892.0	9407.0	7814.0	7802.0	4072.0	234.0	518.0	224.0	225.0	98.0
0.1	8650.2	885.5	901.7	1846.8	9275.8	7814.0	7699.2	3997.2	233.8	504.6	223.4	224.0	97.0
0.5	7764.8	878.0	747.1	1698.0	8833.8	7801.5	7282.1	3707.4	228.1	459.5	220.8	218.1	94.0
1	7283.0	876.1	670.3	1624.9	8699.7	7727.6	6890.3	3377.3	211.5	394.4	219.0	204.4	93.1
2	6805.0	869.0	597.5	1532.6	8491.7	7638.1	6816.7	2359.4	208.0	234.4	215.3	172.3	92.0
3	5708.4	633.3	531.5	1405.6	8128.7	7435.0	6770.0	1826.4	206.0	197.0	209.3	136.2	89.0
4	3412.7	431.4	469.0	1319.8	7821.9	7374.0	6752.0	1546.0	201.2	190.4	205.4	124.2	89.0
5	1747.2	364.5	342.0	1292.6	7307.7	7312.1	6699.0	1331.8	198.3	188.1	197.2	113.2	88.7
10	308.6	156.4	127.0	962.3	6762.6	7071.0	5919.7	297.1	171.0	177.2	168.6	105.0	84.3
20	113.0	81.0	63.0	184.0	846.6	1634.8	2321.2	130.4	107.6	118.0	112.0	82.0	67.0
25	96.0	73.3	57.0	113.0	413.8	464.8	590.0	95.3	90.5	110.0	95.5	78.0	64.0
30	82.0	66.9	53.5	101.9	158.6	98.9	296.5	83.8	80.0	102.6	83.2	60.3	59.9
40	63.0	59.0	47.0	67.2	93.2	60.0	110.6	68.0	68.2	94.0	57.0	45.0	40.0
50	45.0	51.5	42.0	37.0	41.0	27.5	74.0	57.5	56.5	82.0	51.0	32.0	29.5
60	28.0	25.0	29.0	25.0	23.6	18.0	54.8	30.0	38.8	63.0	42.0	26.0	18.0
70	18.0	16.0	21.0	19.0	18.0	11.0	22.0	17.0	16.0	24.7	31.0	20.0	14.0
75	15.0	14.0	19.0	16.0	14.8	8.8	14.8	14.8	12.0	19.0	25.0	17.5	12.0
80	12.0	13.0	18.0	10.0	12.8	6.0	10.8	11.4	8.4	13.6	22.0	14.0	10.0
90	6.0	11.0	14.0	4.7	6.0	1.7	2.0	4.0	4.0	4.0	15.8	11.0	4.0
95	2.0	10.0	10.3	2.0	5.0	0.0	0.0	0.4	0.4	1.0	5.9	7.0	3.0
99	0.0	4.4	6.3	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.8	4.0	2.0
99.9	0.0	2.0	6.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	3.2	1.2
100	0.0	2.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0
Avg.	376.5	86.6	73.9	226.3	1070.0	1391.7	1195.3	212.5	65.3	82.4	68.7	48.4	37.0

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 Conceptual Hydraulic Design of the Mendota Bypass

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: SJB													
0	1755.0	689.0	51.0	1042.0	1755.0	1591.0	1579.0	1597.0	185.0	121.0	167.0	134.0	12.0
0.1	1591.0	688.0	47.0	1026.9	1701.5	1591.0	1579.0	1589.6	180.6	121.0	165.3	133.8	9.5
0.5	1514.4	681.5	32.4	978.4	1529.8	1589.6	1577.6	1555.7	165.1	121.0	161.0	132.4	1.5
1	1475.4	666.7	27.3	923.5	1520.3	1585.0	1549.0	1467.3	153.4	121.0	159.4	127.7	0.0
2	1345.0	592.3	14.5	687.3	1479.3	1585.0	1513.0	1332.1	130.0	118.7	156.0	118.0	0.0
3	1316.0	501.8	5.3	481.2	1454.0	1468.1	1496.0	1293.5	127.0	118.0	152.7	99.5	0.0
4	1215.9	348.0	0.0	222.4	1446.2	1433.4	1492.6	1257.6	121.4	118.0	140.6	76.8	0.0
5	1060.8	222.6	0.0	99.8	1426.9	1368.1	1487.2	1227.2	118.0	115.2	130.5	55.5	0.0
10	121.0	0.0	0.0	0.3	1127.0	1322.0	1345.0	369.4	104.0	103.1	80.0	38.0	0.0
20	0.0	0.0	0.0	0.0	676.2	1147.0	1005.2	127.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	22.3	201.3	162.3	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	24.8	30.4	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg	93.9	30.1	0.8	32.2	259.2	320.0	309.6	131.0	14.8	14.1	14.9	8.4	0.1

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: MEN													
0	4590.0	521.0	665.0	772.0	4590.0	4240.0	3840.0	701.0	649.0	458.0	423.0	619.0	742.0
0.1	4538.3	492.9	663.0	759.6	4590.0	4233.8	3747.3	700.1	648.4	453.8	420.5	608.0	690.6
0.5	4090.7	380.9	647.7	729.8	4580.1	4203.7	3525.1	688.7	646.5	440.5	413.6	558.0	477.3
1	3701.4	337.4	587.1	640.9	4550.2	4156.4	3490.3	679.7	636.1	432.1	377.9	473.1	248.0
2	2088.4	306.8	540.0	544.9	4490.4	4098.2	3420.8	674.8	625.0	429.0	342.5	408.1	240.0
3	701.0	299.5	519.9	460.1	4272.1	3984.1	3250.3	669.5	615.2	406.1	326.3	339.7	208.9
4	651.6	294.2	500.0	443.3	4011.2	3730.0	2927.2	667.0	610.6	397.0	307.9	325.4	203.5
5	633.0	275.6	466.9	411.8	3942.0	3705.5	2121.0	665.6	601.7	390.3	302.4	319.6	196.0
10	583.0	190.5	405.8	335.1	549.5	2223.0	1164.0	649.3	567.2	362.5	275.2	266.0	174.6
20	492.0	152.2	363.6	284.2	347.4	511.6	622.2	622.2	533.4	318.0	259.0	223.0	141.4
25	441.0	142.8	352.0	263.0	321.0	472.8	612.3	616.0	521.0	305.0	254.0	214.0	135.0
30	378.2	135.0	341.4	246.6	297.0	432.3	601.3	604.3	508.0	295.3	245.0	197.9	129.0
40	299.0	122.8	319.4	212.0	258.4	381.4	571.0	587.4	483.4	272.8	232.0	174.0	94.0
50	253.0	111.0	293.0	181.5	224.0	323.5	544.0	574.0	457.0	258.0	216.0	167.0	60.0
60	210.0	97.0	264.8	164.6	207.2	298.0	511.6	547.6	418.0	242.6	203.2	159.0	30.0
70	171.0	65.0	236.0	145.0	185.7	271.0	486.4	528.7	360.6	218.0	183.4	138.1	15.0
75	156.0	35.0	218.5	134.0	168.8	259.3	465.8	518.5	316.3	203.8	171.0	124.0	6.5
80	139.0	26.8	203.4	127.8	158.0	239.0	451.0	504.8	290.0	196.0	161.2	119.0	4.0
90	81.2	2.5	164.2	100.0	137.9	185.8	414.8	472.9	194.8	172.0	136.6	69.9	1.1
95	27.0	0.1	133.6	90.5	126.0	162.0	390.0	456.5	174.5	151.9	73.9	55.0	0.3
99	0.4	0.0	45.3	52.1	105.0	142.3	356.9	406.4	140.6	125.9	28.0	31.7	0.0
99.9	0.0	0.0	37.6	45.3	94.6	139.9	334.1	365.6	121.2	103.3	27.0	23.5	0.0
100	0.0	0.0	37.0	45.0	94.0	139.0	332.0	365.0	120.0	103.0	27.0	23.0	0.0
Avg	362.6	108.2	290.1	211.3	563.1	708.5	726.7	564.9	419.2	261.3	210.3	173.4	79.3

Table A-2.—Flow Duration and Averages by Month for Historical Gage Record WY 2010 – 2013 (cfs).

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: GRF													
0	7407.0	6274.0	721.0	7195.0	7407.0	4255.0	5796.0	7071.0	267.0	212.0	578.0	546.0	4255.0
0.1	7382.6	6219.6	717.4	7188.4	7407.0	4253.3	5794.0	7064.5	265.8	211.8	578.0	545.6	4032.7
0.5	7120.0	6002.2	703.1	7161.8	7407.0	4246.4	5785.9	7038.4	260.9	210.8	578.0	544.2	3143.7
1	6784.0	5803.5	668.0	7112.7	7396.9	4237.8	5681.3	6916.1	254.7	210.0	571.6	542.2	2028.0
2	6111.6	5286.2	483.8	6920.0	7300.0	4214.1	5238.0	6119.1	243.3	210.0	544.5	538.6	497.8
3	5208.2	4762.0	364.2	6780.9	7192.1	4199.0	4964.3	5449.5	237.6	210.0	532.5	532.9	277.5
4	4376.0	4592.6	319.1	6330.2	7163.3	4199.0	4791.0	3510.4	233.3	208.5	515.3	523.7	242.2
5	3865.0	4546.8	307.6	4181.8	7041.2	4064.8	4764.4	3008.5	232.7	208.0	482.4	519.2	240.9
10	1462.0	3258.2	274.0	724.6	6469.0	2970.0	3402.4	2254.6	221.0	206.0	287.5	474.1	232.7
20	608.0	1614.2	272.0	663.4	5675.6	2814.0	2644.0	295.2	210.0	197.0	219.0	361.0	209.0
25	425.0	385.8	267.0	636.3	2007.0	1805.8	1105.5	202.5	166.3	176.3	204.3	314.3	206.0
30	279.0	265.0	266.0	579.7	1219.8	1443.7	609.5	169.2	149.1	167.0	196.1	277.4	199.1
40	233.0	242.6	256.6	479.0	1015.8	1344.0	211.0	160.8	145.6	160.0	183.6	230.4	77.0
50	208.0	211.5	239.0	370.5	839.0	899.0	181.0	154.5	139.5	155.5	175.0	210.0	61.0
60	175.0	48.2	230.6	252.0	799.2	867.2	172.6	150.0	136.0	151.6	169.0	199.0	59.0
70	154.0	9.0	211.2	234.9	471.0	765.7	162.7	147.8	132.0	146.0	160.0	188.0	12.6
75	147.0	8.0	195.0	231.5	423.0	531.0	160.0	140.0	131.8	136.8	154.0	148.3	8.0
80	136.0	6.0	190.8	228.6	345.4	331.4	156.6	132.6	129.0	120.4	147.6	78.2	7.0
90	59.0	1.3	169.4	224.3	252.5	208.6	148.8	126.0	125.0	19.9	135.3	25.9	3.3
95	9.0	0.0	162.4	221.0	225.9	134.2	142.9	123.0	120.0	17.0	96.4	20.8	2.0
99	0.0	0.0	11.2	205.1	220.4	114.2	131.0	117.5	117.2	15.2	0.0	15.2	0.0
99.9	0.0	0.0	7.2	199.5	219.1	112.2	128.2	117.0	116.1	15.0	0.0	14.1	0.0
100	0.0	0.0	7.0	199.0	219.0	112.0	128.0	117.0	116.0	15.0	0.0	14.0	0.0
Avg	661.9	830.4	240.1	783.8	2082.4	1413.9	1055.9	638.3	156.9	142.4	199.8	235.8	153.8

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: SJB													
0	1415.0	1220.0	641.0	1195.0	1235.0	1397.0	1415.0	1299.0	185.0	126.0	427.0	446.0	670.0
0.1	1406.2	1219.4	639.3	1194.4	1235.0	1394.2	1414.3	1298.4	184.3	125.8	425.3	444.1	625.6
0.5	1374.0	1216.9	632.6	1191.9	1235.0	1382.9	1411.4	1295.9	181.3	124.8	418.4	436.5	448.0
1	1309.4	1207.2	616.3	1187.9	1224.7	1368.7	1407.9	1292.6	177.6	124.0	410.5	429.4	275.6
2	1244.0	1174.1	511.4	1171.8	1169.6	1342.7	1398.4	1272.8	169.3	124.0	400.6	424.3	163.5
3	1215.0	1152.2	374.0	1117.5	1125.9	1321.3	1391.0	1248.1	162.2	123.4	391.4	414.3	161.6
4	1171.0	1097.2	294.0	995.0	1107.0	1305.9	1382.6	1235.8	161.0	121.5	377.9	408.5	159.2
5	1107.0	1058.7	247.2	733.6	1107.0	1280.4	1374.3	1227.8	160.7	121.0	354.2	407.1	156.7
10	761.0	817.0	197.6	509.0	1088.5	1248.5	1190.4	859.7	136.4	119.0	212.0	333.2	151.1
20	389.0	376.4	189.0	446.4	956.8	1194.0	487.0	239.2	130.8	112.0	138.2	226.4	131.4
25	297.0	207.0	185.0	402.8	821.3	1159.8	451.5	108.8	74.8	83.3	110.3	180.5	130.0
30	192.0	170.0	181.0	369.0	789.6	1112.5	285.5	75.0	54.1	72.3	104.1	165.0	81.0
40	154.0	153.8	177.0	325.4	713.2	801.2	157.4	71.0	51.0	67.0	91.6	148.6	0.8
50	121.0	84.0	161.0	209.5	537.5	745.5	108.5	65.0	47.0	62.0	82.5	117.0	0.0
60	75.0	0.0	141.0	175.6	487.0	634.4	88.2	59.2	45.0	56.0	72.0	101.2	0.0
70	56.0	0.0	99.2	163.9	363.0	398.6	76.0	55.9	40.0	50.7	0.0	54.5	0.0
75	46.0	0.0	63.0	158.0	320.5	383.5	73.0	49.5	37.8	47.0	0.0	11.5	0.0
80	35.0	0.0	43.0	154.6	255.0	293.6	69.8	43.0	36.6	34.4	0.0	0.0	0.0
90	0.0	0.0	0.0	147.3	170.0	111.3	65.8	36.0	33.3	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	141.0	148.8	71.2	61.0	33.3	30.2	0.0	0.0	0.0	0.0
99	0.0	0.0	0.0	136.5	142.0	48.5	60.0	28.0	28.2	0.0	0.0	0.0	0.0
99.9	0.0	0.0	0.0	136.0	142.0	47.1	60.0	27.1	28.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	136.0	142.0	47.0	60.0	27.0	28.0	0.0	0.0	0.0	0.0
Avg	247.2	217.4	142.0	317.0	596.1	731.2	334.3	216.3	67.8	62.3	94.4	132.7	49.8

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Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: MEN													
0	3570.0	1840.0	609.0	3070.0	3570.0	2770.0	1970.0	2600.0	700.0	462.0	457.0	732.0	561.0
0.1	3547.3	1838.8	608.6	3066.3	3570.0	2762.6	1965.2	2545.9	694.6	461.8	455.9	723.3	539.4
0.5	3437.3	1834.2	606.8	3051.6	3570.0	2733.1	1946.2	2329.4	672.9	460.8	451.5	688.6	452.8
1	3210.0	1794.3	604.9	3037.7	3560.5	2652.5	1926.2	2155.4	655.8	460.0	446.6	628.8	384.8
2	3029.2	1558.8	602.8	3016.2	3520.0	2381.8	1891.0	1868.6	655.0	458.9	435.1	454.0	303.0
3	2011.8	1419.6	596.1	2896.5	3520.0	2145.1	1740.3	1391.3	651.6	446.2	424.2	341.4	199.0
4	1495.2	1379.6	580.4	2454.4	3520.0	1804.0	1612.0	1264.8	630.7	437.2	403.7	311.5	192.2
5	1156.0	1327.5	563.0	1549.6	3453.5	1403.5	1590.5	1243.5	623.8	436.1	389.2	304.4	192.0
10	811.6	631.7	513.8	760.9	3223.0	1060.0	1142.0	776.3	604.0	409.2	345.7	292.2	115.3
20	586.4	164.6	439.2	616.4	3122.0	968.6	826.0	671.0	560.8	367.2	294.0	266.2	106.0
25	537.5	148.8	418.0	562.8	1435.0	885.5	735.8	657.3	533.8	356.5	274.8	257.0	98.3
30	497.8	136.0	401.2	528.0	997.9	765.1	660.7	632.2	519.0	348.3	267.0	250.3	97.0
40	400.8	110.0	361.2	390.2	956.0	660.4	586.6	610.8	502.8	335.0	247.4	239.8	85.0
50	317.0	97.5	320.0	246.5	436.0	536.5	556.0	588.5	493.0	317.5	235.0	231.0	43.5
60	262.0	88.0	272.4	215.6	303.8	433.4	521.2	564.4	470.4	306.2	230.2	218.6	12.2
70	217.0	59.2	252.4	184.9	215.0	384.8	498.1	541.9	452.8	296.0	213.9	204.7	6.3
75	197.0	37.8	231.0	175.3	195.8	358.0	476.0	533.5	433.5	287.0	209.0	199.0	3.9
80	165.0	25.4	205.2	156.6	176.8	320.4	457.4	511.8	400.8	278.0	205.6	195.6	2.9
90	86.0	0.0	126.4	94.3	143.6	253.9	382.4	456.3	274.8	260.8	191.6	46.1	1.4
95	14.7	0.0	106.2	72.2	138.8	240.2	326.8	407.0	222.3	249.9	187.5	21.9	0.0
99	0.0	0.0	100.1	64.2	111.9	210.0	230.2	352.0	175.5	205.5	183.2	13.4	0.0
99.9	0.0	0.0	98.2	63.1	88.7	209.1	198.8	341.6	174.1	196.8	183.0	12.1	0.0
100	0.0	0.0	98.0	63.0	86.0	209.0	195.0	341.0	174.0	196.0	183.0	12.0	0.0
Avg	459.1	223.3	324.5	471.4	1142.6	671.4	682.3	654.9	468.9	325.4	254.0	220.9	63.9

Table A-3.—Flow Duration and Averages by Month for RiverWare Simulated Flows under Pre-SJRRP Conditions for WY 1920 – 2003 (cfs).

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: GRF													
0	28536.1	28536.1	7905.0	7875.0	9603.5	12781.6	17802.0	13048.9	2380.5	18.3	1955.4	2573.9	7885.0
0.1	13064.6	18333.4	7905.0	7141.9	9103.5	10190.1	17317.5	12677.4	1766.4	18.3	1619.7	2300.7	7858.9
0.5	7815.0	7905.0	6399.2	4671.9	7088.3	7815.0	15301.1	8716.2	924.4	18.3	896.1	1536.5	6984.6
1	6579.2	7536.7	4221.3	4670.6	6817.2	7815.0	13401.2	6081.2	5.0	18.3	38.3	835.2	4966.2
2	4886.0	5025.9	3803.6	3832.3	6464.9	7417.0	8275.7	5008.3	5.0	18.3	38.3	25.0	2900.3
3	3902.9	4087.3	3629.8	3522.8	4667.0	6571.4	7808.7	4138.7	5.0	18.3	38.3	25.0	2189.3
4	3280.4	3077.5	3532.0	3302.0	3997.9	5896.1	6657.5	2718.5	5.0	11.7	21.7	25.0	1640.2
5	2706.4	2423.7	3381.0	2931.2	3903.4	5534.4	5628.8	2177.6	5.0	11.7	21.7	15.0	659.1
10	1419.6	468.4	2433.9	2091.4	2415.4	3901.8	4002.5	713.0	5.0	5.0	5.0	11.7	5.0
20	18.3	5.0	1473.3	1279.5	1123.2	1690.8	1837.6	5.0	5.0	5.0	5.0	5.0	5.0
25	5.0	5.0	1245.9	1030.4	709.7	769.8	772.4	5.0	5.0	5.0	5.0	5.0	5.0
30	5.0	5.0	1040.2	856.7	215.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
40	5.0	5.0	731.0	347.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
50	5.0	5.0	330.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
75	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
90	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
95	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.3	5.0	5.0	5.0	5.0	5.0
99	3.3	5.0	5.0	3.3	1.7	1.7	5.0	1.7	5.0	5.0	5.0	5.0	5.0
99.9	1.7	5.0	5.0	1.7	1.7	1.7	5.0	1.7	5.0	5.0	5.0	5.0	5.0
100	0.0	5.0	5.0	1.7	1.7	1.7	5.0	1.7	5.0	5.0	0.0	5.0	5.0
Avg	420.3	351.0	834.3	662.0	686.7	927.6	1048.3	343.0	15.0	5.7	14.5	25.8	168.5

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Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: SJB													
0	10857.4	10857.4	1893.1	1500.0	1628.0	3015.5	5330.9	4321.0	916.2	0.0	1500.0	1500.0	2127.5
0.1	3674.4	6504.3	1889.1	1500.0	1500.0	1895.2	4920.0	3583.8	894.3	0.0	1446.8	1431.1	1738.7
0.5	1500.0	1493.4	1500.0	1500.0	1500.0	1500.0	4284.9	2342.1	485.1	0.0	633.2	356.7	1401.8
1	1500.0	1493.0	1500.0	1500.0	1500.0	1500.0	3532.8	1500.0	0.0	0.0	0.0	0.0	1380.2
2	1500.0	1241.0	1500.0	1500.0	1500.0	1500.0	1587.2	1500.0	0.0	0.0	0.0	0.0	835.4
3	1492.8	896.3	1500.0	1500.0	1500.0	1500.0	1500.0	1500.0	0.0	0.0	0.0	0.0	0.0
4	1332.6	617.0	1500.0	1500.0	1500.0	1500.0	1500.0	1034.0	0.0	0.0	0.0	0.0	0.0
5	1175.6	469.1	1408.7	1451.1	1451.7	1500.0	1500.0	888.7	0.0	0.0	0.0	0.0	0.0
10	692.1	0.0	1175.7	1100.4	958.3	1196.2	1500.0	441.1	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	1073.4	868.0	246.0	132.3	876.7	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	887.2	665.4	0.3	0.0	270.9	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	785.9	453.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	472.4	38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	83.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg	145.5	76.1	435.2	332.2	203.0	211.7	343.8	120.8	5.3	0.0	6.7	5.6	30.9

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: MEN													
0	11733.6	11733.6	4539.8	4347.5	4130.7	4901.0	8109.2	5467.0	1417.4	744.2	1190.1	2403.4	3820.1
0.1	5463.3	7981.2	4506.0	4342.3	4111.9	3925.9	7721.9	4956.3	1329.6	653.6	1127.4	2220.6	3796.2
0.5	3887.6	3640.4	4366.2	4293.5	4036.6	3616.2	6918.8	2424.5	1304.7	377.5	925.9	2062.0	3611.6
1	3360.9	3413.7	4073.4	4193.6	3958.1	3536.5	5250.0	1373.4	502.1	375.3	603.2	1946.6	3018.3
2	2689.3	3141.3	3552.7	3339.3	3334.4	3267.7	3403.3	1313.3	417.7	374.5	327.5	1305.3	1889.6
3	1896.2	2819.4	2440.6	3123.8	2985.4	3046.8	2754.6	1307.0	417.7	374.5	327.5	202.7	1338.3
4	1323.2	1826.3	1840.1	2779.6	2742.1	2868.9	2322.5	1305.7	417.7	374.5	327.5	166.9	1287.6
5	1305.5	1332.8	1381.1	1364.3	2584.8	2529.8	1417.6	1303.8	417.7	374.5	327.5	166.9	1252.1
10	1033.2	1042.6	1280.6	1282.2	1308.1	1398.2	1281.6	595.6	417.7	374.5	327.5	166.9	74.0
20	429.0	58.5	1196.6	964.6	699.6	491.6	670.5	419.8	417.7	374.5	327.5	166.9	74.0
25	419.8	58.5	1055.8	726.6	429.1	317.5	429.3	419.8	417.7	374.5	327.5	166.9	74.0
30	417.7	58.5	958.1	593.0	239.6	317.5	429.3	419.8	417.7	374.5	327.5	166.9	74.0
40	374.5	58.5	724.5	327.8	234.0	317.5	429.3	419.8	417.7	374.5	327.5	166.9	74.0
50	327.2	58.5	234.2	211.0	234.0	317.5	429.3	419.8	417.7	374.5	327.5	166.9	74.0
60	240.6	58.5	108.8	211.0	234.0	317.5	429.3	419.8	417.7	374.5	327.5	166.9	74.0
70	166.9	58.5	108.8	211.0	234.0	317.5	429.3	419.8	417.7	374.5	327.5	166.9	74.0
75	166.9	58.5	108.8	211.0	234.0	263.1	429.3	419.8	417.7	374.5	327.5	166.9	74.0
80	108.8	44.4	105.0	211.0	204.8	243.1	429.3	419.8	417.7	374.5	327.5	166.9	74.0
90	58.5	38.8	80.2	161.9	179.3	0.0	328.8	322.6	320.9	285.9	248.7	126.2	56.0
95	44.4	0.0	0.0	104.8	87.0	0.0	107.1	322.6	320.9	285.9	248.7	126.2	33.9
99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	320.9	285.9	248.7	40.7	0.0
99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.4	243.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	74.5	236.5	0.0	0.0	0.0
Avg	434.7	278.7	620.7	583.7	550.7	575.5	664.7	484.7	413.2	364.8	322.0	200.9	174.5

Table A-4.—Flow Duration and Averages by Month for RiverWare Simulated Flows under SJRRP WY 1920 – 2003 (cfs).

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: GRF													
0	16116.0	7905.0	7905.0	7875.0	7855.0	7831.7	16116.0	13052.1	2380.5	145.0	195.0	1234.6	7496.1
0.1	10592.0	7905.0	7335.4	7203.9	7855.0	7815.0	15421.0	12383.6	1814.7	145.0	195.0	585.0	6870.1
0.5	7788.3	7905.0	4560.5	4833.4	7855.0	7815.0	13344.2	6927.7	946.1	145.0	195.0	585.0	4971.6
1	5916.8	7905.0	3750.3	4083.9	7855.0	7765.4	9790.3	6150.6	125.0	145.0	195.0	585.0	3785.8
2	4064.2	3640.8	2863.7	3434.1	5693.6	6762.3	7815.0	4458.8	125.0	145.0	195.0	585.0	1365.4
3	3855.0	2617.0	2405.6	2800.1	4980.9	5760.5	6444.5	4004.3	125.0	145.0	195.0	585.0	704.7
4	3348.3	1844.3	2246.1	2509.9	4593.6	5117.6	5322.9	2470.5	125.0	145.0	195.0	585.0	235.0
5	2762.2	1014.4	2111.7	2398.2	4064.2	4666.7	4702.4	1763.8	125.0	145.0	195.0	585.0	235.0
10	1899.2	255.0	1500.5	1899.2	3855.0	3249.6	2455.2	425.5	125.0	145.0	195.0	578.3	235.0
20	575.0	255.0	892.0	1375.0	3466.1	2063.2	952.8	142.2	125.0	145.0	195.0	575.0	235.0
25	375.0	255.0	716.2	1375.0	2668.7	825.9	346.9	125.0	125.0	145.0	195.0	546.1	235.0
30	255.0	255.0	400.9	1375.0	2355.0	421.6	226.3	125.0	125.0	145.0	195.0	419.4	235.0
40	235.0	255.0	255.0	1375.0	2355.0	165.0	165.0	125.0	125.0	145.0	195.0	235.0	235.0
50	235.0	255.0	255.0	1375.0	2355.0	165.0	165.0	125.0	125.0	145.0	195.0	235.0	235.0
60	195.0	255.0	255.0	765.4	1587.2	165.0	165.0	125.0	125.0	145.0	195.0	235.0	235.0
70	165.0	255.0	255.0	375.0	205.0	165.0	165.0	125.0	125.0	145.0	195.0	235.0	235.0
75	145.0	255.0	255.0	375.0	205.0	165.0	165.0	125.0	125.0	145.0	195.0	235.0	235.0
80	125.0	255.0	255.0	375.0	205.0	165.0	165.0	125.0	125.0	145.0	195.0	235.0	235.0
90	125.0	255.0	255.0	375.0	205.0	75.0	98.1	111.8	125.0	145.0	195.0	235.0	235.0
95	30.0	15.0	255.0	254.3	55.0	30.0	30.0	30.0	30.0	55.0	5.0	115.0	5.0
99	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
99.9	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
100	0.0	5.0	5.0	5.0	1.7	1.7	5.0	1.7	5.0	5.0	0.0	5.0	5.0
Avg	620.1	437.2	608.4	1097.2	1988.6	980.2	872.9	401.3	126.0	138.3	182.5	330.6	303.6

Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: SJB													
0	5934.2	4500.0	4500.0	4500.0	3942.2	3732.4	5934.2	5087.7	2266.4	65.0	115.0	713.7	4500.0
0.1	4500.0	4500.0	4500.0	4344.4	3665.0	3610.1	5789.5	4718.9	1846.8	65.0	115.0	485.0	4500.0
0.5	3766.3	3416.1	3006.0	2626.1	3655.0	3460.9	4558.9	4500.0	923.9	65.0	115.0	485.0	3608.7
1	3655.0	2886.0	2465.1	2611.8	3655.0	3429.3	4388.7	4500.0	64.2	65.0	115.0	485.0	2081.9
2	3300.7	1916.6	2229.6	2275.3	3655.0	3140.8	4079.4	3771.7	45.0	65.0	115.0	485.0	976.7
3	2730.8	1622.5	2073.0	2198.5	3655.0	3062.9	3626.2	3184.9	45.0	65.0	115.0	485.0	534.6
4	2334.3	1241.2	1916.2	2077.7	3655.0	2963.2	3359.4	2345.2	45.0	65.0	115.0	485.0	155.0
5	2180.0	823.8	1731.6	1992.3	3655.0	2870.1	3080.0	1658.1	45.0	65.0	115.0	485.0	155.0
10	1513.9	175.0	1250.3	1588.4	3655.0	2397.2	2007.3	400.5	45.0	65.0	115.0	476.7	155.0
20	475.0	175.0	713.4	1225.0	2334.3	1596.4	862.6	78.3	45.0	65.0	115.0	475.0	155.0
25	253.6	175.0	523.8	1225.0	2180.0	777.5	269.2	45.0	45.0	65.0	115.0	397.2	155.0
30	175.0	175.0	240.6	1225.0	2180.0	388.6	148.5	45.0	45.0	65.0	115.0	373.3	155.0
40	155.0	175.0	175.0	1225.0	2180.0	85.0	85.0	45.0	45.0	65.0	115.0	155.0	155.0
50	155.0	175.0	175.0	1103.6	2144.9	85.0	85.0	45.0	45.0	65.0	115.0	155.0	155.0
60	115.0	175.0	175.0	557.2	1327.5	85.0	85.0	45.0	45.0	65.0	115.0	155.0	155.0
70	85.0	175.0	175.0	285.0	310.4	85.0	85.0	45.0	45.0	65.0	115.0	155.0	155.0
75	65.0	175.0	175.0	285.0	125.0	85.0	85.0	45.0	45.0	65.0	115.0	155.0	155.0
80	45.0	175.0	175.0	285.0	125.0	85.0	85.0	45.0	45.0	65.0	115.0	155.0	155.0
90	45.0	168.3	175.0	285.0	125.0	0.0	10.4	31.4	45.0	58.3	98.3	155.0	155.0
95	0.0	0.0	175.0	174.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.8	0.0
99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg	444.5	263.1	452.0	882.6	1640.6	639.3	551.8	267.5	50.2	60.2	106.1	246.8	197.6

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Exceedance %	All	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Station: MEN													
0	8761.2	5228.3	5146.1	5081.6	5495.5	5234.3	8761.2	6837.8	2974.2	809.2	1305.1	2568.6	4763.4
0.1	5483.6	5146.5	4935.4	4672.9	5482.2	5195.5	8463.1	6448.7	2328.9	718.6	1242.4	2485.6	4575.5
0.5	4775.4	4815.8	4605.8	4656.5	5334.3	5027.2	7435.1	4527.6	1605.4	442.4	989.8	2328.4	4539.2
1	4634.8	4547.3	4563.7	4570.0	5092.9	4858.3	5133.0	4519.3	546.2	439.7	540.0	2180.7	4508.0
2	4525.9	4485.0	4508.9	4508.3	4750.2	4692.7	4567.2	4194.2	465.2	439.5	442.5	1229.4	3240.0
3	4388.2	3913.1	4489.4	4488.6	4695.9	4644.1	4545.8	3662.7	462.7	439.5	442.5	651.9	2042.6
4	3889.0	2961.1	3424.4	4460.0	4674.2	4618.3	4516.9	2341.8	462.7	439.5	442.5	651.9	1267.9
5	3551.4	2563.0	2338.5	3480.6	4580.1	4600.5	4505.9	1925.5	462.7	439.5	442.5	651.9	612.8
10	2171.8	873.5	1710.0	2142.3	3889.0	4130.5	2802.9	658.5	462.7	439.5	442.5	647.5	229.0
20	696.9	233.5	1021.6	1436.0	3655.0	2153.0	1195.6	486.4	462.7	439.5	442.5	636.5	229.0
25	514.3	233.5	718.6	1436.0	2928.6	1192.6	726.9	464.8	462.7	439.5	442.5	610.6	229.0
30	496.0	233.5	486.2	1436.0	2414.0	684.6	532.6	464.8	462.7	439.5	442.5	518.3	229.0
40	462.7	233.5	283.8	1436.0	2414.0	408.0	514.3	464.8	462.7	439.5	442.5	350.5	229.0
50	442.5	233.5	283.8	1233.7	2359.3	402.5	514.3	464.8	462.7	439.5	442.5	321.9	229.0
60	408.0	233.5	283.8	757.1	1929.9	402.5	514.3	464.8	462.7	439.5	442.5	321.9	229.0
70	327.5	233.5	280.0	496.0	600.6	402.5	514.3	464.8	462.7	439.5	442.5	321.9	229.0
75	317.5	233.5	280.0	496.0	359.0	402.5	514.3	464.8	462.7	439.5	442.5	321.9	229.0
80	280.0	222.7	280.0	496.0	359.0	402.5	499.4	449.5	462.7	434.9	435.5	321.9	229.0
90	229.0	215.5	175.0	385.8	359.0	317.5	413.8	367.6	365.9	350.9	363.7	295.4	186.8
95	219.4	58.5	175.0	273.4	234.0	243.1	328.8	322.6	320.9	348.2	327.5	166.9	74.0
99	58.5	44.4	83.0	161.9	179.3	243.1	288.6	45.0	320.9	285.9	248.7	126.2	56.0
99.9	44.4	44.4	0.0	145.0	179.3	85.0	129.4	45.0	130.4	285.9	248.7	126.2	56.0
100	0.0	44.4	0.0	145.0	179.3	85.0	126.5	45.0	119.5	285.9	248.7	115.0	56.0
Avg	783.0	477.9	698.5	1214.9	2072.5	1170.6	1042.5	640.4	458.2	424.7	429.7	443.1	342.3