Average Daily Flow (ADF)
Maximum Daily Flow (MDF) = ADF x 2.50
Peak Hour Flow (PHF) = MDF x 3.00
Gallons Per Day (GPD) / Gallons Per Minute (GPM)

Table W.3
Demand Calculations for Water Analysis
WURC

Loiederman Soltesz Associates
April, 2012

Service Area	Section and Building No.	Water Study Node	Use	No. of Townhouse Units	Total SF	EDUs	ADF (GPD)	ADF (GPM)	MDF (GPM)	PHF (GPM)
1	A1	A1	Residential	12	18,000	12	2424	1.68	4.21	12.63
						12	2424	1.68	4.21	12.63
1	A5	A2	Retail/Office	-	16,000		1120	0.78	1.94	5.83
1	A6	A2	Retail/Office	-	30,000		2100	1.46	3.65	10.94
1	B2	A2	Retail/Office	-	16,000		1120	0.78	1.94	5.83
1	B3	A2	Retail/Office	-	30,000		2100	1.46	3.65	10.94
						0	6440	4.47	11.18	33.54
1	A2	A3	Residential	12	18,000	12	2424	1.68	4.21	12.63
1	A3	A3	Retail/Office	-	30,000		2100	1.46	3.65	10.94
						12	4524	3.14	7.85	23.56
1	A4	A4	Retail/Office	-	34,000		2380	1.65	4.13	12.40
1	B1	A4	Retail/Office	-	30,000		2100	1.46	3.65	10.94
1	C6	A4	Retail/Office	-	6,000		420	0.29	0.73	2.19
						0	4900	3.40	8.51	25.52
1	EX	B2	Existing Supermarket		40,000		8000	5.56	13.89	41.67
						0	8000	5.56	13.89	41.67
1	B4	B3	Civic	-	5,000		350	0.24	0.61	1.82
1	B5	B3	Residential	-	30,000	25	4325	3.00	7.51	22.53
1	B5	B3	Retail/Office	-	15,000		1050	0.73	1.82	5.47
1	C5	B3	Residential	-	24,000	20	3460	2.40	6.01	18.02
1	C5	B3	Retail/Office	-	12,000		840	0.58	1.46	4.38
1	D5	B3	Residential	-	28,000	23	4037	2.80	7.01	21.02
1	D5	B3	Retail/Office	-	14,000		980	0.68	1.70	5.10
						68	15042	10.45	26.11	78.34
1	B6	B4	Residential	-	40,000	33	5767	4.00	10.01	30.03
1	B6	B4	Retail/Office	-	20,000		1400	0.97	2.43	7.29
2	F1	B4	Residential	-	48,000	40	6920	4.81	12.01	36.04
2	F1	B4	Retail/Office	-	24,000		1680	1.17	2.92	8.75
2	H3	B4	Residential	-	20,000	17	2883	2.00	5.01	15.02
2	H3	B4	Retail/Office	-	10,000		700	0.49	1.22	3.65
						90	19350	13.44	33.59	100.78
1	C1	C2	Retail/Office	-	30,000		2100	1.46	3.65	10.94
1	C2	C2	Retail/Office	-	28,000		1960	1.36	3.40	10.21
1	C7	C2	Retail/Office	-	24,000		1680	1.17	2.92	8.75
						0	5740	3.99	9.97	29.90
1	C3	C3	Residential	-	42,000	35	6055	4.20	10.51	31.54
1	C3	C3	Retail/Office	-	14,000		980	0.68	1.70	5.10
1	C4	C3	Residential	-	18,000	15	2595	1.80	4.51	13.52
1	C4	C3	Retail/Office	-	6,000		420	0.29	0.73	2.19
1	D3	C3	Retail/Office	-	8,000		560	0.39	0.97	2.92
1	D6	C3	Residential	-	24,000	20	3460	2.40	6.01	18.02
1	D7	C3	Residential	-	42,000	35	6055	4.20	10.51	31.54
1	D7	C3	Retail/Office	-	14,000		980	0.68	1.70	5.10
						105	21105	14.66	36.64	109.92
1	D2	D1	Retail/Office	-	5,000		350	0.24	0.61	1.82
1	D4	D1	Retail/Office	-	10,000		700	0.49	1.22	3.65
1	D6	D1	Retail/Office	-	8,000		560	0.39	0.97	2.92
2	E1	D1	Residential	-	22,000	18	3172	2.20	5.51	16.52
2	E1	D1	Retail/Office	-	11,000		770	0.53	1.34	4.01
						18	5552	3.86	9.64	28.91
2	E3	E3	Civic	-	18,000		1260	0.88	2.19	6.56
2	F2	E3	Residential	-	20,000	17	2883	2.00	5.01	15.02
2	F2	E3	Retail/Office	-	10,000		700	0.49	1.22	3.65
						17	4843	3.36	8.41	25.23
2	EX	E4	Existing Office		85,000		5950	4.13	10.33	30.99
2	E4	E4	Civic	-	10,000		700	0.49	1.22	3.65
2	F4	E4	Residential	-	56,000	47	8073	5.61	14.02	42.05
2	G1	E4	Residential	-	72,000	60	10380	7.21	18.02	54.06
						107	25103	17.43	43.58	130.75
2	G3	E5	Residential	-	42,000	35	6055	4.20	10.51	31.54
2	G3	E5	Retail/Office	-	14,000		980	0.68	1.70	5.10
2	J1	E5	Mixed Use Office or Retail w/ Office	-	13,000		910	0.63	1.58	4.74
2	J2	E5	Mixed Use Office or Retail w/ Office	-	39,000		2730	1.90	4.74	14.22
2	J3	E5	Residential	-	36,000	30	5190	3.60	9.01	27.03
2	J3	E5	Retail/Office	-	18,000		1260	0.88	2.19	6.56
						65	17125	11.89	29.73	89.19
1	B7	H	Residential	-	20,000	17	2883	2.00	5.01	15.02
1	B7	H	Retail/Office	-	10,000		700	0.49	1.22	3.65
1	B8	H	Retail/Office	-	5,000		350	0.24	0.61	1.82
2	H1	H	Residential	-	30,000	25	4325	3.00	7.51	22.53
2	H1	H	Retail/Office	-	15,000		1050	0.73	1.82	5.47
2	H2	H	Residential	-	30,000	25	4325	3.00	7.51	22.53
2	H2	H	Retail/Office	-	15,000		1050	0.73	1.82	5.47
						67	14683	10.20	25.49	76.48

Commercial Demand: Civic/Retail/Office = Gross SF x 0.07 = ADF (GPD)
Supermarket = Gross SF x 0.20 = ADF (GPD)
Residential Demand: Apartment = 173 GPD/du; Townhouse = 202 GPD/du
Equivalent Dwelling Unit (EDU)

Average Daily Flow (ADF)
Maximum Daily Flow (MDF) = ADF x 2.50
Peak Hour Flow (PHF) = MDF x 3.00
Gallons Per Day (GPD) / Gallons Per Minute (GPM)

Table W.3
Demand Calculations for Water Analysis
WURC

Loiederman Soltesz Associates
April, 2012

Service Area	Section and Building No.	Water Study Node	Use	No. of Townhouse Units	Total SF	EDUs	ADF (GPD)	ADF (GPM)	MDF (GPM)	PHF (GPM)
2	H10	H1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	H4	H1	Residential	-	28,000	23	4037	2.80	7.01	21.02
2	H4	H1	Retail/Office	-	14,000		980	0.68	1.70	5.10
2	H5	H1	Retail/Office	-	5,000		350	0.24	0.61	1.82
2	H8	H1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	H9	H1	Residential	12	18,000	12	2424	1.68	4.21	12.63
						59	12639	8.78	21.94	65.83
2	H7	H2	Residential	-	36,000	30	5190	3.60	9.01	27.03
2	I1	H2	Residentail	-	66,000	55	9515	6.61	16.52	49.56
						85	14705	10.21	25.53	76.59
2	F3a	H3	Residential	-	18,000	15	2595	1.80	4.51	13.52
2	F3a	H3	Retail/Office	-	9,000		630	0.44	1.09	3.28
2	F3b	H3	Residential	-	27,000	23	3893	2.70	6.76	20.27
2	F3b	H3	Retail/Office	-	9,000		630	0.44	1.09	3.28
2	G2	H3	Residential	-	60,000	50	8650	6.01	15.02	45.05
2	G2	H3	Retail/Office	-	20,000		1400	0.97	2.43	7.29
2	H6a	H3	Residential	-	22,000	18	3172	2.20	5.51	16.52
2	H6a	H3	Retail/Office	-	11,000		770	0.53	1.34	4.01
2	H6b	H3	Retail/Office	-	33,000		2310	1.60	4.01	12.03
2	I2a	H3	Residential	-	24,000	20	3460	2.40	6.01	18.02
2	I2b	H3	Residential	-	28,000	23	4037	2.80	7.01	21.02
2	I2b	H3	Retail/Office	-	14,000		980	0.68	1.70	5.10
						149	32526	22.59	56.47	169.41
2	I10	I1	Residential	16	24,000	16	3232	2.24	5.61	16.83
2	I3	I1	Residential	-	30,000	25	4325	3.00	7.51	22.53
2	I3	I1	Retail/Office	-	15,000		1050	0.73	1.82	5.47
2	I4	I1	Residential	-	22,000	18	3172	2.20	5.51	16.52
2	I4	I1	Retail/Office	-	11,000		770	0.53	1.34	4.01
2	I5	I1	Residential	14	21,000	14	2828	1.96	4.91	14.73
2	I6	I1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	I7	I1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	I8	I1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	I9	I1	Residential	12	18,000	12	2424	1.68	4.21	12.63
						121	25073	17.41	43.53	130.59
2	J4	K1	Residential	-	24,000	20	3460	2.40	6.01	18.02
2	J4	K1	Retail/Office	-	12,000		840	0.58	1.46	4.38
2	J5a	K1	Residential	-	18,000	15	2595	1.80	4.51	13.52
2	J5a	K1	Retail/Office	-	9,000		630	0.44	1.09	3.28
2	J5b	K1	Residential	-	54,000	45	7785	5.41	13.52	40.55
2	J5b	K1	Retail/Office	-	18,000		1260	0.88	2.19	6.56
2	K1	K1	Residential	-	45,000	38	6488	4.51	11.26	33.79
2	L1	K1	Residential	-	36,000	30	5190	3.60	9.01	27.03
						148	28248	19.62	49.04	147.12
2	K2	K2	Residential	-	60,000	50	8650	6.01	15.02	45.05
						198	8650	6.01	15.02	45.05
2	L2	L1	Residential	-	36,000	30	5190	3.60	9.01	27.03
2	L3	L1	Residential	-	36,000	30	5190	3.60	9.01	27.03
2	L4	L1	Residential	-	36,000	30	5190	3.60	9.01	27.03
						90	15570	10.81	27.03	81.09
2	M2	M1	Retail/Office	-	9,000		630	0.44	1.09	3.28
2	M3	M1	Residential	-	30,000	25	4325	3.00	7.51	22.53
2	M3	M1	Retail/Office	-	15,000		1050	0.73	1.82	5.47
2	N2	M1	Retail/Office	-	18,000		1260	0.88	2.19	6.56
2	N3	M1	Residential	-	28,000	23	4037	2.80	7.01	21.02
2	N3	M1	Retail/Office	-	14,000		980	0.68	1.70	5.10
2	O1	M1	Residential	-	32,000	27	4613	3.20	8.01	24.03
2	O1	M1	Retail/Office	-	16,000		1120	0.78	1.94	5.83
2	O2	M1	Residential	-	24,000	20	3460	2.40	6.01	18.02
2	O2	M1	Retail/Office	-	12,000		840	0.58	1.46	4.38
2	O3	M1	Residential	-	24,000	20	3460	2.40	6.01	18.02
2	O3	M1	Retail/Office	-	12,000		840	0.58	1.46	4.38
						115	26615	18.48	46.21	138.62
2	M1	N1	Mixed Use Office or Retail w/ Office	-	28,000		1960	1.36	3.40	10.21
2	N1	N1	Mixed Use Office or Retail w/ Office	-	12,000		840	0.58	1.46	4.38
2	N4	N1	Residential	-	24,000	20	3460	2.40	6.01	18.02
2	N4	N1	Retail/Office	-	12,000		840	0.58	1.46	4.38
2	EX	N1	Ex. Retail/Office		40,000		2800	1.94	4.86	14.58
						20	9900	6.88	17.19	51.56
2	O5	O1	Residential	16	24,000	16	3232	2.24	5.61	16.83
2	O6	O1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	R	O1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	R	O1	Residential	12	18,000	12	2424	1.68	4.21	12.63
						52	10504	7.29	18.24	54.71
2	N	P1	Retail/Office	-	18,000		1260	0.88	2.19	6.56
2	N7	P1	Mixed Use Office or Retail w/ Office	-	14,000		980	0.68	1.70	5.10
2	P1	P1	Retail/Office	-	9,000		630	0.44	1.09	3.28
						0	2870	1.99	4.98	14.95

Commercial Demand: Civic/Retail/Office = Gross SF x 0.07 = ADF (GPD)
Supermarket = Gross SF x 0.20 = ADF (GPD)
Residential Demand: Apartment = 173 GPD/du; Townhouse = 202 GPD/du
Equivalent Dwelling Unit (EDU)

Average Daily Flow (ADF)
Maximum Daily Flow (MDF) = ADF x 2.50
Peak Hour Flow (PHF) = MDF x 3.00
Gallons Per Day (GPD) / Gallons Per Minute (GPM)

Table W.3
Demand Calculations for Water Analysis
WURC

Loiederman Soltesz Associates
April, 2012

Service Area	Section and Building No.	Water Study Node	Use	No. of Townhouse Units	Total SF	EDUs	ADF (GPD)	ADF (GPM)	MDF (GPM)	PHF (GPM)
2	EX	P2	Ex. Retail/Office	-	20,000		1400	0.97	2.43	7.29
						0	1400	0.97	2.43	7.29
2	EX	P3	Ex. Retail/Office	-	60,000		4200	2.92	7.29	21.88
2	P4	P3	Residential	-	42,000	35	6055	4.20	10.51	31.54
						35	10255	7.12	17.80	53.41
2	O7	Q1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	O8	Q1	Residential	16	24,000	16	3232	2.24	5.61	16.83
2	Q4	Q1	Residential	16	24,000	16	3232	2.24	5.61	16.83
2	R	Q1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	R	Q1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	R	Q1	Residential	14	21,000	14	2828	1.96	4.91	14.73
						82	16564	11.50	28.76	86.27
2	Q3	Q2	Residential	18	27,000	18	3636	2.53	6.31	18.94
2	R	Q2	Residential	12	18,000	12	2424	1.68	4.21	12.63
						30	6060	4.21	10.52	31.56
2	N5	Q3	Residential	-	28,000	23	4037	2.80	7.01	21.02
2	N5	Q3	Retail/Office	-	14,000		980	0.68	1.70	5.10
2	O4	Q3	Residential	-	28,000	23	4037	2.80	7.01	21.02
2	O4	Q3	Retail/Office	-	14,000		980	0.68	1.70	5.10
2	P2	Q3	Retail/Office	-	14,000		980	0.68	1.70	5.10
2	P2	Q3	Residential	-	28,000	23	4037	2.80	7.01	21.02
2	P3	Q3	Residential	-	34,000	28	4902	3.40	8.51	25.53
2	P3	Q3	Retail/Office	-	17,000		1190	0.83	2.07	6.20
2	Q1	Q3	Residential	-	44,000	37	6343	4.41	11.01	33.04
2	Q1	Q3	Retail/Office	-	22,000		1540	1.07	2.67	8.02
2	Q2a	Q3	Residential	-	28,000	23	4037	2.80	7.01	21.02
2	Q2a	Q3	Retail/Office	-	14,000		980	0.68	1.70	5.10
2	Q2b	Q3	Residential	-	24,000	20	3460	2.40	6.01	18.02
						178	37502	26.04	65.11	195.32
2	S6	S1	Retail/Office	-	28,000		1960	1.36	3.40	10.21
3	V1	S1	Retail/Office	-	17,000		1190	0.83	2.07	6.20
						0	3150	2.19	5.47	16.41
2	S4	S2	Retail/Office	-	12,000		840	0.58	1.46	4.38
2	S5	S2	Retail/Office	-	28,000		1960	1.36	3.40	10.21
2	T5	S2	Residential		22,000	18	3172	2.20	5.51	16.52
2	T5	S2	Retail/Office	-	11,000		770	0.53	1.34	4.01
						18	6742	4.68	11.70	35.11
2	S1	T1	Retail/Office	-	33,000		2310	1.60	4.01	12.03
2	S2	T1	Retail/Office	-	12,000		840	0.58	1.46	4.38
2	S3	T1	Retail/Office	-	12,000		840	0.58	1.46	4.38
2	T1	T1	Retail/Office	-	9,000		630	0.44	1.09	3.28
						0	4620	3.21	8.02	24.06
2	T2	T2	Residential	-	40,000	33	5767	4.00	10.01	30.03
2	T2	T2	Retail/Office	-	20,000		1400	0.97	2.43	7.29
2	T3	T2	Residential	-	24,000	20	3460	2.40	6.01	18.02
2	T3	T2	Retail/Office	-	12,000		840	0.58	1.46	4.38
2	U1	T2	Residential	-	40,000	33	5767	4.00	10.01	30.03
2	U1	T2	Retail/Office	-	20,000		1400	0.97	2.43	7.29
2	U2	T2	Residential	-	24,000	20	3460	2.40	6.01	18.02
2	U2	T2	Retail/Office	-	12,000		840	0.58	1.46	4.38
						107	22933	15.93	39.81	119.44
2	R	U1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	R	U1	Residential	12	18,000	12	2424	1.68	4.21	12.63
2	R	U1	Residential	14	21,000	14	2828	1.96	4.91	14.73
2	U4	U1	Residential	16	24,000	16	3232	2.24	5.61	16.83
2	U5	U1	Residential	16	24,000	16	3232	2.24	5.61	16.83
						70	14140	9.82	24.55	73.65
2	W2	W1	Mixed Use Office or Retail w/ Office	-	20,000		1400	0.97	2.43	7.29
2	W4	W1	Retail/Office	-	30,000		2100	1.46	3.65	10.94
						0	3500	2.43	6.08	18.23
2	T4	W2	Residential	-	34,000	28	4902	3.40	8.51	25.53
2	T4	W2	Retail/Office	-	17,000		1190	0.83	2.07	6.20
2	U3	W2	Residential	-	60,000	50	8650	6.01	15.02	45.05
2	U3	W2	Retail/Office	-	30,000		2100	1.46	3.65	10.94
3	V2	W2	Retail/Office	-	17,000		1190	0.83	2.07	6.20
2	W1	W2	Mixed Use Office or Retail w/ Office	-	30,000		2100	1.46	3.65	10.94
2	W3	W2	Retail/Office	-	30,000		2100	1.46	3.65	10.94
						78	22232	15.44	38.60	115.79
2	W6	W3	Mixed Use Office or Retail w/ Office	-	22,000		1540	1.07	2.67	8.02
3	W7	W3	Mixed Use Office or Retail w/ Office	-	22,000		1540	1.07	2.67	8.02
3	Z1	W3	Retail/Office	-	15,000		1050	0.73	1.82	5.47
3	Z2	W3	Retail/Office	-	15,000		1050	0.73	1.82	5.47
						0	5180	3.60	8.99	26.98
3	V3	W4	Retail/Office	-	10,000		700	0.49	1.22	3.65
2	W5	W4	Mixed Use Office or Retail w/ Office	-	34,000		2380	1.65	4.13	12.40
3	W8	W4	Mixed Use Office or Retail w/ Office	-	34,000		2380	1.65	4.13	12.40
						0	5460	3.79	9.48	28.44

Commercial Demand: Civic/Retail/Office = Gross SF x 0.07 = ADF (GPD)
Supermarket = Gross SF x 0.20 = ADF (GPD)
Residential Demand: Apartment = 173 GPD/du; Townhouse = 202 GPD/du
Equivalent Dwelling Unit (EDU)

Average Daily Flow (ADF)
Maximum Daily Flow (MDF) = ADF x 2.50
Peak Hour Flow (PHF) = MDF x 3.00
Gallons Per Day (GPD) / Gallons Per Minute (GPM)

Table W.3
Demand Calculations for Water Analysis
WURC

Loiederman Soltesz Associates
April, 2012

Service Area	Section and Building No.	Water Study Node	Use	No. of Townhouse Units	Total SF	EDUs	ADF (GPD)	ADF (GPM)	MDF (GPM)	PHF (GPM)
1	D1	WUD-1	Residential	-	60,000	50	8650	6.01	15.02	45.05
1	D1	WUD-1	Retail/Office	-	20,000		1400	0.97	2.43	7.29
2	E2	WUD-1	Residential	-	66,000	55	9515	6.61	16.52	49.56
2	E2	WUD-1	Retail/Office	-	22,000		1540	1.07	2.67	8.02
						105	21105	14.66	36.64	109.92
1	EX	X1	Existing Retail - Walmart		85,000		5950	4.13	10.33	30.99
3	V4	X1	Retail/Office	-	28,000		1960	1.36	3.40	10.21
3	EX	X1	Ex. Retail/Office		20,000		1400	0.97	2.43	7.29
						0	9310	6.47	16.16	48.49
3	Y1	Y1	Mixed Use Office or Retail w/ Office	-	40,000		2800	1.94	4.86	14.58
						0	2800	1.94	4.86	14.58
3	Y2	Z1	Mixed Use Office or Retail w/ Office	-	12,000		840	0.58	1.46	4.38
3	Y3	Z1	Retail/Office	-	15,000		1050	0.73	1.82	5.47
3	Y4	Z1	Mixed Use Office or Retail w/ Office	-	24,000		1680	1.17	2.92	8.75
3	Z10	Z1	Mixed Use Office or Retail w/ Office	-	24,000		1680	1.17	2.92	8.75
3	Z11	Z1	Mixed Use Office or Retail w/ Office	-	24,000		1680	1.17	2.92	8.75
						0	6930	4.81	12.03	36.09
3	Z4	Z2	Retail/Office	-	22,000		1540	1.07	2.67	8.02
3	Z5	Z2	Retail/Office	-	24,000		1680	1.17	2.92	8.75
3	Z6	Z2	Retail/Office	-	24,000		1680	1.17	2.92	8.75
3	Z7	Z2	Retail/Office	-	22,000		1540	1.07	2.67	8.02
						0	6440	4.47	11.18	33.54
3	Z12	Z3	Mixed Use Office or Retail w/ Office	-	10,000		700	0.49	1.22	3.65
3	Z3a	Z3	Retail/Office	-	24,000		1680	1.17	2.92	8.75
						0	2380	1.65	4.13	12.40
3	X1	Z4	Mixed Use Office or Retail w/ Office	-	14,000		980	0.68	1.70	5.10
3	X2	Z4	Retail/Office	-	20,000		1400	0.97	2.43	7.29
3	Y5	Z4	Retail/Office	-	44,000		3080	2.14	5.35	16.04
3	Z3b	Z4	Retail/Office		42,000		2940	2.04	5.10	15.31
3	Z8a	Z4	Retail/Office	-	16,000		1120	0.78	1.94	5.83
3	Z8b	Z4	Retail/Office	-	42,000		2940	2.04	5.10	15.31
3	Z9	Z4	Mixed Use Office or Retail w/ Office	-	24,000		1680	1.17	2.92	8.75
						0	14140	9.82	24.55	73.65

Commercial Demand: Civic/Retail/Office = Gross SF x 0.07 = ADF (GPD)
Supermarket = Gross SF x 0.20 = ADF (GPD)
Residential Demand: Apartment = 173 GPD/du; Townhouse = 202 GPD/du
Equivalent Dwelling Unit (EDU)