

APPENDIX D

Water Demand Assumptions and Calculations

Table D-1. Future Water Demand Assumptions

	C	D	G	H
POTABLE WATER			RECYCLED WATER	
	Land Use Designation	af/ac/yr	gpcd	
6	Residential--Very Low Density		130	
7	Residential--Low Density		130	
8	Residential--Medium Density		115	
9	Residential--High Density		100	
10	Residential--Very High Density		100	
11	Commercial ^(a)	2.0		
12	Institutional//Public Facilities ^(a)	1.5		
13	Office ^(a)	1.5		
14	Industrial ^(a)	1.5		
15	Parks ^(b)	4.0		
	Land Use Designation	Percent of total gross acres irrigated with recycled water, %	af/ac/yr	
	Residential--Very Low Density	0%		
	Residential--Low Density	0%		
	Residential--Medium Density	15%	4.0	
	Residential--High Density	15%	4.0	
	Residential--Very High Density	0%		
	Commercial	15%	4.0	
	Institutional/Public Facilities	15%	4.0	
	Office	15%	4.0	
	Industrial	15%	4.0	
	Parks	100%	4.0	

^(a) Applied to 85 percent of total gross acres.
^(b) Only applied to Ellis Specific Plan.

Table D-2. Projected Water Demands and Production at Buildout

Future Development Projects	Residential - Very Low							Residential - Low							Residential - Medium									
	Dwelling Units	Assumed People per Dwelling Unit	Total Acres	PW Acres	RW Acres	Parks Acres (RW)	PW Demand, af/yr	RW Demand, af/yr	Dwelling Units	Assumed People per Dwelling Unit	Total Acres	PW Acres	RW Acres	Parks Acres (RW)	PW Demand, af/yr	RW Demand, af/yr	Dwelling Units	Assumed People per Dwelling Unit	Total Acres	PW Acres	RW Acres	Parks Acres (RW)	PW Demand, af/yr	RW Demand, af/yr
DEVELOPMENT PROJECTS w/ APPROVED WATER SUPPLY ^(a)																								
Residential Areas Specific Plan									584	3.3					281									
Industrial Areas Specific Plan																								
I-205 Corridor Specific Plan																								
Plan "C"									113	3.3					54									
Northeast Industrial																								
South MacArthur									122	3.3					59									
Downtown Specific Plan ^(b)									120	3.3					58									
Infill									1,207	3.3					580									
Ellis Specific Plan ^(c)									832	3.3					400		837	2.7					291	
Tracy Gateway - Phase 1 ^(d)																								
Holly Sugar Sports Park ^(e)																								
Subtotal																								
FUTURE SERVICE AREAS ^(f)																								
Westside Residential (URs 5, 7, 8, 9) ^(g)							-	-	749	3.3	172	153	-	19	360	76	1,431	2.7	159	117	24	18	498	167
UR 1 ^(g)	570	3.3	380	337	-	43	274	172	1,305	3.3	300	266	-	34	627	136	585	2.7	65	48	10	7	203	67
South Linne (UR 11)							-	-																
Tracy Hills ^(h)	83	3.3	82	82	-		40	-	1,591	3.3	539	539	-		765	-	3,286	2.7	557	473	84		1,143	334
Tracy Gateway (excluding Phase 1) ⁽ⁱ⁾							-	-							-	-							-	-
Cordes Ranch (UR 6)							-	-							-	-							-	-
Bright (UR 4)							-	-							-	-							-	-
Catellus (UR 3) ^(g)	60	3.3	40	36	-	4	29	16																
Filios (UR 2)							-	-							-	-							-	-
I-205 Expansion							-	-							-	-							-	-
Westside Industrial							-	-							-	-							-	-
Eastside Industrial							-	-							-	-							-	-
Larch Clover							-	-							-	-							-	-
Chrisman Road							-	-							-	-							-	-
Rocha ^(g)							-	-	296	3.3	68	60	-	8	142	32							-	-
Berg/Byron ^(g)							-	-							-	-	450	2.7	50	37	8	6	157	54
Kagehiro ^(g)							-	-	250	3.3	47	42	-	5	120	20							-	-
Subtotal																								
Totals ^(j)	713		502	455	-	47	343	188	7,169		1,126	1,060	-	66	3,446	264	6,589		831	675	125	31	2,292	622
Future UAFW (7.5%)																								
Existing (2007) Water Production																								
PROJECTED WATER PRODUCTION IN SOI																								

^(a) Source: Land Use Assumptions 02.26.10(SER).xls received from the City on February 26, 2010. The proposed land uses and/or number of anticipated residential dwelling units for the Ellis Specific Plan and Cordes Ranch projects were revised in April and May 2012, respectively. However, these revisions do not significantly impact the buildout water demand projections, which were developed prior to these revisions.

^(b) 80 af/yr of existing water demand within Proposed Project area has been removed from the total projected demand. Source: WSA for the Downtown Specific Plan, April 2009.

^(c) Projected potable water demands for non-residential water uses are based on acreages shown in approved Specific Plan. Demand from the proposed 20-acre Family Swim Center is included (94 af/yr). Parks (19 acres) are assumed to be irrigated with potable water. Source: Ellis Specific Plan, December 2008 and WSA for the Surland Development Agreement and Ellis Specific Plan, December 2007.

^(d) The projected potable water demand (202 af/yr) is zeroed out due to the Water Exchange Program. However, the projected recycled water demand is increased by 175 af/yr to account for the project's projected potable water use through the Water Exchange Program. The total of 175 af/yr was determined based on the Tracy Gateway - Phase 1 Development Agreement.

^(e) Source: WSA for the Holly Sugar Sports Park, June 2009. Potable water demand = 47 af/yr. Non-potable water demand = 485 af/yr.

^(f) Source: Land Use Densities for IMPs-12.08.09(ser).xls received from the City on February 26, 2010.

^(g) Parks acres are calculated based on 11.2% of the total acres in very low, low and medium density residential land uses (except for the Tracy Hills project) within the Future Planning Areas. These park areas (144 acres) in addition to the parks identified in Ellis and Tracy Hills total to approximately 220 acres in future parks land use.

^(h) Projected potable and recycled water demands for non-residential water uses are based on acreages shown in approved Specific Plan. Source: Tracy Hills Specific Plan, June 1998.

⁽ⁱ⁾ The projected potable water demand (322 af/yr) is zeroed out due to the Water Exchange Program. However, the projected recycled water demand is increased by 571 af/yr to account for the project's projected potable water use through the Water Exchange Program. The total of 571 af/yr was determined based on the remaining potable water demand calculated for the project (746 af/yr - 175 af/yr from Phase 1).

^(j) Potable water demand totals do not include potable water demands from the Tracy Gateway project.

^(k) Recycled water use areas within the Ellis Specific Plan have not been specifically identified, but an estimate of recycled water use has been included in the development of the City's recommended recycled water system to provide sufficient capacity to serve this development project if it was to consider recycled water use (see Chapter 9 for more discussion).

Table D-2. Projected Water Demands and Production at Buildout

Future Development Projects	POTABLE WATER																				
	Residential - High						Residential - Very High						Residential - All				Commercial				
	Dwelling Units	Assumed People per Dwelling Unit	Total Acres	PW Acres	RW Acres	PW Demand, af/yr	RW Demand, af/yr	Dwelling Units	Assumed People per Dwelling Unit	Total Acres	PW Acres	RW Acres	PW Demand, af/yr	RW Demand, af/yr	PW Demand, af/yr	RW Demand, af/yr	Total Acres	PW Acres	RW Acres	PW Demand, af/yr	RW Demand, af/yr
DEVELOPMENT PROJECTS w/ APPROVED WATER SUPPLY ^(a)																					
Residential Areas Specific Plan																	5	5		10	
Industrial Areas Specific Plan														281							
I-205 Corridor Specific Plan																64	64		128		
Plan "C"														54		10	10		20		
Northeast Industrial																					
South MacArthur														59							
Downtown Specific Plan ^(b)								1,167	1.5				196			3	3		6		
Infill														580		48	48		96		
Ellis Specific Plan ^(c)	581	2.2				143								834		36	36		72		
Tracy Gateway - Phase 1 ^(d)																55	47	8	94	33	
Holly Sugar Sports Park ^(e)																					
Subtotal																					
FUTURE SERVICE AREAS ^(f)																					
Westside Residential (URs 5, 7, 8, 9) ^(g)	882	2.2	47	40	7	217	28							1,075	271	10	9	2	17	6	
UR 1 ^(g)	469	2.2	25	21	4	116	15							1,220	390	10	9	2	17	6	
South Linne (UR 11)						-	-							-	-				-	-	
Tracy Hills ^(h)	531	2.2	35	30	5	131	21							2,079	355	112	95	17	190	67	
Tracy Gateway (excluding Phase 1) ⁽ⁱ⁾						-	-							-	-	4	3	1	7	2	
Cordes Ranch (UR 6)						-	-							-	-	85	72	13	145	51	
Bright (UR 4)	750	2.2	40	34	6	185	24							185	24	95	81	14	162	57	
Catellus (UR 3) ^(g)						-	-							29	16	45	38	7	77	27	
Filios (UR 2)						-	-							-	-	36	31	5	61	22	
I-205 Expansion						-	-							-	-	172	146	26	292	103	
Westside Industrial						-	-							-	-				-	-	
Eastside Industrial						-	-							-	-				-	-	
Larch Clover						-	-							-	-	498	423	75	847	299	
Chrisman Road						-	-							-	-	13	11	2	22	8	
Rocha ^(g)	431	2.2	23	20	3	106	14							248	46				-	-	
Berg/Byron ^(g)						-	-							157	54	4	3	1	7	2	
Kagehiro ^(g)						-	-							120	20				-	-	
Subtotal																					
Totals ^(j)	3,644		170	145	26	898	102	1,167		-	-	-	196	-	7,175	1,176	1,305	1,134	171	2,169	683
Future UAFW (7.5%)															582					176	
Existing (2007) Water Production															15,034					1,208	
PROJECTED WATER PRODUCTION IN SOI																					

Table D-2. Projected Water Demands and Production at Buildout

Future Development Projects	Office																		Industrial				Public Facilities						Irrigation				RECYCLED WATER	
	Total Acres	PW Acres	RW Acres	PW Demand, af/yr	RW Demand, af/yr	Total Acres	PW Acres	RW Acres	PW Demand, af/yr	RW Demand, af/yr	Total Acres	Other Acres (PW)	School Acres (PW/RW)	Park/Golf Course Acres (RW)	Other Acres (No Water Use Assumed)	PW Demand, af/yr	RW Demand, af/yr	PW Demand, af/yr	RW Demand, af/yr	Total Dwelling Units	Total Area, acres	Previous Study Potable Water Demand, af/yr	Total Potable Water Demand, af/yr	Previous Study Non-Potable Water Demand, af/yr	Total Recycled Water Demand, af/yr									
DEVELOPMENT PROJECTS w/ APPROVED WATER SUPPLY ^(a)																																		
Residential Areas Specific Plan	10	10		15		13	13		20																									
Industrial Areas Specific Plan	29	29		44		166	166		249												584	195		574										
I-205 Corridor Specific Plan						95	95		143																									
Plan "C"																					113	10		74										
Northeast Industrial						468	468		702																									
South MacArthur																					122	-		59										
Downtown Specific Plan ^(b)	3	3		5																	1,287	6		185										
Infill	11	11		17		75	75		113												1,207	134		806										
Ellis Specific Plan ^(c)											39	39									2,250	75		1,076										
Tracy Gateway - Phase 1 ^(d)	85	72	13	108	51																													
Holly Sugar Sports Park ^(e)																																		
Subtotal																					47	485		47	485	485								
FUTURE SERVICE AREAS ^(f)																																		
Westside Residential (URs 5, 7, 8, 9) ^(g)				-	-				-	-	79		60		19	77	36				3,062	467		1,169		313								
UR 1 ^(g)				-	-				-	-						-	-				2,929	780		1,237		396								
South Linne (UR 11)				-	-	120	102	18	153	72						-	-					120		153		72								
Tracy Hills ^(h)	97	82	15	124	58	384	326	58	490	230	4,367		80	250	4,037	102	1,048				5,491	6,173	4,134	2,985	2,900	1,758								
Tracy Gateway (excluding Phase 1) ⁽ⁱ⁾	236	201	35	301	142				-	-	158	8		75	75	14	305									1,020								
Cordes Ranch (UR 6)	150	128	23	191	90	1,488	1,265	223	1,897	893						-	-					1,723			2,233	1,034								
Bright (UR 4)	50	43	8	64	30				-	-						-	-				750	185		411		111								
Catellus (UR 3) ^(g)	40	34	6	51	24	535	455	80	682	321	40			40		-	-				60	700		839		388								
Filios (UR 2)	7	6	1	9	4				-	-						-	-					43			70	26								
I-205 Expansion				-	-				-	-						-	-					172			292	103								
Westside Industrial				-	-	485	412	73	618	291						-	-					485			618	291								
Eastside Industrial				-	-	368	313	55	469	221						-	-					368			469	221								
Larch Clover				-	-				-	-						-	-					498			847	299								
Chrisman Road	100	85	15	128	60				-	-						-	-					113			150	68								
Rocha ^(g)				-	-				-	-						-	-				727	91		248		46								
Berg/Byron ^(g)				-	-				-	-						-	-				450	54		164		56								
Kagehiro ^(g)				-	-				-	-						-	-				250	47		120		20								
Subtotal																					13,719	12,417		12,005		6,222								
Totals ^(j)	818	703	115	648	459	4,197	3,690	507	5,536	2,028	4,683	47	140	325	4,171	396	1,874	-	-	-	-	-	-	15,844	-	6,966								
Future UAFW (7.5%)				53					449							32									1,285	565								
Existing (2007) Water Production									844							652		1,438							19,176	-								
PROJECTED WATER PRODUCTION IN SOI																									36,305	7,531								