Table 2-1a - Demands by Service Area

Service Area	Pressure Zone	Average Production Need (mgd) *						Maximum Day Production Need (mgd)*					
		2000	2005	2010	2015	2020	2025	2000	2005	2010	2015	2020	2025
Gurabo WTP /	GCE-150	0.84	0.92	1.00	1.11	1.16	1.24	1.05	1.15	1.25	1.38	1.45	1.55
Guaynabo-Caguas-Gurabo-Juncos Line	CE2-160	0.04	0.04	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.06	0.07	0.07
	CE3-250	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03
	CEF-390	0.22	0.24	0.27	0.29	0.31	0.33	0.28	0.30	0.33	0.36	0.38	0.41
	GRW-80	0.23	0.26	0.28	0.31	0.32	0.35	0.29	0.32	0.35	0.38	0.40	0.43
	JG1-170	0.11	0.12	0.14	0.15	0.16	0.17	0.14	0.16	0.17	0.19	0.20	0.21
	JG2-300	0.10	0.11	0.13	0.14	0.14	0.15	0.13	0.14	0.16	0.17	0.18	0.19
	MJ-270	0.16	0.17	0.19	0.21	0.22	0.23	0.20	0.21	0.23	0.26	0.27	0.29
	GURABO / NAVARRO / RINCON	2.52	2.99	3.51	3.85	4.33	4.67	3.14	3.73	4.38	4.80	5.39	5.82
	subtotal Gurabo WTP / GCGJ Line	4.25	4.89	5.58	6.13	6.72	7.23	5.30	6.09	6.95	7.63	8.37	9.00
San Luis PS (Caguas)	JL1-140	0.15	0.16	0.18	0.19	0.20	0.22	0.18	0.20	0.22	0.24	0.25	0.27
	JL2-210	0.04	0.05	0.05	0.06	0.06	0.06	0.05	0.06	0.06	0.07	0.07	0.08
	JL3-310	0.04	0.05	0.05	0.06	0.06	0.07	0.06	0.06	0.07	0.07	0.08	0.08
	subtotal San Luis PS (Caguas)	0.24	0.26	0.28	0.31	0.33	0.35	0.29	0.32	0.35	0.38	0.40	0.43
Valenciano WTP	JNU-100	1.37	1.47	1.57	1.69	1.73	1.81	1.71	1.84	1.95	2.10	2.16	2.25
(existing Ceiba Sur WTP)													
	GCA-150	0.38	0.40	0.43	0.46	0.48	0.50	0.47	0.50	0.54	0.58	0.59	0.62
	PI2-160	0.16	0.18	0.19	0.20	0.21	0.22	0.21	0.22	0.24	0.25	0.26	0.27
	PI3-230	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.08
	LM-190	0.62	0.66	0.71	0.76	0.78	0.81	0.77	0.82	0.88	0.94	0.97	1.01
	LM2-190												
	CN-180	0.60	0.65	0.69	0.74	0.76	0.80	0.75	0.81	0.86	0.93	0.95	0.99
	VA1-150	0.05	0.06	0.06	0.06	0.07	0.07	0.06	0.07	0.07	0.08	0.08	0.09
	VA2-210	0.40	0.43	0.46	0.50	0.51	0.53	0.50	0.54	0.58	0.62	0.64	0.66
	VAR-340	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
	PP1-160	0.10	0.11	0.12	0.12	0.13	0.13	0.13	0.14	0.14	0.16	0.16	0.17
	PP2-210	0.33	0.36	0.38	0.41	0.42	0.44	0.42	0.45	0.48	0.51	0.53	0.55
	LF2-270	0.44	0.47	0.50	0.54	0.55	0.58	0.54	0.58	0.62	0.67	0.69	0.72
	CSW-150	0.34	0.36	0.39	0.42	0.43	0.45	0.42	0.45	0.48	0.52	0.53	0.56
	EG-200	0.11	0.12	0.13	0.14	0.14	0.15	0.14	0.15	0.16	0.17	0.18	0.19
	subtotal Valenciano WTP	4.98	5.36	5.71	6.14	6.31	6.58	6.20	6.68	7.11	7.64	7.86	8.20
Juncos WTP / Juncos Wells	JNW-170	0.48	0.52	0.55	0.59	0.61	0.63	0.60	0.64	0.68	0.73	0.76	0.79
	EM2-200	0.30	0.32	0.34	0.37	0.38	0.39	0.37	0.40	0.43	0.46	0.47	0.49
	EM1-350	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
	PL2-150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PL3-210	0.09	0.10	0.11	0.11	0.12	0.12	0.12	0.12	0.13	0.14	0.15	0.15
	PS3-150	0.08	0.08	0.09	0.09	0.10	0.10	0.09	0.10	0.11	0.12	0.12	0.13
	PS2-300	0.06	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.10	0.10	0.10
	PS1-420	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	subtotal Juncos WTP / Juncos Wells	1.06	1.14	1.21	1.30	1.34	1.39	1.31	1.41	1.51	1.62	1.66	1.74
San Lorenzo WTP	SLU-130	1.05	1.16	1.25	1.37	1.44	1.53	1.31	1.44	1.56	1.71	1.80	1.91
	DH-170	0.36	0.39	0.43	0.47	0.49	0.52	0.45	0.49	0.53	0.58	0.61	0.65
	FL-200	0.31	0.34	0.37	0.40	0.42	0.45	0.38	0.42	0.46	0.50	0.53	0.56
	GCG-220	0.19	0.21	0.23	0.25	0.26	0.28	0.24	0.26	0.28	0.31	0.32	0.34
	CG2-280	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.04	0.04	0.04	0.05
	CG3-380	0.03	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.05	0.05	0.06	0.06
	VIV-460	0.08	0.08	0.09	0.10	0.10	0.11	0.09	0.10	0.11	0.12	0.13	0.14
	TZ-430	0.21	0.23	0.25	0.28	0.29	0.31	0.27	0.29	0.31	0.35	0.36	0.39
	PG-270	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
	RC-350	0.04	0.04	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.06	0.07	0.07
	QA1-430	0.09	0.10	0.11	0.12	0.12	0.13	0.11	0.12	0.13	0.14	0.15	0.16
	QA2-300	0.04	0.04	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.06	0.07	0.07
	TAM-170	0.42	0.46	0.50	0.54	0.57	0.61	0.52	0.57	0.62	0.68	0.71	0.76
	PG1-230	0.16	0.18	0.20	0.21	0.23	0.24	0.21	0.22	0.24	0.27	0.28	0.30
	PG2-350	0.11	0.12	0.13	0.14	0.14	0.15	0.13	0.14	0.16	0.17	0.18	0.19
	PG3-250	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	GQ-210	0.18	0.19	0.21	0.23	0.24	0.26	0.22	0.24	0.26	0.29	0.30	0.32
	subtotal San Lorenzo WTP	3.32	3.64	3.95	4.33	4.54	4.83	4.13	4.53	4.91	5.39	5.65	6.01
Jagual WTP	JGW-160	0.10	0.11	0.12	0.14	0.14	0.15	0.13	0.14	0.15	0.17	0.18	0.19
	JA1-260	0.28	0.31	0.34	0.37	0.39	0.41	0.35	0.39	0.42	0.46	0.48	0.51
	JA2-320	0.11	0.12	0.13	0.14	0.15	0.16	0.13	0.15	0.16	0.17	0.18	0.19
	TB-320	0.08	0.09	0.10	0.11	0.11	0.12	0.10	0.11	0.12	0.13	0.14	0.15
	QHW-240	0.04	0.04	0.05	0.05	0.06	0.06	0.05	0.06	0.06	0.07	0.07	0.07
	subtotal Jagual WTP	0.62	0.68	0.74	0.81	0.85	0.90	0.77	0.84	0.92	1.00	1.05	1.12
Espino WTP	ESW-420	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.06	0.07	0.07	0.08	0.08
	ES2-280	0.36	0.39	0.43	0.47	0.49	0.52	0.45	0.49	0.53	0.58	0.61	0.65
	JP2-330	0.19	0.21	0.23	0.25	0.26	0.28	0.24	0.26	0.28	0.31	0.32	0.35
	JP3-390	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04
	subtotal Espino WTP	0.62	0.68	0.73	0.81	0.84	0.90	0.77	0.84	0.91	1.00	1.05	1.12
Subtotal		15.09	16.64	18.20	19.81	20.92	22.18	18.78	20.72	22.66	24.67	26.05	27.62
Out of pressure zones	zzz	0.29	0.32	0.34	0.38	0.40	0.42	0.36	0.39	0.43	0.47	0.49	0.53
Total demands		15.38	16.96	18.55	20.19	21.32	22.60	19.14	21.12	23.09	25.14	26.55	28.14
Total in hydraulic model			17.10				22.82		21.26				28.35

*Production Need = Demand + Unaccounted For Water

Table 2-1b - Demands by Municipality

		2,000			2,005			2,010			2,015			2,020			2,025		
Municipality	Pressure Zone	Population	Average Demand (mgd)	Maximum Demand (mgd)	Population	Average Demand (mgd)	Maximum Demand (mgd)	Population	Average Demand (mgd)	Maximum Demand (mgd)	Population	Average Demand (mgd)	Maximum Demand (mgd)	Population	Average Demand (mgd)	Maximum Demand (mgd)	Population	Average Demand (mgd)	Maximum Demand (mgd)
Gurabo	Jaguas Lomas 1	1,103	0.15	0.18	1,146	0.16	0.20	1,176	0.18	0.22	1,197	0.19	0.24	1,213	0.20	0.25	1,223	0.22	0.27
	Jaguas Lomas 2	326	0.04	0.05	339	0.05	0.06	348	0.05	0.06	361	0.06	0.07	359	0.06	0.07	362	0.06	0.08
	Jaguas Lomas Final	331	0.04	0.06	344	0.05	0.06	353	0.05	0.07	367	0.06	0.07	364	0.06	0.08	367	0.07	0.08
	Gemelos Celada	6,294	0.84	1.05	6,540	0.92	1.15	6,710	1.00	1.25	6,972	1.11	1.38	6,924	1.16	1.45	6,981	1.24	1.55
	Celada 2	296	0.04	0.05	308	0.04	0.05	316	0.05	0.06	328	0.05	0.06	326	0.05	0.07	328	0.06	0.07
	Celada 3	136	0.02	0.02	141	0.02	0.02	145	0.02	0.03	151	0.02	0.03	150	0.03	0.03	151	0.03	0.03
	Celada Final	1,665	0.22	0.28	1,730	0.24	0.30	1,775	0.27	0.33	1,844	0.29	0.36	1,832	0.31	0.38	1,847	0.33	0.41
	Jagual 1	852	0.11	0.14	885	0.12	0.16	908	0.14	0.17	944	0.15	0.19	937	0.16	0.20	945	0.17	0.21
	Jagual 2	784	0.10	0.13	815	0.11	0.14	836	0.13	0.16	868	0.14	0.17	862	0.14	0.18	870	0.15	0.19
	Mamey Jagual	1,174	0.16	0.20	1,220	0.17	0.21	1,252	0.19	0.23	1,301	0.21	0.26	1,292	0.22	0.27	1,302	0.23	0.29
	Gurabo WTP	1,752	0.23	0.29	1,821	0.26	0.32	1,868	0.28	0.35	1,941	0.31	0.38	1,927	0.32	0.40	1,943	0.35	0.43
	Masa Aislada 2	1,960	0.26	0.33	2,037	0.29	0.36	2,089	0.31	0.39	2,171	0.34	0.43	2,156	0.36	0.45	2,174	0.39	0.48
	Gurabo	18,882	2.52	3.14	21,212	2.99	3.73	23,472	3.51	4.38	24,293	3.85	4.80	25,768	4.33	5.39	26,280	4.67	5.82
	Gurabo Subtotal	**35,555**	**4.75**	**5.92**	**38,538**	**5.44**	**6.77**	**41,247**	**6.18**	**7.69**	**42,738**	**6.78**	**8.44**	**44,110**	**7.41**	**9.22**	**44,773**	**7.96**	**9.91**
Juncos	Juncos Urbano	9,834	1.37	1.71	10,219	1.47	1.84	10,484	1.57	1.95	10,894	1.69	2.10	10,818	1.73	2.16	10,907	1.81	2.25
	Gemelos Cantagallo	2,695	0.38	0.47	2,800	0.40	0.50	2,873	0.43	0.54	2,985	0.46	0.58	2,965	0.48	0.59	2,989	0.50	0.62
	Las Pinas 2	1,184	0.16	0.21	1,230	0.18	0.22	1,262	0.19	0.24	1,312	0.20	0.25	1,303	0.21	0.26	1,313	0.22	0.27
	Las Pinas 3	336	0.05	0.06	349	0.05	0.06	358	0.05	0.07	372	0.06	0.07	370	0.06	0.07	373	0.06	0.08
	Lirios-Mamey	4,419	0.62	0.77	4,592	0.66	0.82	4,711	0.71	0.88	4,895	0.76	0.94	4,861	0.78	0.97	4,901	0.81	1.01
	Lirios-Florida 2	3,127	0.44	0.54	3,249	0.47	0.58	3,334	0.50	0.62	3,464	0.54	0.67	3,440	0.55	0.69	3,468	0.58	0.72
	Pello Pomales 1	726	0.10	0.13	754	0.11	0.14	774	0.12	0.14	804	0.12	0.16	799	0.13	0.16	805	0.13	0.17
	Pello Pomales 2	2,405	0.33	0.42	2,499	0.36	0.45	2,564	0.38	0.48	2,664	0.41	0.51	2,646	0.42	0.53	2,668	0.44	0.55
	Valenciano 1	372	0.05	0.06	387	0.06	0.07	397	0.06	0.07	412	0.06	0.08	409	0.07	0.08	413	0.07	0.09
	Valenciano 2	2,896	0.40	0.50	3,009	0.43	0.54	3,087	0.46	0.58	3,208	0.50	0.62	3,186	0.51	0.64	3,212	0.53	0.66
	Valenciano Arriba	210	0.03	0.04	218	0.03	0.04	224	0.03	0.04	233	0.04	0.04	231	0.04	0.05	233	0.04	0.05
	Ceiba Sur/El Gandul	816	0.11	0.14	848	0.12	0.15	870	0.13	0.16	904	0.14	0.17	898	0.14	0.18	905	0.15	0.19
	Ceiba Sur WTP	2,430	0.34	0.42	2,525	0.36	0.45	2,590	0.39	0.48	2,692	0.42	0.52	2,673	0.43	0.53	2,695	0.45	0.56
	Ceiba Norte	4,332	0.60	0.75	4,502	0.65	0.81	4,618	0.69	0.86	4,799	0.74	0.93	4,766	0.76	0.95	4,805	0.80	0.99
	Juncos WTP	3,440	0.48	0.60	3,575	0.52	0.64	3,667	0.55	0.68	3,811	0.59	0.73	3,784	0.61	0.76	3,815	0.63	0.79
	El Mango 2	2,146	0.30	0.37	2,230	0.32	0.40	2,288	0.34	0.43	2,377	0.37	0.46	2,361	0.38	0.47	2,380	0.39	0.49
	La Placita 2	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
	La Placita 3	664	0.09	0.12	690	0.10	0.12	708	0.11	0.13	736	0.11	0.14	730	0.12	0.15	736	0.12	0.15
	Pasto Seco 1	108	0.02	0.02	112	0.02	0.02	115	0.02	0.02	120	0.02	0.02	119	0.02	0.02	120	0.02	0.02
	Pasto Seco 2	452	0.06	0.08	470	0.07	0.08	482	0.07	0.09	501	0.08	0.10	497	0.08	0.10	501	0.08	0.10
	El Mango 1	224	0.03	0.04	233	0.03	0.04	239	0.04	0.04	248	0.04	0.05	246	0.04	0.05	248	0.04	0.05
	Pasto Seco 3	546	0.08	0.09	567	0.08	0.10	582	0.09	0.11	605	0.09	0.12	601	0.10	0.12	606	0.10	0.13
	Masa Aislada	198	0.03	0.03	206	0.03	0.04	211	0.03	0.04	219	0.03	0.04	218	0.03	0.04	220	0.04	0.05
	Juncos Subtotal	**43,560**	**6.07**	**7.55**	**45,265**	**6.53**	**8.13**	**46,437**	**6.95**	**8.66**	**48,254**	**7.47**	**9.31**	**47,920**	**7.68**	**9.57**	**48,315**	**8.01**	**9.98**
San Lorenzo	San Lorenzo Urbano	8,874	1.05	1.31	9,221	1.16	1.44	9,460	1.25	1.56	9,830	1.37	1.71	9,762	1.44	1.80	9,843	1.53	1.91
	Gemelos Cerro Gordo	1,602	0.19	0.24	1,665	0.21	0.26	1,708	0.23	0.28	1,775	0.25	0.31	1,762	0.26	0.32	1,777	0.28	0.34
	Cerro Gordo 2	212	0.03	0.03	220	0.03	0.03	226	0.03	0.04	235	0.03	0.04	233	0.03	0.04	235	0.04	0.05
	Cerro Gordo 3	276	0.03	0.04	287	0.04	0.04	294	0.04	0.05	306	0.04	0.05	304	0.04	0.06	306	0.05	0.06
	Viviana	635	0.08	0.09	660	0.08	0.10	677	0.09	0.11	703	0.10	0.12	699	0.10	0.13	704	0.11	0.14
	Rafael Colon	335	0.04	0.05	348	0.04	0.05	357	0.05	0.06	371	0.05	0.06	369	0.05	0.07	372	0.06	0.07
	Piedra Gordo	170	0.02	0.03	177	0.02	0.03	181	0.02	0.03	188	0.03	0.03	187	0.03	0.03	189	0.03	0.04
	Teo Zayas	1,791	0.21	0.27	1,861	0.23	0.29	1,909	0.25	0.31	1,984	0.28	0.35	1,970	0.29	0.36	1,986	0.31	0.39
	Florida	2,601	0.31	0.38	2,703	0.34	0.42	2,773	0.37	0.46	2,881	0.40	0.50	2,861	0.42	0.53	2,885	0.45	0.56
	Los Tamarindos	3,519	0.42	0.52	3,657	0.46	0.57	3,751	0.50	0.62	3,898	0.54	0.68	3,871	0.57	0.71	3,903	0.61	0.76
	Gemelos Quemados	1,498	0.18	0.22	1,557	0.19	0.24	1,597	0.21	0.26	1,659	0.23	0.29	1,648	0.24	0.30	1,662	0.26	0.32
	Los Paganes 1	1,387	0.16	0.21	1,441	0.18	0.22	1,479	0.20	0.24	1,536	0.21	0.27	1,526	0.23	0.28	1,538	0.24	0.30
	Los Paganes 2	886	0.11	0.13	921	0.12	0.14	945	0.13	0.16	981	0.14	0.17	975	0.14	0.18	983	0.15	0.19
	Los Paganes 3	60	0.01	0.01	62	0.01	0.01	64	0.01	0.01	66	0.01	0.01	66	0.01	0.01	67	0.01	0.01
	Del Hato	3,013	0.36	0.45	3,131	0.39	0.49	3,212	0.43	0.53	3,338	0.47	0.58	3,315	0.49	0.61	3,342	0.52	0.65
	San Lorenzo Subtotal	**26,859**	**3.19**	**3.97**	**27,910**	**3.50**	**4.35**	**28,633**	**3.79**	**4.72**	**29,754**	**4.16**	**5.18**	**29,547**	**4.36**	**5.43**	**29,791**	**4.64**	**5.78**
San Lorenzo Rural (Jagual/ Espino)	Jagual WTP	880	0.10	0.13	914	0.11	0.14	938	0.12	0.15	975	0.14	0.17	968	0.14	0.18	976	0.15	0.19
	Jagual 1	2,387	0.28	0.35	2,480	0.31	0.39	2,545	0.34	0.42	2,644	0.37	0.46	2,626	0.39	0.48	2,648	0.41	0.51
	Jagual 2	900	0.11	0.13	935	0.12	0.15	959	0.13	0.16	997	0.14	0.17	990	0.15	0.18	998	0.16	0.19
	Tino Borges	700	0.08	0.10	727	0.09	0.11	746	0.10	0.12	775	0.11	0.13	770	0.11	0.14	776	0.12	0.15
	Espino WTP	388	0.05	0.06	403	0.05	0.06	414	0.05	0.07	430	0.06	0.07	427	0.06	0.08	430	0.07	0.08
	Espino 2 (PRT)	3,030	0.36	0.45	3,149	0.39	0.49	3,230	0.43	0.53	3,357	0.47	0.58	3,333	0.49	0.61	3,361	0.52	0.65
	Jacobo Perez 2	1,606	0.19	0.24	1,669	0.21	0.26	1,712	0.23	0.28	1,779	0.25	0.31	1,767	0.26	0.32	1,781	0.28	0.35
	Jacobo Perez 3	175	0.02	0.03	182	0.02	0.03	187	0.02	0.03	194	0.03	0.03	193	0.03	0.04	194	0.03	0.04
	Quebrada Honda WTP	345	0.04	0.05	359	0.04	0.06	368	0.05	0.06	382	0.05	0.07	380	0.06	0.07	383	0.06	0.07
	Quebrada Arenas 1	744	0.09	0.11	773	0.10	0.12	793	0.11	0.13	824	0.12	0.14	818	0.12	0.15	825	0.13	0.16
	Quebrada Arenas 2	332	0.04	0.05	345	0.04	0.05	354	0.05	0.06	368	0.05	0.06	365	0.05	0.07	368	0.06	0.07
	San Lorenzo Rural Subtotal	**11,487**	**1.37**	**1.70**	**11,937**	**1.50**	**1.86**	**12,246**	**1.62**	**2.02**	**12,725**	**1.78**	**2.21**	**12,637**	**1.87**	**2.32**	**12,741**	**1.99**	**2.47**
	TOTAL	**117,461**	**15.38**	**19.14**	**123,649**	**16.96**	**21.12**	**128,562**	**18.55**	**23.09**	**133,471**	**20.19**	**25.14**	**134,215**	**21.32**	**26.55**	**135,620**	**22.60**	**28.14**

Tabla 3-1 - Supplies

Municipality	Supply Sources	Production in 2002 (mgd)	Scenarios								
			2005 Production Capacity (mgd)	2010 Production Capacity (mgd)	2015 Production Capacity (mgd)	2015 Production Capacity w/ transfer to Gurabo w/o transfer to San Lorenzo (mgd)	2020 Production Capacity (mgd)	2025 Production Capacity w/ Valenciano at 15 (mgd)	2025 Production Capacity w/ Valenciano at 15 (mgd) and 15% Loss Reduction	2025 Production Capacity w/o Valenciano (mgd)	Comments
Gurabo	**Gurabo WTP**	1.88	**2.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	Expansion
	Wells	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	
	subtotal Gurabo supplies	2.50	2.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	
	transfer from Caguas (Gurabo PS / Navarro PS)	3.20	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Eliminated
	transfer from Caguas (San Luis PS)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.00	
	Guaynabo-Caguas-Gurabo-Juncos Line	0.00	0.00	**5.80**	**6.20**	**3.30**	**6.20**	**6.20**	**1.80**	**0.00**	Linea GCGJ
	subtotal Gurabo transfers	3.80	3.80	6.40	6.80	3.90	6.80	6.80	2.40	0.00	
	transfer from Juncos (Valenciano)	0.00	0.00	0.00	**0.00**	**2.90**	**0.00**	**0.00**	**1.50**	**0.00**	PF Valenciano
	transfer to Caguas via Gurabo (Valenciano)	0.00	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	PF Valenciano
	subtotal Valenciano project	0.00	0.00	0.00	0.00	2.90	0.00	0.00	1.50	0.00	
	subtotal Gurabo supplies+transfers+Valenciano	6.30	6.42	11.02	11.42	11.42	11.42	11.42	8.52	4.62	
	average demand Gurabo		5.44	6.18	6.78	6.78	7.41	7.96	6.77	7.96	
	maximum day demand Gurabo		6.77	7.69	8.44	8.44	9.22	9.91	8.42	9.91	
Juncos	**Juncos WTP**	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	
	Ceiba Sur WTP	2.00	2.00	2.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
	Wells	0.97	0.97	0.97	0.00	0.00	0.00	0.00	0.00	0.00	
	Remoción WTP	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	subtotal Juncos supplies	6.54	5.09	5.09	2.12	2.12	2.12	2.12	2.12	2.12	
	transfer to Las Piedras (Juncos WTP)	-0.39	-0.39	-0.39	**-0.64**	**-0.64**	**-0.64**	**-0.64**	**-0.64**	**-0.64**	Subst. SS Pasto Seco
	Guaynabo-Caguas-Gurabo-Juncos Line	0.00	0.00	**6.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	Linea GCGJ
	subtotal Juncos transfers	-0.39	-0.39	6.51	-0.64	-0.64	-0.64	-0.64	-0.64	-0.64	
	Valenciano WTP	0.00	0.00	0.00	**15.00**	**15.00**	**15.00**	**15.00**	**15.00**	**0.00**	PF Valenciano
	transfer to Gurabo (Valenciano)	0.00	0.00	0.00	**0.00**	**-2.90**	**0.00**	**0.00**	**-1.50**	**0.00**	PF Valenciano
	transfer to Las Piedras (Valenciano)	0.00	0.00	0.00	**-6.00**	**-6.00**	**-6.00**	**-6.00**	**-5.20**	**0.00**	PF Valenciano
	transfer to San Lorenzo (Valenciano)	0.00	0.00	0.00	**-2.90**	**0.00**	**-2.90**	**-2.90**	**-1.80**	**0.00**	PF Valenciano
	subtotal Valenciano project	0.00	0.00	0.00	6.10	6.10	6.10	6.10	6.50	0.00	
	subtotal Juncos supplies+transfers+Valenciano	6.15	4.70	11.60	7.58	7.58	7.58	7.58	7.98	1.48	
	average demand Juncos		6.53	6.95	7.47	7.47	7.68	8.01	6.81	8.01	
	maximum day demand Juncos		8.13	8.66	9.31	9.31	9.57	9.98	8.48	9.98	
San Lorenzo	**San Lorenzo WTP**	2.70	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	PF San Lorenzo
	Jagual WTP	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	
	Espino WTP	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	
	Quebrada Honda Superficial System	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Eliminated
	Quebrada Arenas Superficial System	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Eliminated
	subtotal San Lorenzo supplies	4.14	7.44	7.26	7.26	7.26	7.26	7.26	7.26	7.26	
	transfer to Caguas (Tomás de Castro Tank)	0.00	0.00	**-2.00**	**-2.00**	**0.00**	**-2.00**	**-2.00**	**-2.00**	**-2.00**	PF San Lorenzo
	subtotal San Lorenzo transfers	0.00	0.00	-2.00	-2.00	0.00	-2.00	-2.00	-2.00	-2.00	
	transfer from Juncos (Valenciano)	0.00	0.00	0.00	**2.90**	**0.00**	**2.90**	**2.90**	**1.80**	**0.00**	PF Valenciano
	subtotal Valenciano project	0.00	0.00	0.00	2.90	0.00	2.90	2.90	1.80	0.00	
	subtotal San Lorenzo supplies+transfers+Valenciano	4.14	7.44	5.26	8.16	7.26	8.16	8.16	7.06	5.26	
	average demand San Lorenzo		4.99	5.42	5.94	5.94	6.23	6.63	5.64	6.63	
	maximum day demand San Lorenzo		6.21	6.74	7.39	7.39	7.75	8.25	7.01	8.25	
Las Piedras	**subtotal Las Piedras supplies**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
& Humacao	*transfer from Humacao*	3.40	3.40	3.40	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	To Be Used in Humacao
(in service area --	*transfer from Juncos (Juncos WTP)*	0.39	0.39	0.39	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	**0.64**	Subst. SS Pasto Seco
all Las Piedras	**subtotal Las Piedras transfers**	3.79	3.79	3.79	0.64	0.64	0.64	0.64	0.64	0.64	
except Pasto Seco	*transfer from Juncos (Valenciano)*	0.00	0.00	0.00	**6.00**	**6.00**	**6.00**	**6.00**	**5.20**	**0.00**	PF Valenciano
system & areas of	**subtotal Valenciano project**	0.00	0.00	0.00	6.00	6.00	6.00	6.00	5.20	0.00	
Humacao served	**subtotal Las Piedras supplies+transfers+Valenciano**	3.79	3.79	3.79	6.64	6.64	6.64	6.64	5.84	0.64	
from Las Piedras)	**average demand Las Piedras+Humacao (in svc. area)**		3.43	3.76	4.00	4.00	4.24	4.43	3.77	4.43	
	maximum day demand Las Piedras+Humacao (in svc. area)		4.71	5.16	5.50	5.50	5.81	6.08	5.17	6.08	
Caguas	**subtotal Caguas supplies**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	transfer from Caguas Sur WTP (Tomás de Castro)	**1.00**	**1.00**	**0.00**	**0.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	
(in service area --	*transfer from San Lorenzo (Tomás de Castro)*	0.00	0.00	**2.00**	**2.00**	**0.00**	**2.00**	**2.00**	**2.00**	**2.00**	
Tomás de Castro)	**subtotal Caguas transfers**	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
	transfer from Gurabo (Valenciano)	0.00	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	0.00	
	subtotal Valenciano project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	subtotal Caguas supplies+transfers+Valenciano	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
	average demand Caguas (in svc. Area)		1.28	1.34	1.39	1.39	1.44	1.49	1.27	1.49	
	maximum day demand Caguas (in svc. Area)		1.75	1.83	1.91	1.91	1.98	2.04	1.74	2.04	
Totals	**Total Service Area supplies**	**13.18**	**15.15**	**16.97**	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	
	Total Service Area transfers	**8.20**	**8.20**	**16.70**	**6.80**	**5.90**	**6.80**	**6.80**	**2.40**	**0.00**	
	Total Service Area Valenciano	**0.00**	**0.00**	**0.00**	**15.00**	**15.00**	**15.00**	**15.00**	**15.00**	**0.00**	
	Total Service Area supplies+transfers+Valenciano	**21.38**	**23.35**	**33.67**	**35.80**	**34.90**	**35.80**	**35.80**	**31.40**	**14.00**	
	Average Demand		**21.67**	**23.64**	**25.58**	**25.58**	**27.00**	**28.53**	**24.25**	**28.53**	
	Maximum Day Demand		**27.57**	**30.08**	**32.55**	**32.55**	**34.33**	**36.27**	**30.83**	**36.27**	
	Average Demand Surplus/Deficit		**1.68**	**10.0**	**10.2**	**9.3**	**8.8**	**7.3**	**7.2**	**-14.5**	
	Maximum Day Demand Surplus/Deficit		**-4.22**	**3.6**	**3.3**	**2.4**	**1.5**	**-0.5**	**0.6**	**-22.3**	
	Availability Factor		**1.08**	**1.42**	**1.40**	**1.36**	**1.33**	**1.26**	**1.30**	**0.49**	

WTP = Water Treatment Plant
PS = Pump Station

Table 3-2a Proposed Valenciano Project Pump Stations

Number	ID	Description	Suction Cistern / Tank	Flow (gpm)	Estimated Suction (psi)	Estimated Head (ft)	Number of Pumps Recommended	Pipe Diameter Suction (inches)	Pipe Diameter Discharge (inches)
1	PS1-1	San Lorenzo-Jagual	T1-2	1000 (future 1540)*	0	230	3	12	12
2	PS1-2	Jagual WTP	T1-1	1000 (future 1540)*	0	360	3	12	12
3	PS4-1	Ceiba Sur Clearwell	T4-1	3983 (future 4523)*	0	320	3	16	16
4	PS6-1A	Las Piedras	T5-2	4170	0	220	3	24	24
5	PS6-1B	Ceiba Norte	T5-2	720	0	180	3	16	16
6	PS10-1	Mariceci-Lirios 1	T10-2	740	0	230	2	16	16
7	PS10-2	Mariceci-Lirios 2	T10-1	740	0	250	2	16	12

*In order to eliminate Jagual WTP

Table 3-2b Proposed Valenciano Project Tanks

Number	ID	Description	Capacity	Modeled Bottom Elev. (m)	Minimum Required Elev. (m)	Black&Veatch Site Elev. (m)	CSA Site Elev. (m)	Est. Time of Operation for Pumps (hr)
1	T1-1	New Tank PF Jagual	0.50 MG	180.00	155.00	160-165	180.00	8.3
2	T3-1	New Tank Valenciano 2	0.50 MG	210.00	206.00	198-200	206.00	4.0
3	T2-1	New Tank PF San Lorenzo	2.00 MG	133.00	125.00	133	125.00	-
4	T10-1	New Tank Mariceci	0.25 MG	210.00	243.00	235-243	243.00	-
5	T10-2	New Tank Lirios-Florida	0.40 MG	282.70	268.00	244-247.5	268.00	-
6	T1-2	Suction Cistern San Lorenzo-Jagual	0.25 MG	120.00	-	-	120.00	4.2
7	T5-2	Suction Cistern Las Piedras-Ceiba Norte	0.75 MG	110.00	-	-	132.00	2.4
	T12-1	New Tank PF Valenciano	2.00 MG	170.00	166.00	150-155	-	3.2

Table 3-3a Pumps

ID (Char)	Pump Station Name	Municipality	Existing Capacity (gpm)	Total Dynamic Head (ft)	Upgrade Capacity (gpm)	Upgrade Total Dynamic Head (ft)
5029	Celada 2	Gurabo	350	420	350	300
5027	Celada 3	Gurabo	250	420	250	420
10176	El Caserio	Gurabo	50	50	50	50
10170	Gurabo	Gurabo	1400	280	1400	280
5031	Gurabo WTP to Celada	Gurabo	700	420	**1550**	360
10194	Jaguar New	Gurabo	400	420	400	420
5032	Jaguar1	Gurabo	350	420	350	420
5024	Jaguas Lomas 1	Gurabo	200	350	200	200
5025	Jaguas Lomas 2	Gurabo	200	490	200	300
10164	La Agricola	Gurabo	700	320	700	320
5033	Masa Aislada Pump Station	Gurabo	40	185	40	185
5060	Masa BPS	Gurabo	150	420	150	420
10172	Navarro	Gurabo	1340	700	1340	220
10196	New PS Gurabo WTP	Gurabo	1400	140	1400	140
10180	Rincon	Gurabo	100	420	**580**	150
10152	San Luis	Gurabo	400	490	400	160
5042	Cantagallo BPS	Juncos	200	389	**450**	80
5053	Ceiba Norte BPS	Juncos	200	380	200	380
5051	Ceiba Sur WTP	Juncos	200	200	200	100
5044	El Ensanche BPS	Juncos	700	340	700	340
5061	El Mango BPS	Juncos	200	420	**400**	130
10216	El Mango 1 BPS	Juncos	-	-	**50**	420
5039	Juncos WTP High Service Pumps	Juncos	1200	140	1200	150
5065	La Placita 1 BPS	Juncos	200	420	200	420
5066	La Placita 2	Juncos	50	240	50	240
5064	Las Pinas 2 BPS	Juncos	140	400	**250**	400
5041	Las Pinas BPS	Juncos	200	420	200	420
5043	Lirios BPS	Juncos	420	400	420	400
5062	Lirios Florida BPS	Juncos	350	480	350	480
5052	Orbit BPS	Juncos	475	275	475	275
5047	Pello Pomales 1	Juncos	400	330	400	330
10178	Transfer to Juncos	Juncos	4800	300	4800	300
5048	Valenciano 1	Juncos	80	260	80	260
5050	Valenciano 2	Juncos	26	545	26	545
5067	Los Paganes Pump	San Lorenzo	80	580	**150**	580
5054	Carrasquillo	San Lorenzo	160	420	160	420
R1	Carrasquillo Relocalizada	San Lorenzo	160	420	160	420
5013	Cerro Gordo 2 Tank Pump Station	San Lorenzo	200	420	**500**	420
5014	Cerro Gordo 3 Tank Pump Station	San Lorenzo	150	420	**450**	270
5057	Del Hato BPS	San Lorenzo	150	420	**480**	200
5023	Florida IBPS	San Lorenzo	350	400	350	400
5015	Florida Tank Pump Station	San Lorenzo	200	400	200	400
5021	Jacobo Perez 2 Tank Pump Station	San Lorenzo	150	420	150	420
5020	Jacobo Perez BPS	San Lorenzo	200	420	**280**	420
5001	Jagual 1 Tank Pump Station	San Lorenzo	150	420	**415**	250
10162	Jagual WTP High Service Pumps	San Lorenzo	350	420	**1000**	320
5046	Lirios 4 Calles	San Lorenzo	100	300	100	300
5016	Los Tamarindos Tank Pump Station	San Lorenzo	300	270	**610**	210
R2	Los Velazquez_Relocalizada	San Lorenzo	200	420	**540**	320
-	New Quebrada Arenas	San Lorenzo	250	-	250	-
5017	PC Quebrada Arenas Pump	San Lorenzo	80	280	80	280
5055	Piedra Gordo Tank Pump Station	San Lorenzo	150	420	150	420
5009	San Lorenzo Urbano Tank Pump Station	San Lorenzo	700	420	**1310**	220
5011	San Lorenzo WTP High Service Pumps	San Lorenzo	700	400	**1030**	340
5049	Soterrada BPS	San Lorenzo	273	260	273	260
10158	Soterrada Quebrada Arenas 1	San Lorenzo	200	420	200	200
10160	Soterrada Quebrada Arenas 2	San Lorenzo	250	420	250	200
5007	Soterrada Tino Borges Pump Station	San Lorenzo	80	420	80	420
10168	Suction Cistern PS	San Lorenzo	250	300	250	450

Table 3-3b Tanks

ID	Description	Elevation (Bottom_elev)	Existing Capacity (MG)	Additional Capacity Needed (MG)
7029	Ceiba Norte	172.7	0.4400	0
7031	Ceiba Sur	187.3	0.0300	0
7030	Ceiba Sur Clearwell	148	1.0000	0
7018	Celada 2	159.9	0.2500	0
7081	Celada 3	248.6	0.0500	0
7032	Cuatro Calles	279.8	0.0070	0
7020	Del Hato	162.2	0.1000	**0.20**
8014	EL CASERIO	0	0.0200	0
7033	El Gandul	196.9	0.0300	0
7089	El Mango 1	346.3	0.0030	0
7090	El Mango 2	193.7	0.0500	**0.20**
7011	Espino 2 (out of service)	280.5	0.1000	0
7013	Espino Clearwell	421.2	0.1000	0
7052	Florida	200.5	0.1000	**0.15**
7035	Gemelos Cantagallo 1	142.8	0.0750	0
8002	Gemelos Cantagallo 2	142.8	0.0750	0
8036	Gemelos Celada 2	146.27	0.1000	0
7080	Gemelos Celadas	149.6	0.1300	**0.50**
7051	Gemelos Cerro Gordo 1	217.9	0.0500	0
7047	Gemelos Cerro Gordo 2	217.9	0.1000	0
7053	Gemelos Quemados 1	208.2	0.1000	0
8038	Gemelos Quemados 2	212.7	0.0300	0
7095	Gurabo Clearwell	56.3	0.0000	0
8022	Gurabo Rincon 2 MG	100	2.0000	0
7065	Jacobo Perez 2a	326.2	0.0300	0
8004	Jacobo Perez 2b	326.2	0.0400	0
7074	Jacobo Perez 3a (CRUZ GOMEZ)	387.3	0.1000	0
7075	Jacobo Perez 3b (CRUZ GOMEZ)	377	0.0300	0
7012	Jagual 1	252.9	0.2500	0
7076	Jagual 2	314.2	0.0300	0
7054	Jagual Clearwell	155.7	0.1000	0
7082	Jaguar 1	161.2	0.5000	0
7083	Jaguar 2	300.9	0.1500	0
7001	Jaguas Lomas 1 (assm)	139.5	0.0300	0
7000	Jaguas Lomas 2	201.7	0.2500	0
7093	Jaguas Lomas Final (assm)	307	0.0300	0
7091	Juncos Clearwell	169	0.0600	0
7098	La PLacita 2 BPS	147	0.0000	0
7023	La Placita 3	205	0.0500	0
7025	Las Pinas	158.7	0.1000	0
7024	Las Pinas 2	223.1	0.0500	0
7036	Lirios - Mamey	188.5	0.1000	**0.50**
7037	Lirios Florida 2	268.7	0.1000	0
8012	LOS NAVARROS	145.7	1.0000	0
7046	Los Paganes 1	227	0.0100	0
7040	Los Paganes 2	355.63	0.0500	0
7034	Los Paganes 3	283.67	0.0030	0
7056	Los Tamarindos	166.2	0.3000	**0.50**
7048	Los Velazquez 2	280.1	0.0300	0
7057	Los Velazquez 3	375.2	0.0300	0
7027	Mamey Jaguar 1	270.4	0.0300	0
7021	Masa Aislada	477.5	0.0200	0
7002	PC Quebrada Arenas	358	0.0100	0
7038	Pello Pomales 1	159.8	0.0500	0
7058	Pello Pomales 2	242.8	0.1000	0
7049	Piedra Gordo	268.5	0.0300	0
8008	Quebrada "El Rajao"	0	0.1000	0
8010	Quebrada Arenas 0.03 MG SUCTION CISTERN	0	0.0300	0
7059	Quebrada Arenas 1a	433.1	0.0500	0
7050	Quebrada Arenas 1b	433.1	0.0500	0
7060	Quebrada Arenas 2	302.4	0.0200	0
7061	Quebrada Honda WTP	235	0.0300	0
7062	Rafael Colon	348.5	0.0100	0
-	Rincon Tank	-	-	**0.40**
7044	San Lorenzo 2 millones (CHAYAN)	0	0.2000	0
7086	San Lorenzo Clearwell	133	0.0200	0
7063	San Lorenzo Urbano	117.3	0.7800	0
8006	San Luis	0	0.0300	0
7022	Santa Rita 1 (Celada Final)	384.8	0.1000	0
7045	Teo Zayas	429.2	0.0300	**0.20**
7064	Tino Borges	315.4	0.0300	0
7039	Urbana Juncos 1	94	0.7000	0
8016	Urbano Gurabo 1	0	0.5000	0
8018	Urbano Gurabo 2	0	0.2800	0
8000	Urbano Juncos 2	101.74	0.8000	0
7041	Valenciano 1	142.3	0.0100	0
7042	Valenciano 2	205.8	0.0500	0
7043	Valenciano Arriba	337.5	0.0200	0
7028	Viviana	457	0.1100	0

Table 3-4 Mass Balance

Pressure Zone / Water Source	Served By	2025 Max Day Demand (mgd)	2025 Max Day Demand (gpm)	Modeled Flow (gpm)	Cumulative pump flow needed-MD (gpm)	Cummulative pump flow needed-MD (mgd)	Cummulative pump flow needed-AD (gpm)	Cummulative pump flow needed-AD (mgd)	Cummulative pump flow needed-RR (gpm)	Cummulative pump flow needed-RR (mgd)	Cummulative pump flow needed-PH (gpm)	Cummulative pump flow needed-PH (mgd)	Existing pump flow-MDD (gpm)	Proposed pump flow (gpm)	Existing Pipeline (in)	Proposed Pipelines (in)	Existing Reservoirs	Existing & Proposed Reservoirs
PF Gurabo / Línea Caguas-Gurabo-Juncos			supply	2776														
			demand	2776														
GCE-150	PF Gurabo	1.55	1073	1335	1430	2.1	1144	1.6	1553	2.2	1165	1.7	600	**1550**	12	0	0.13	**0.60**
POZOS		-0.60	-417		-417	-0.60	-417	-0.60	-417	-0.60	-417	-0.60						
CE2-160	GRW-80	0.07	50	-	357	0.5	286	0.4	492	0.7	187	0.3	0	0	12.0	0	0.25	0.25
CE3-250	CE2-160	0.03	23	337	307	0.4	246	0.4	288	0.4	295	0.4	350	0	8.9	0	0.05	0.05
CEF-390	CE3-250	0.41	284	242	284	0.41	227	0.33	240	0.35	300	0.43	270	**0**	8	0	0.10	0.10
GRW-80	PF Gurabo	0.43	299	703	778	1.12	622	0.90	939	1.35	539	0.78	2100	0	12	0	0.00	0.00
JG1-170	GRW-80	0.21	145	405	479	0.7	383	0.6	760	1.1	151	0.2	400	**0**	12	0	**0.50**	0.50
JG2-300	JG1-170	0.19	134	305	334	0.5	267	0.4	325	0.5	309	0.4	350	0	8.9	0	0.15	0.15
MJ-270	JG2-300	0.29	200	173	200	0.29	160	0.23	141	0.20	239	0.34	420	0	4	**8**	0.03	0.03
transfer to GURABO	PF Gurabo	1.06	738	738	738	1.06	738	1.06	738	1.06	738	1.06						
			supply	4238														
Línea Caguas-Gurabo-Juncos (existing EB Gurabo/Navarro from Caguas)			demand	4277														
GURABO	Valenciano / PF Gurabo	3.16	2192	4277	4037	5.81	3230	4.65	4783	6.89	2887	4.16	0	0	11.3	0	**2.00**	2.00
NAVARRO	GURABO	1.93	1341	1367	1341	1.93	1073	1.54	1499	2.16	1049	1.51	1340	0	8.5	**12**	**1.00**	1.00
RINCON	GURABO	0.73	504	504	504	0.73	403	0.58	580	0.84	378	0.54	100	**580**	6	**8**	0.00	**0.40**
EB San Luis (Caguas)																		
JL1-140	EB San Luis (Caguas)	0.27	188	429	300	0.4	240	0.3	395	0.6	175	0.3	400	0	8	**12**	0.03	0.03
JL2-210	JL1-140	0.08	56	196	112	0.2	90	0.1	262	0.4	-49	-0.1	200	**0**	4	0	0.25	0.25
JL3-310	JL2-210	0.08	56	173	56	0.08	45	0.07	55	0.08	53	0.08	200	0	4	0	0.03	0.03
			supply	11104														
PF Valenciano (existing PF Ceiba Sur)			demand	11405														
Transmission from Valenciano				11405	12499	18.0	11251	16.2	17259	24.9	9719	14.0	0	0	0	0	**1.00**	**3.75**
JNU-100	Valenciano	2.25	1564	2508	2938	4.23	2350	3.38	4471	6.44	1110	1.60	0	0	11.31	12	3.00	3.00
GCA-150	JNU-100	0.62	429	378	429	0.62	343	0.49	361	0.52	453	0.65	200	**450**	7.21	**8**	0.15	0.15
PI2-160	JNU-100	0.27	188	274	242	0.3	193	0.3	249	0.4	210	0.3	200	**250**	4	**8**	0.10	0.10
PI3-230	PI2-160	0.08	53	173	53	0.08	43	0.06	67	0.10	35	0.05	140	0	5.65	**8**	0.05	0.05
LM-190	JNU-100	1.01	703	735	703	1.0	562	0.8	838	1.2	497	0.7	700	0	6	**12**	0.10	**0.60**
LM2-190	LM-190		0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0	0	0	0.00	0.00
CN-180	Valenciano	0.99	689	4950	4855	7.0	4718	6.8	4885	7.0	4757	6.8	200	**4890**	8	**16**	0.44	**0.44**
transfer to Las Piedras	Valenciano	6.00	4166	4166	4166	6.0	4166	6.0	4166	6.0	4166	6.0						
VA1-150	PP1-160	0.09	59	2659	3417	4.9	3151	4.5	3983	5.7	2717	3.9	0	**3983**	4	**16**	0.01	0.01
VA2-210	VA1-150	0.66	461	2437	2584	3.7	2485	3.6	2956	4.3	2163	3.1	80	**0**	4	**16**	0.05	**0.80**
VAR-340	VA2-210	0.05	33	29	33	0.05	27	0.04	34	0.05	30	0.04	25	**0**	4	0	0.02	0.02
transfer to San Lorenzo / Jagual	VA2-210	3.01	2090	2107	2090	3.01	2090	3.01	2090	3.01	2090	3.01	0	0	0	**12**	0.00	0.00
PP1-160	JNU-100	0.17	115	748	773	1.1	619	0.9	985	1.4	484	0.7	700	**740**	8	**16**	0.05	**0.25**
PP2-210	PP1-160	0.55	383	710	658	0.9	526	0.8	742	1.1	508	0.7	400	**740**	8	**12**	0.10	**0.40**
LF2-270	LM2-190	0.40	275	-	275	0.40	220	0.32	235	0.34	288	0.42	350	0	7.21	**12**	0.10	0.10
CSW-150	Valenciano	0.56	387	540	516	0.7	413	0.6	331	0.5	650	0.9	0	0	16	0	0.00	0.00
EG-200	CSW-150	0.19	130	200	130	0.19	104	0.15	99	0.14	148	0.21	200	0	4	**6**	0.03	0.03
			supply	1388														
PF Juncos / Pozos Juncos			demand	1480														
JNW-170	PF Juncos	0.79	547	1480	1206	1.7	965	1.4	1764	2.5	527	0.8	1200	**0**	19.6	0	**1.00**	1.00
EM2-200	JNW-170	0.49	341	393	377	0.5	302	0.4	402	0.6	314	0.5	200	**400**	4	**6**	0.05	**0.25**
EM1-350	EM2-200	0.05	36	39	36	0.05	29	0.04	23	0.03	44	0.06	0	**50**	4	**6**	0.003	0.00
PL2-150	JNW-170	0.00	0	128	106	0.2	84	0.1	98	0.1	103	0.1	200	0	4	**6**	0.00	0.00
PL3-210	PL2-150	0.15	106	139	106	0.15	84	0.12	98	0.14	103	0.15	50	**0**	4	**6**	0.05	0.05
PS3-150	JNW-170	0.13	87	176	176	0.3	141	0.2	241	0.3	93	0.1	0	0	6	0	0.02	0.02
PS2-300	PS3-150	0.10	72	-	89	0.1	71	0.1	175	0.3	-6	0.0	0	0	4	0	0.08	0.08
PS1-420	PS2-300	0.02	17	-	17	0.02	14	0.02	80	0.11	-47	-0.07	0	0	4	0	0.10	0.10

Table 3-4 Mass Balance

Pressure Zone / Water Source	Served By	2025 Max Day Demand (mgd)	2025 Max Day Demand (gpm)	Modeled Flow (gpm)	Cumulative pump flow needed-MD (gpm)	Cummulative pump flow needed-MD (mgd)	Cummulative pump flow needed-AD (gpm)	Cummulative pump flow needed-AD (mgd)	Cummulative pump flow needed-RR (gpm)	Cummulative pump flow needed-RR (mgd)	Cummulative pump flow needed-PH (gpm)	Cummulative pump flow needed-PH (mgd)	Existing pump flow-MDD (gpm)	Proposed pump flow (gpm)	Existing Pipeline (in)	Proposed Pipelines (in)	Existing Reservoirs	Existing & Proposed Reservoirs
PF San Lorenzo			supply	5571														
			demand	5733														
SLU-130	PF San Lorenzo / Valenciano	1.91	1326	5733	5784	8.3	4905	7.1	8728	12.6	2400	3.5	0	0	20	0	**4.48**	4.48
DH-170	SLU-130	0.65	450	478	450	0.65	360	0.52	479	0.69	377	0.54	150	**480**	4	**8**	0.10	**0.30**
FL-200	SLU-130	0.56	389	416	389	0.56	311	0.45	407	0.59	332	0.48	350	0	7.21	**8**	0.10	**0.25**
LF-190	SLU-130	0.32	219	309	219	0.32	175	0.25	201	0.29	215	0.31	250	0	8	0	**0.10**	0.10
transfer to Caguas		2.00	1389	1389	1389	2.00	1389	2.00	1389	2.00	1389	2.00						
GCG-220	SLU-130	0.34	239	926	911	1.3	729	1.0	1032	1.5	700	1.0	700	**1030**	14.4	0	0.15	0.15
CG2-280	GCG-220	0.05	32	483	436	0.6	348	0.5	536	0.8	292	0.4	200	**540**	6	**8**	0.03	0.03
CG3-380	CG2-280	0.06	41	468	404	0.6	323	0.5	496	0.7	272	0.4	200	**500**	6	**8**	0.03	0.03
VIV-460	CG3-380	0.14	95	363	363	0.5	290	0.4	450	0.6	239	0.3	150	**450**	6	0	0.11	0.11
TZ-430	VIV-460	0.39	268	220	268	0.39	214	0.31	320	0.46	188	0.27	0	0	4	**6**	0.03	**0.23**
PG-270	GCG-220	0.04	25	214	75	0.1	60	0.1	68	0.1	75	0.1	160	0	4	**6**	0.02	0.02
RC-350	PG-270	0.07	50	183	50	0.07	40	0.06	37	0.05	58	0.08	150	0	4	**6**	0.01	0.01
QA2-300	QA1-430	0.07	50	282	161	0.2	129	0.2	180	0.3	126	0.2	250	0	6	**6**	0.02	0.02
QA1-430	JP2-330	0.16	111	133	111	0.16	89	0.13	136	0.20	75	0.11	200	0	4	**6**	0.10	0.10
TAM-170	SLU-130	0.76	526	1063	1099	1.6	879	1.3	1314	1.9	773	1.1	388	**1310**	12	**8**	0.25	**0.75**
PG1-230	TAM-170	0.30	207	600	573	0.8	458	0.7	478	0.7	610	0.9	300	**610**	6	**8**	0.01	0.01
PG2-350	PG1-230	0.19	132	165	141	0.2	113	0.2	122	0.2	147	0.2	80	**150**	4	**6**	0.05	0.05
PG3-250	PG2-350	0.01	9	60	9	0.01	7	0.01	7	0.01	10	0.01	0	0	4	0	0.00	0.00
GQ-210	PG3-250	0.32	224	298	224	0.32	179	0.26	225	0.32	201	0.29	0	0	4	**6**	0.13	0.13
			supply	1047														
PF Jagual			demand	952														
JGW-160	PF Jagual / Valenciano	0.19	132	952	979	1.4	783	1.1	1601	2.3	259	0.4	350	**1000**	8	0	0.60	**1.10**
JA1-260	JA2-320	0.51	357	547	491	0.7	393	0.6	489	0.7	444	0.6	415	0	11.3	0	0.25	0.25
JA2-320	JGW-160	0.19	135	160	135	0.19	108	0.15	102	0.15	154	0.22	200	0	4	**8**	0.03	0.03
TB-320	JGW-160	0.15	105	55	105	0.15	84	0.12	84	0.12	115	0.17	0	0	8.9	0	0.03	0.03
QHW-240	ES2-280	0.07	52	66	52	0.07	41	0.06	66	0.09	32	0.05	0	0	2	**6**	0.05	0.05
transfer to Espino		0.29	200	229	200	0.29	160	0.23	120	0.17	260	0.37						
			supply	741														
PF Espino			demand	688														
ESW-420	PF Espino / PF Jagual	0.08	58	688	777	1.1	622	0.9	1352	1.9	125	0.2	0	0	6	0	1.00	1.00
ES2-280	ESW-420	0.65	453	643	719	1.0	575	0.8	622	0.9	744	1.1	0	0	7.21	**8**	0.10	0.10
JP2-330	ES2-280	0.35	240	309	266	0.4	213	0.3	281	0.4	225	0.3	200	**280**	7.21	0	0.07	0.07
JP3-390	JP2-330	0.04	26	196	26	0.04	21	0.03	89	0.13	-39	-0.06	150	0	7.21	0	0.11	0.11