Water Resources Planning Department

Water Supply / Demand Analysis and Projections
for
Hawthorne District

2010

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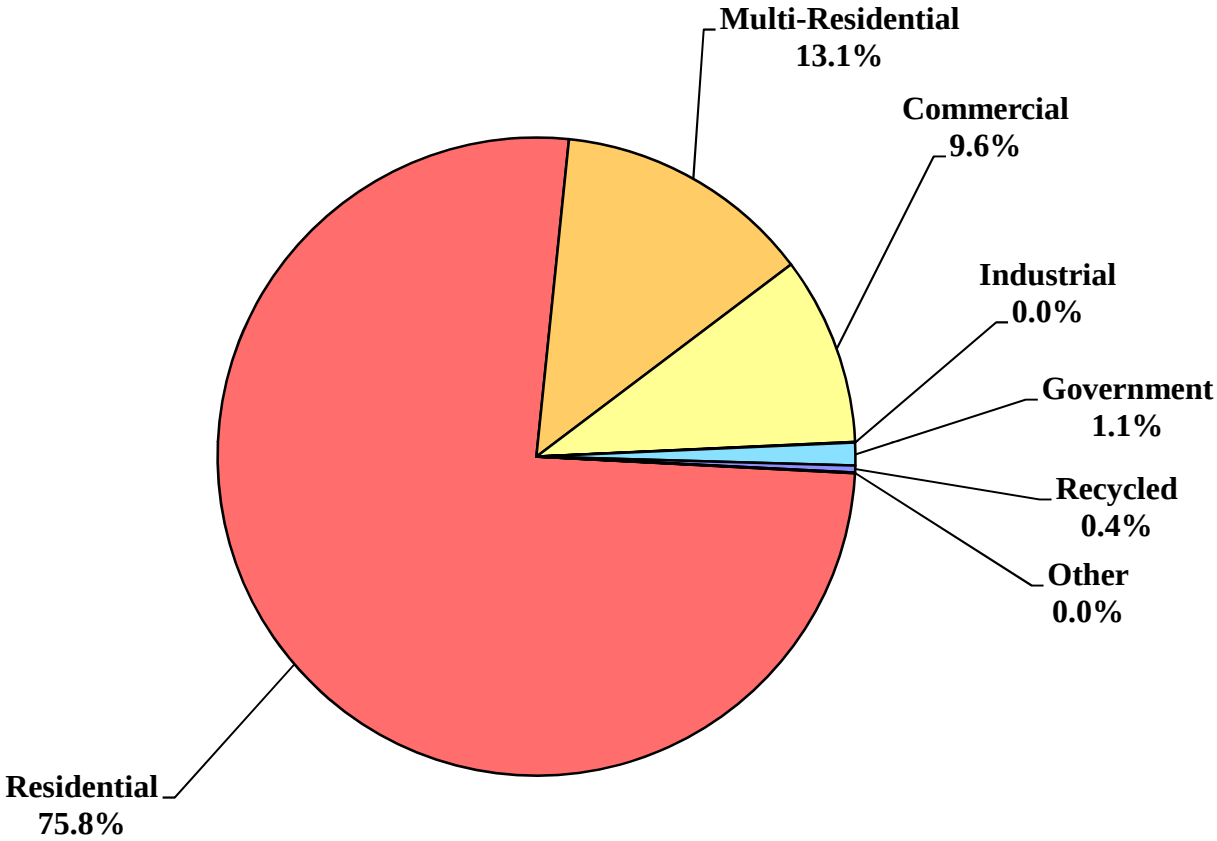
Hawthorne District

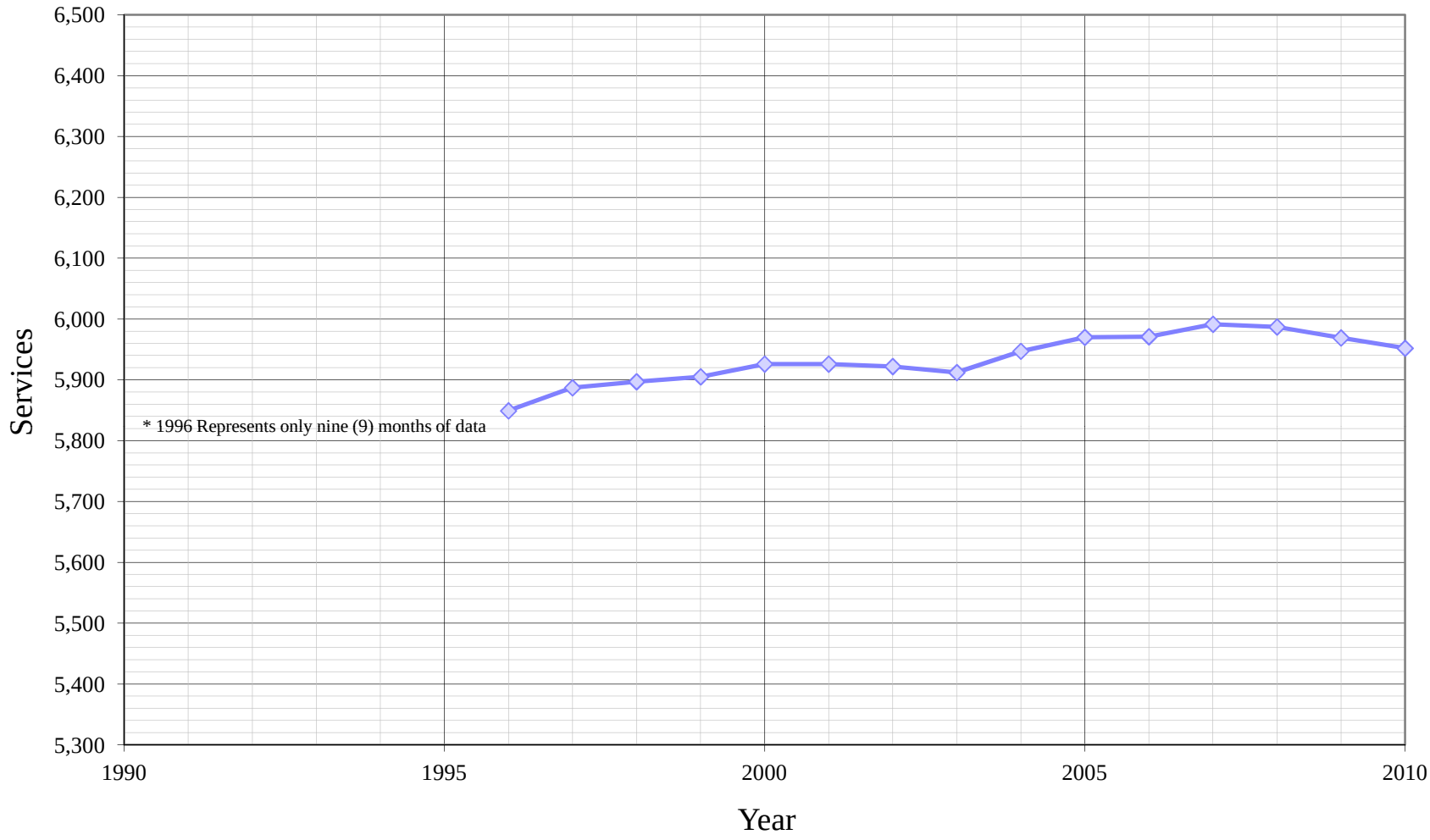
Distribution of Services

(2010)



Hawthorne District

Historical Services



California Water Service Company - Hawthorne District

Worksheet 1

Water Supply and Demand Analysis and Projections

Average Annual Services

Year	Residential	Multi-Residential	Multi-Res. units	Commercial	Industrial	Government	Recycled	Other	Total	Annual Change
1996	4,588	769	6,528	465	0	7	18	2	5,849	-
1997	4,612	780	6,577	466	0	8	18	3	5,887	38
1998	4,612	779	6,555	473	0	11	19	3	5,897	10
1999	4,619	780	6,542	474	0	11	18	3	5,905	8
2000	4,638	781	6,557	477	0	11	18	1	5,926	21
2001	4,512	787	7,496	554	0	52	18	3	5,926	0
2002	4,500	785	7,497	557	0	59	17	4	5,922	-4
2003	4,493	780	7,237	553	0	61	19	6	5,912	-10
2004	4,520	783	7,477	559	0	61	19	5	5,947	35
2005	4,534	781	7,467	571	0	61	19	4	5,970	23
2006	4,535	780	7,462	574	0	61	19	2	5,971	1
2007	4,541	780	7,462	584	0	62	19	5	5,991	20
2008	4,535	780	7,462	584	2	63	19	4	5,987	-4
2009	4,525	779	7,462	577	2	65	19	2	5,969	-18
2010	4,511	779	7,462	569	2	68	21	2	5,952	-17
5 Year Average	4,528	780	7,462	579	2	65	20	3	5,975	-5
10 Year Average	4,521	781	7,448	568	1	61	19	4	5,955	3

1996 Data is for the nine month period from April through December.

Five Year Average = 2006 through 2010.

Ten Year Average = 2001 through 2010.

California Water Service Company - Hawthorne District

Worksheet 2

Water Supply and Demand Analysis and Projections

Service Growth Percentage

Year	Residential	Multi-Residential	Multi-Res. units	Commercial	Industrial	Government	Recycled	Other	Total
1997	0.52%	1.50%	0.76%	0.14%	0.00%	14.29%	0.00%	50.00%	0.65%
1998	0.00%	-0.13%	-0.33%	1.50%	0.00%	37.50%	5.56%	0.00%	0.17%
1999	0.15%	0.13%	-0.20%	0.21%	0.00%	0.00%	-5.26%	0.00%	0.14%
2000	0.41%	0.13%	0.23%	0.63%	0.00%	0.00%	0.00%	-66.67%	0.36%
2001	-2.72%	0.77%	14.32%	16.14%	0.00%	372.73%	0.00%	200.00%	0.00%
2002	-0.27%	-0.25%	0.01%	0.54%	0.00%	13.46%	-5.56%	33.33%	-0.07%
2003	-0.16%	-0.64%	-3.47%	-0.72%	0.00%	3.39%	11.76%	50.00%	-0.17%
2004	0.60%	0.38%	3.32%	1.08%	0.00%	0.00%	0.00%	-16.67%	0.59%
2005	0.31%	-0.26%	-0.13%	2.15%	0.00%	0.00%	0.00%	-20.00%	0.39%
2006	0.02%	-0.13%	-0.07%	0.53%	0.00%	0.00%	0.00%	-50.00%	0.02%
2007	0.14%	0.00%	0.00%	1.74%	0.00%	1.64%	0.00%	150.00%	0.34%
2008	-0.14%	0.00%	0.00%	0.00%	0.00%	1.61%	0.00%	-20.00%	-0.07%
2009	-0.22%	-0.13%	0.00%	-1.20%	0.00%	3.17%	0.00%	-50.00%	-0.30%
2010	-0.31%	0.00%	0.00%	-1.39%	0.00%	4.62%	10.53%	0.00%	-0.28%
5-Year Average	-0.10%	-0.05%	-0.01%	-0.06%	0.00%	2.21%	2.11%	6.00%	-0.06%
10-Year Average	-0.28%	-0.03%	1.40%	1.89%	0.00%	40.06%	1.67%	27.67%	0.05%
14-Year Average	-0.12%	0.10%	1.03%	1.53%	0.00%	32.32%	1.22%	18.57%	0.13%

Five Year Average = 2006 through 2010.

Ten Year Average = 2001 through 2010.

California Water Service Company - Hawthorne District

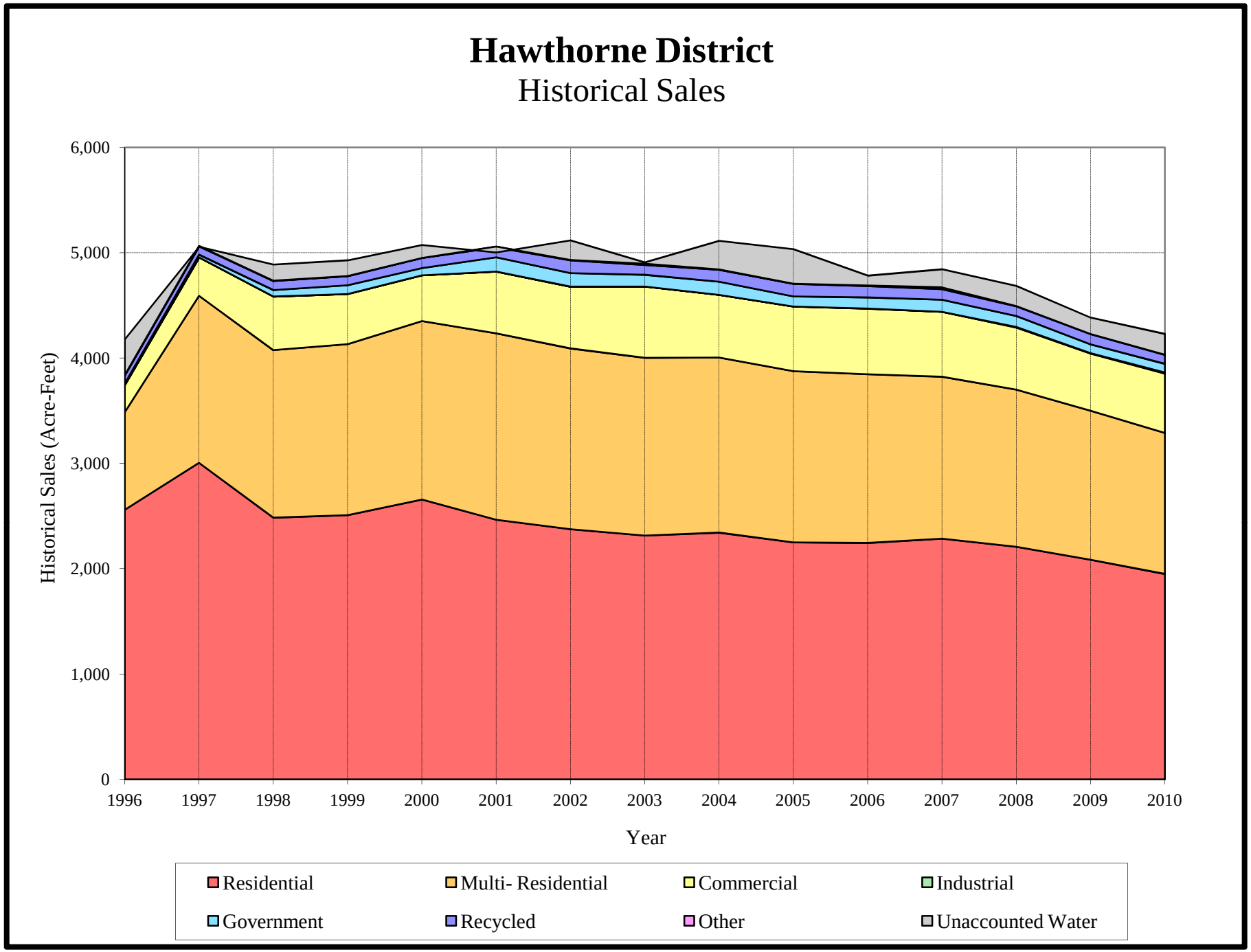
Worksheet 3

Water Supply and Demand Analysis and Projections

Sales(ccf)

Year	Residential	Multi-Residential	Commercial	Industrial	Government	Recycled	Other	Unaccounted. Water	Total(ccf) Sales	Total(ccf) Demand	Total(kgal) Demand
1996	1,115,160	403,106	112,644	0	6,290	34,079	401	147,865	1,671,680	1,819,545	1,361,114
1997	1,309,396	690,867	158,407	0	11,423	34,829	921	-3,350	2,205,843	2,202,493	1,647,579
1998	1,082,514	692,910	221,629	0	26,791	37,211	1,256	67,251	2,062,311	2,129,562	1,593,023
1999	1,092,771	707,456	207,042	0	36,434	37,680	632	64,869	2,082,015	2,146,884	1,605,981
2000	1,157,580	738,167	188,779	0	30,330	41,521	122	53,942	2,156,499	2,210,441	1,653,525
2001	1,073,883	771,156	255,038	0	59,505	41,032	3,056	-24,199	2,203,670	2,179,471	1,630,358
2002	1,034,752	747,741	255,370	0	55,754	53,432	1,191	80,967	2,148,240	2,229,207	1,667,563
2003	1,008,246	735,248	295,113	0	48,264	40,492	5,216	5,945	2,132,579	2,138,524	1,599,727
2004	1,020,652	723,841	259,233	0	54,598	49,085	1,421	118,452	2,108,830	2,227,282	1,666,123
2005	980,310	708,214	267,069	0	41,644	52,322	567	142,545	2,050,126	2,192,671	1,640,232
2006	977,840	698,082	271,084	226	46,173	47,117	1,907	40,992	2,042,429	2,083,421	1,558,507
2007	995,775	669,534	268,390	402	49,520	44,100	7,312	74,757	2,035,033	2,109,790	1,578,232
2008	962,093	650,122	256,546	2,255	45,466	40,393	1,101	82,840	1,957,976	2,040,816	1,526,636
2009	908,441	616,132	236,199	1,780	36,929	42,547	312	67,520	1,842,340	1,909,860	1,428,675
2010	849,716	583,560	245,217	4,271	36,058	36,558	1,067	86,011	1,756,447	1,842,458	1,378,254
5 Year Average	929,006	629,837	251,588	2,177	41,993	40,900	2,448	77,782	1,897,949	1,975,731	1,477,949
10 Year Average	981,171	690,363	260,926	893	47,391	44,708	2,315	67,583	2,027,767	2,095,350	1,567,431

Five Year Average = 2006 through 2010. Ten Year Average = 2001 through 2010.


Hawthorne District
Historical Sales
6,000
5,000
4,000
3,000
2,000
1,000
0
Historical Sales (Acre-Feet)
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Year
Residential
Multi- Residential
Commercial
Industrial
Government
Recycled
Other
Unaccounted Water

California Water Service Company - Hawthorne District

Worksheet 4

Water Supply and Demand Analysis and Projections

Sales(AF)

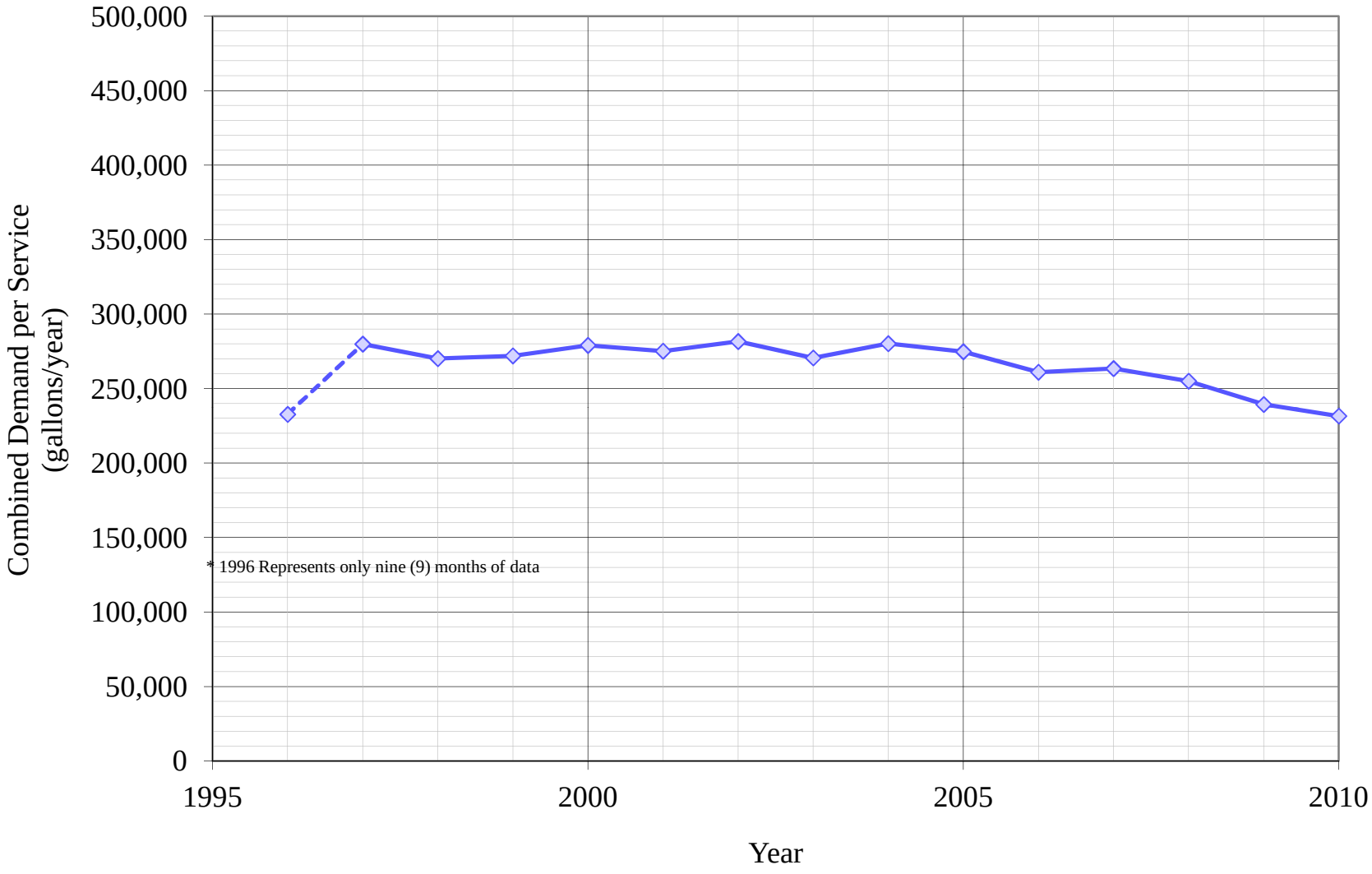
Year	Residential	Multi-Residential	Commercial	Industrial	Government	Recycled	Other	Unaccounted Water	Total(AF) Sales	Total(AF) Demand	Total(Mgal) Demand
1996	2,560.1	925.4	258.6	0.0	14.4	78.2	0.9	339.5	3,837.6	4,177.1	1,361.1
1997	3,006.0	1,586.0	363.7	0.0	26.2	80.0	2.1	-7.7	5,063.9	5,056.2	1,647.6
1998	2,485.1	1,590.7	508.8	0.0	61.5	85.4	2.9	154.4	4,734.4	4,888.8	1,593.0
1999	2,508.7	1,624.1	475.3	0.0	83.6	86.5	1.5	148.9	4,779.6	4,928.6	1,606.0
2000	2,657.4	1,694.6	433.4	0.0	69.6	95.3	0.3	123.8	4,950.6	5,074.5	1,653.5
2001	2,465.3	1,770.3	585.5	0.0	136.6	94.2	7.0	-55.6	5,058.9	5,003.4	1,630.4
2002	2,375.5	1,716.6	586.2	0.0	128.0	122.7	2.7	185.9	4,931.7	5,117.6	1,667.6
2003	2,314.6	1,687.9	677.5	0.0	110.8	93.0	12.0	13.6	4,895.7	4,909.4	1,599.7
2004	2,343.1	1,661.7	595.1	0.0	125.3	112.7	3.3	271.9	4,841.2	5,113.1	1,666.1
2005	2,250.5	1,625.8	613.1	0.0	95.6	120.1	1.3	327.2	4,706.4	5,033.7	1,640.2
2006	2,244.8	1,602.6	622.3	0.5	106.0	108.2	4.4	94.1	4,688.8	4,782.9	1,558.5
2007	2,286.0	1,537.0	616.1	0.9	113.7	101.2	16.8	171.6	4,671.8	4,843.4	1,578.2
2008	2,208.7	1,492.5	588.9	5.2	104.4	92.7	2.5	190.2	4,494.9	4,685.1	1,526.6
2009	2,085.5	1,414.4	542.2	4.1	84.8	97.7	0.7	155.0	4,229.4	4,384.4	1,428.7
2010	1,950.7	1,339.7	562.9	9.8	82.8	83.9	2.4	197.5	4,032.2	4,229.7	1,378.3
5 Year Average	2,132.7	1,445.9	577.6	5.0	96.4	93.9	5.6	178.6	4,357.1	4,535.7	1,477.9
10 Year Average	2,252.5	1,584.9	599.0	2.1	108.8	102.6	5.3	155.1	4,655.1	4,810.3	1,567.4

Five Year Average = 2006 through 2010. Ten Year Average = 2001 through 2010.

1996 Data is for the nine month April through December.

Hawthorne District

Historical Demand per Service



California Water Service Company - Hawthorne District

Worksheet 5

Water Supply and Demand Analysis and Projections
Demand per Service (gal/yr)

Year	Residential	Multi-Residential (service)	Multi-Residential (unit)	Commercial	Industrial	Government	Recycled	Total Other	Unaccounted/ Total Services	Combined Demand/Service
1996	181,808	392,380	46,195	181,082	0	672,178	1,416,270	149,984	18,910	232,702
1997	212,380	662,570	78,578	254,285	0	1,068,125	1,447,439	229,652	-426	279,867
1998	175,580	665,382	79,074	350,507	0	1,821,915	1,465,040	313,184	8,531	270,141
1999	176,975	678,479	80,895	326,747	0	2,477,684	1,565,922	157,590	8,218	271,970
2000	186,703	707,026	84,213	296,051	0	2,062,583	1,725,548	91,262	6,809	279,029
2001	178,041	732,992	76,956	344,371	0	856,016	1,705,226	762,016	-3,055	275,119
2002	172,011	712,547	74,610	342,962	0	706,896	2,351,171	222,732	10,228	281,588
2003	167,866	705,133	75,999	399,204	0	591,869	1,594,217	650,307	752	270,590
2004	168,916	691,533	72,418	346,905	0	669,543	1,932,533	212,596	14,900	280,162
2005	161,739	678,337	70,950	349,880	0	510,687	2,059,978	106,036	17,861	274,746
2006	161,298	669,489	69,981	353,284	0	566,226	1,855,051	713,268	5,136	261,016
2007	164,022	642,111	67,120	343,784	0	597,476	1,736,268	1,093,951	9,334	263,416
2008	158,698	623,494	65,174	328,613	0	539,856	1,590,319	205,901	10,351	254,992
2009	150,179	591,654	61,766	306,220	0	424,997	1,675,125	116,696	8,462	239,349
2010	140,907	560,376	58,501	322,381	0	396,666	1,302,252	399,086	10,810	231,562
5 Year Average	153,452	604,409	63,140	325,250	0	489,749	1,575,991	453,909	9,739	247,330
10 Year Average	162,368	660,767	69,347	343,760	0	586,023	1,780,214	448,259	8,478	263,254

Five Year Average = 2006 through 2010. Ten Year Average = 2001 through 2010.

California Water Service Company - Hawthorne District

Worksheet 6

Service Growth Percentage
Demand per Service (gal/day)

Year	Residential	Multi-Residential (service)	Multi-Residential (unit)	Commercial	Industrial	Government	Recycled	Total Other	Unaccounted/ Total Services	Combined Demand/Service
1996	498	1,075	127	496	0	1,842	3,880	411	52	638
1997	582	1,815	215	697	0	2,926	3,966	629	-1	767
1998	481	1,823	217	960	0	4,992	4,014	858	23	740
1999	485	1,859	222	895	0	6,788	4,290	432	23	745
2000	512	1,937	231	811	0	5,651	4,728	250	19	764
2001	488	2,008	211	943	0	2,345	4,672	2,088	-8	754
2002	471	1,952	204	940	0	1,937	6,442	610	28	771
2003	460	1,932	208	1,094	0	1,622	4,368	1,782	2	741
2004	463	1,895	198	950	0	1,834	5,295	582	41	768
2005	443	1,858	194	959	0	1,399	5,644	291	49	753
2006	442	1,834	192	968	0	1,551	5,082	1,954	14	715
2007	449	1,759	184	942	0	1,637	4,757	2,997	26	722
2008	435	1,708	179	900	0	1,479	4,357	564	28	699
2009	411	1,621	169	839	0	1,164	4,589	320	23	656
2010	386	1,535	160	883	0	1,087	3,568	1,093	30	634
5 Year Average	420	1,656	173	891	0	1,342	4,318	1,244	27	678
10 Year Average	445	1,810	190	942	0	1,606	4,877	1,228	23	721

Five Year Average = 2006 through 2010. Ten Year Average = 2001 through 2010.

1996 Data is for the nine month April through December.

California Water Service Company - Hawthorne District

Worksheet 7

Water Supply and Demand Analysis and Projections

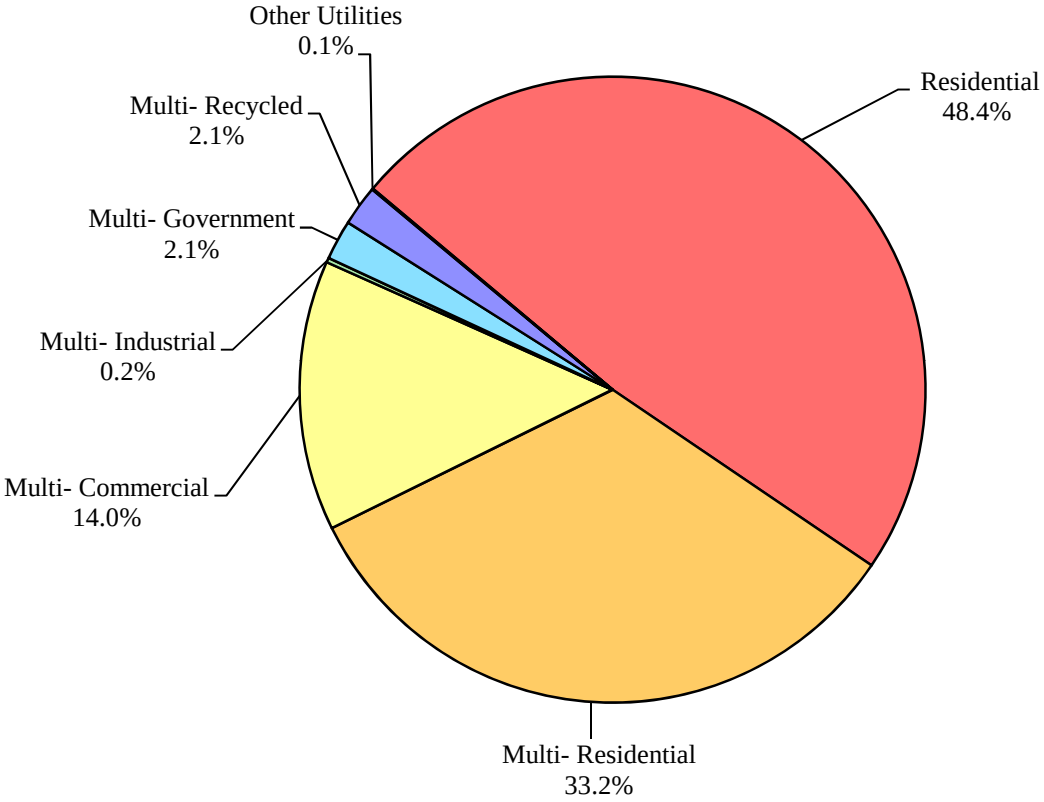
Percentage Change in Annual Demand

Year	Residential	Multi-Residential	Commercial	Industrial	Government	Recycled	Other	Unaccounted Water	Total
1997	17.42%	71.39%	40.63%	0.00%	81.61%	2.20%	129.68%	-102.27%	21.05%
1998	-17.33%	0.30%	39.91%	0.00%	134.54%	6.84%	36.37%	-2107.25%	-3.31%
1999	0.95%	2.10%	-6.58%	0.00%	35.99%	1.26%	-49.68%	-3.54%	0.81%
2000	5.93%	4.34%	-8.82%	0.00%	-16.75%	10.19%	-80.70%	-16.84%	2.96%
2001	-7.23%	4.47%	35.10%	0.00%	96.19%	-1.18%	2404.92%	-144.86%	-1.40%
2002	-3.64%	-3.04%	0.13%	0.00%	-6.30%	30.22%	0.00%	-434.60%	2.28%
2003	-2.56%	-1.67%	15.56%	0.00%	-13.43%	-24.22%	337.95%	-92.66%	-4.07%
2004	1.23%	-1.55%	-12.16%	0.00%	13.12%	21.22%	-72.76%	1892.51%	4.15%
2005	-3.95%	-2.16%	3.02%	0.00%	-23.73%	6.59%	-60.10%	20.34%	-1.55%
2006	-0.25%	-1.43%	1.50%	0.00%	10.88%	-9.95%	236.33%	-71.24%	-4.98%
2007	1.83%	-4.09%	-0.99%	0.00%	7.25%	-6.40%	283.43%	82.37%	1.27%
2008	-3.38%	-2.90%	-4.41%	100.00%	-8.19%	-8.41%	-84.94%	10.81%	-3.27%
2009	-5.58%	-5.23%	-7.93%	100.00%	-18.78%	5.33%	-71.66%	-18.49%	-6.42%
2010	-6.46%	-5.29%	3.82%	100.00%	-2.36%	-14.08%	241.99%	27.39%	-3.53%
5 Year Average	-3.40%	-4.38%	-2.38%	75.00%	-5.52%	-5.89%	92.21%	25.52%	-2.99%
10 Year Average	-3.00%	-2.29%	3.36%	30.00%	5.47%	-0.09%	321.52%	127.16%	-1.75%

Five Year Average = 2006 through 2010. Ten Year Average = 2001 through 2010.

Hawthorne District

Percent of Total Sales by Type of Use
(2010)



California Water Service Company - Hawthorne District

Worksheet 8

Water Supply and Demand Analysis and Projections

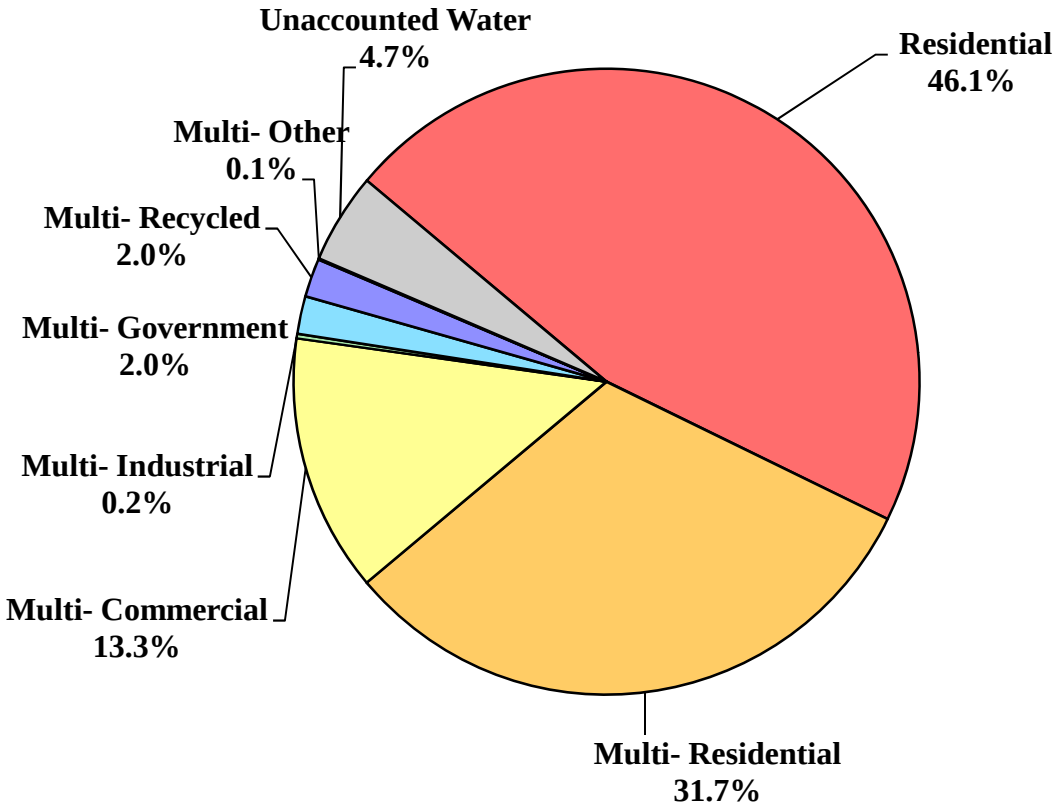
Percentage of Total Sales

Year	Residential	Multi-Residential	Commercial	Industrial	Government	Recycled	Other Utilities	Percent Total
1996	66.71%	24.11%	6.74%	0.00%	0.38%	2.04%	0.02%	100.00%
1997	59.36%	31.32%	7.18%	0.00%	0.52%	1.58%	0.04%	100.00%
1998	52.49%	33.60%	10.75%	0.00%	1.30%	1.80%	0.06%	100.00%
1999	52.49%	33.98%	9.94%	0.00%	1.75%	1.81%	0.03%	100.00%
2000	53.68%	34.23%	8.75%	0.00%	1.41%	1.93%	0.01%	100.00%
2001	48.73%	34.99%	11.57%	0.00%	2.70%	1.86%	0.14%	100.00%
2002	48.17%	34.81%	11.89%	0.00%	2.60%	2.49%	0.06%	100.00%
2003	47.28%	34.48%	13.84%	0.00%	2.26%	1.90%	0.24%	100.00%
2004	48.40%	34.32%	12.29%	0.00%	2.59%	2.33%	0.07%	100.00%
2005	47.82%	34.54%	13.03%	0.00%	2.03%	2.55%	0.03%	100.00%
2006	47.88%	34.18%	13.27%	0.01%	2.26%	2.31%	0.09%	100.00%
2007	48.93%	32.90%	13.19%	0.02%	2.43%	2.17%	0.36%	100.00%
2008	49.14%	33.20%	13.10%	0.12%	2.32%	2.06%	0.06%	100.00%
2009	49.31%	33.44%	12.82%	0.10%	2.00%	2.31%	0.02%	100.00%
2010	48.38%	33.22%	13.96%	0.24%	2.05%	2.08%	0.06%	100.00%
5 Year Average	48.94%	33.19%	13.27%	0.12%	2.20%	2.16%	0.12%	100.00%
10 Year Average	48.40%	34.01%	12.90%	0.05%	2.33%	2.21%	0.11%	100.00%

Five Year Average = 2006 through 2010. Ten Year Average = 2001 through 2010.

Hawthorne District

Percent of Total Demand by Type of Use
(2010)



California Water Service Company - Hawthorne District

Worksheet 9

Water Supply and Demand Analysis and Projections

Percentage of Total Demand

Year	Residential	Multi-Residential	Commercial	Industrial	Government	Recycled	Other	Unaccounted Water	Percent Total
1996	61.29%	22.15%	6.19%	0.00%	0.35%	1.87%	0.02%	8.13%	100.00%
1997	59.45%	31.37%	7.19%	0.00%	0.52%	1.58%	0.04%	-0.15%	100.00%
1998	50.83%	32.54%	10.41%	0.00%	1.26%	1.75%	0.06%	3.16%	100.00%
1999	50.90%	32.95%	9.64%	0.00%	1.70%	1.76%	0.03%	3.02%	100.00%
2000	52.37%	33.39%	8.54%	0.00%	1.37%	1.88%	0.01%	2.44%	100.00%
2001	49.27%	35.38%	11.70%	0.00%	2.73%	1.88%	0.14%	-1.11%	100.00%
2002	46.42%	33.54%	11.46%	0.00%	2.50%	2.40%	0.05%	3.63%	100.00%
2003	47.15%	34.38%	13.80%	0.00%	2.26%	1.89%	0.24%	0.28%	100.00%
2004	45.82%	32.50%	11.64%	0.00%	2.45%	2.20%	0.06%	5.32%	100.00%
2005	44.71%	32.30%	12.18%	0.00%	1.90%	2.39%	0.03%	6.50%	100.00%
2006	46.93%	33.51%	13.01%	0.01%	2.22%	2.26%	0.09%	1.97%	100.00%
2007	47.20%	31.73%	12.72%	0.02%	2.35%	2.09%	0.35%	3.54%	100.00%
2008	47.14%	31.86%	12.57%	0.11%	2.23%	1.98%	0.05%	4.06%	100.00%
2009	47.57%	32.26%	12.37%	0.09%	1.93%	2.23%	0.02%	3.54%	100.00%
2010	46.12%	31.67%	13.31%	0.23%	1.96%	1.98%	0.06%	4.67%	100.00%
5 Year Average	47.01%	31.88%	12.74%	0.11%	2.12%	2.07%	0.12%	3.95%	100.00%
10 Year Average	46.83%	32.91%	12.48%	0.05%	2.25%	2.13%	0.11%	3.24%	100.00%

Five Year Average = 2006 through 2010. Ten Year Average = 2001 through 2010.

California Water Service Company - Hawthorne District

Worksheet 10

Water Supply and Demand Analysis and Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth with proposed development added between 2010 to 2020 and ☒ Low ☐ Average ☐ High Demand per Service for each Customer Class.

Summary of Historical Growth Rate from Worksheet 2			
Customer Type	14-Year Average Historical Growth Rate	Individual Growth Rate Selected	Notes
Single Family Residential	-0.119%	0.126%	Overall growth rate used
Multi Family Residential	0.098%	0.126%	Overall growth rate used
Commercial	1.525%	0.126%	Overall growth rate used
Industrial	0.000%	0.126%	Overall growth rate used
Government	32.315%	0.126%	Overall growth rate used
Recycled	1.216%	0.126%	Overall growth rate used
Other	18.571%	0.126%	Overall growth rate used
Overall	0.126%	0.616%	

Summary of Lowest Demand per Service from Worksheets 5 and 6										
Demand/Serv. Units	Residential	Multi-Residential (service)	Multi-Residential (unit)	Commercial	Industrial	Government	Recycled	Total Other	Unaccounted Total Serv.	Combined Demand/Serv.
Gal/Service/Yr	140,907	560,376	58,501	322,381	0	396,666	1,302,252	91,262	10,810	231,562
AF/Service/Yr	0.432	1.720	0.180	0.989	0.000	1.217	3.996	0.280	0.033	0.711
Gal/Service/Day	386	1,535	160	883	0	1,087	3,568	250	30	634

California Water Service Company - Hawthorne District

Worksheet 10

Water Supply and Demand Analysis and Projections

30-year projection Summary

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☒ Low ☐ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2010	Projected Services 2015	Projected Services 2020	Projected Services 2025	Projected Services 2030	Projected Services 2035	Projected Services 2040	Services projected to be added from 2010 - 2040
Single Family Residential	4,531	4,640	4,830	5,021	5,211	5,402	5,453	922
Multi Family Residential	780	799	832	865	897	930	939	159
Commercial	578	592	616	640	664	688	695	117
Industrial	2	3	4	6	8	9	9	7
Government	65	65	66	66	67	67	68	3
Recycled	19	19	19	19	20	20	20	1
Other	2	2	2	2	2	2	2	0
Total	5,977	6,120	6,369	6,619	6,869	7,119	7,185	1,209

Customer Type	Projected Demand 2010 (ccf)	Projected Demand 2015 (ccf)	Projected Demand 2020 (ccf)	Projected Demand 2025 (ccf)	Projected Demand 2030 (ccf)	Projected Demand 2035 (ccf)	Projected Demand 2040 (ccf)	Projected demand to be added from 2010 - 2040 (ccf)
Single Family Residential	853,427	874,034	909,873	945,747	981,655	1,017,598	1,027,132	173,705
Multi Family Residential	584,295	598,430	623,021	647,635	672,272	696,934	703,468	119,173
Commercial	248,978	254,954	265,338	275,732	286,136	296,550	299,322	50,344
Industrial	0	0	0	0	0	0	0	0
Government	34,511	34,729	34,949	35,171	35,394	35,618	35,844	1,333
Recycled	33,118	33,328	33,539	33,752	33,966	34,181	34,397	1,279
Other	244	246	247	249	251	252	254	9
Unaccounted	86,365	88,439	92,042	95,649	99,259	102,873	103,834	17,469
Total	1,840,939	1,884,160	1,959,010	2,033,934	2,108,932	2,184,006	2,204,252	363,313

Customer Type	Projected Demand 2010 (AF)	Projected Demand 2015 (AF)	Projected Demand 2020 (AF)	Projected Demand 2025 (AF)	Projected Demand 2030 (AF)	Projected Demand 2035 (AF)	Projected Demand 2040 (AF)	Projected demand to be added from 2010 - 2040 (AF)
Single Family Residential	1,959	2,007	2,089	2,171	2,254	2,336	2,358	399
Multi Family Residential	1,341	1,374	1,430	1,487	1,543	1,600	1,615	274
Commercial	572	585	609	633	657	681	687	116
Industrial	0	0	0	0	0	0	0	0
Government	79	80	80	81	81	82	82	3
Recycled	76	77	77	77	78	78	79	3
Other	1	1	1	1	1	1	1	0
Unaccounted	198	203	211	220	228	236	238	40
Total	4,226	4,325	4,497	4,669	4,841	5,014	5,060	834

California Water Service Company - Hawthorne District

Worksheet 10

Water Supply and Demand Analysis and Projections

2000's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☒ Low ☐ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Actual Services 2001	Actual Services 2002	Actual Services 2003	Actual Services 2004	Actual Services 2005	Actual Services 2006	Actual Services 2007	Actual Services 2008	Actual Services 2009	Projected Services 2010
Resident	4,512	4,500	4,493	4,520	4,534	4,535	4,541	4,535	4,525	4,531
Multi- Residential	787	785	780	783	781	780	780	780	779	780
Commercial	554	557	553	559	571	574	584	584	577	578
Industrial	0	0	0	0	0	0	0	2	2	2
Government	52	59	61	61	61	61	62	63	65	65
Recycled	18	17	19	19	19	19	19	19	19	19
Other	3	4	6	5	4	2	5	4	2	2
Total	5,926	5,922	5,912	5,947	5,970	5,971	5,991	5,987	5,969	5,977

Customer Type	Demand 2001 (ccf)	Demand 2002 (ccf)	Demand 2003 (ccf)	Demand 2004 (ccf)	Demand 2005 (ccf)	Demand 2006 (ccf)	Demand 2007 (ccf)	Demand 2008 (ccf)	Demand 2009 (ccf)	Demand 2010 (ccf)
Resident	849,901	847,641	846,322	851,408	854,045	854,218	855,442	854,233	852,350	853,427
Multi- Residential	589,551	588,052	584,307	586,554	585,056	584,307	584,307	584,307	583,558	584,295
Commercial	238,752	240,044	238,321	240,906	246,078	247,371	251,680	251,680	248,664	248,978
Industrial	0	0	0	0	0	0	0	0	0	0
Government	27,574	31,285	32,346	32,346	32,346	32,346	32,876	33,407	34,467	34,511
Recycled	31,335	29,594	33,076	33,076	33,076	33,076	33,076	33,076	33,076	33,118
Other	366	488	732	610	488	244	610	488	244	244
Unaccounted	85,635	85,577	85,432	85,938	86,271	86,284	86,580	86,516	86,256	86,365
Total	1,823,113	1,822,682	1,820,536	1,830,839	1,837,359	1,837,845	1,844,572	1,843,707	1,838,614	1,840,939

Customer Type	Demand 2001 (AF)	Demand 2002 (AF)	Demand 2003 (AF)	Demand 2004 (AF)	Demand 2005 (AF)	Demand 2006 (AF)	Demand 2007 (AF)	Demand 2008 (AF)	Demand 2009 (AF)	Demand 2010 (AF)
Resident	1,951	1,946	1,943	1,955	1,961	1,961	1,964	1,961	1,957	1,959
Multi- Residential	1,353	1,350	1,341	1,347	1,343	1,341	1,341	1,341	1,340	1,341
Commercial	548	551	547	553	565	568	578	578	571	572
Industrial	0	0	0	0	0	0	0	0	0	0
Government	63	72	74	74	74	74	75	77	79	79
Recycled	72	68	76	76	76	76	76	76	76	76
Other	1	1	2	1	1	1	1	1	1	1
Unaccounted	197	196	196	197	198	198	199	199	198	198
Total	4,185	4,184	4,179	4,203	4,218	4,219	4,235	4,233	4,221	4,226

California Water Service Company - Hawthorne District

Worksheet 10

Water Supply and Demand Analysis and Projections

2010's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☒ Low ☐ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2011	Projected Services 2012	Projected Services 2013	Projected Services 2014	Projected Services 2015	Projected Services 2016	Projected Services 2017	Projected Services 2018	Projected Services 2019	Projected Services 2020
Resident	4,569	4,574	4,588	4,610	4,640	4,678	4,716	4,754	4,792	4,830
Multi- Residential	787	788	790	794	799	805	812	819	825	832
Commercial	583	583	585	588	592	596	601	606	611	616
Industrial	2	2	2	3	3	3	3	4	4	4
Government	65	65	65	65	65	66	66	66	66	66
Recycled	19	19	19	19	19	19	19	19	19	19
Other	2	2	2	2	2	2	2	2	2	2
Total	6,026	6,034	6,052	6,081	6,120	6,170	6,220	6,270	6,319	6,369

Customer Type	Demand 2011 (ccf)	Demand 2012 (ccf)	Demand 2013 (ccf)	Demand 2014 (ccf)	Demand 2015 (ccf)	Demand 2016 (ccf)	Demand 2017 (ccf)	Demand 2018 (ccf)	Demand 2019 (ccf)	Demand 2020 (ccf)
Resident	860,585	861,666	864,267	868,390	874,034	881,199	888,365	895,533	902,702	909,873
Multi- Residential	589,207	589,947	591,730	594,558	598,430	603,347	608,264	613,182	618,101	623,021
Commercial	251,052	251,367	252,123	253,318	254,954	257,030	259,106	261,183	263,260	265,338
Industrial	0	0	0	0	0	0	0	0	0	0
Government	34,554	34,598	34,642	34,685	34,729	34,773	34,817	34,861	34,905	34,949
Recycled	33,160	33,202	33,244	33,286	33,328	33,370	33,412	33,454	33,497	33,539
Other	245	245	245	246	246	246	246	247	247	247
Unaccounted	87,085	87,194	87,456	87,871	88,439	89,159	89,880	90,600	91,321	92,042
Total	1,855,888	1,858,218	1,863,707	1,872,354	1,884,160	1,899,124	1,914,091	1,929,061	1,944,034	1,959,010

Customer Type	Demand 2011 (AF)	Demand 2012 (AF)	Demand 2013 (AF)	Demand 2014 (AF)	Demand 2015 (AF)	Demand 2016 (AF)	Demand 2017 (AF)	Demand 2018 (AF)	Demand 2019 (AF)	Demand 2020 (AF)
Resident	1,976	1,978	1,984	1,994	2,007	2,023	2,039	2,056	2,072	2,089
Multi- Residential	1,353	1,354	1,358	1,365	1,374	1,385	1,396	1,408	1,419	1,430
Commercial	576	577	579	582	585	590	595	600	604	609
Industrial	0	0	0	0	0	0	0	0	0	0
Government	79	79	80	80	80	80	80	80	80	80
Recycled	76	76	76	76	77	77	77	77	77	77
Other	1	1	1	1	1	1	1	1	1	1
Unaccounted	200	200	201	202	203	205	206	208	210	211
Total	4,261	4,266	4,279	4,298	4,325	4,360	4,394	4,429	4,463	4,497

California Water Service Company - Hawthorne District

Worksheet 10

Water Supply and Demand Analysis and Projections

2020's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☒ Low ☐ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2,021	Projected Services 2,022	Projected Services 2,023	Projected Services 2,024	Projected Services 2,025	Projected Services 2,026	Projected Services 2,027	Projected Services 2,028	Projected Services 2,029	Projected Services 2,030
Resident	4,868	4,907	4,945	4,983	5,021	5,059	5,097	5,135	5,173	5,211
Multi- Residential	838	845	851	858	865	871	878	884	891	897
Commercial	621	625	630	635	640	645	649	654	659	664
Industrial	5	5	5	6	6	6	7	7	7	8
Government	66	66	66	66	66	66	66	67	67	67
Recycled	19	19	19	19	19	19	19	19	19	20
Other	2	2	2	2	2	2	2	2	2	2
Total	6,419	6,469	6,519	6,569	6,619	6,669	6,719	6,769	6,819	6,869

Customer Type	Demand 2021 (ccf)	Demand 2022 (ccf)	Demand 2023 (ccf)	Demand 2024 (ccf)	Demand 2025 (ccf)	Demand 2026 (ccf)	Demand 2027 (ccf)	Demand 2028 (ccf)	Demand 2029 (ccf)	Demand 2030 (ccf)
Resident	917,045	924,218	931,393	938,569	945,747	952,926	960,106	967,287	974,471	981,655
Multi- Residential	627,942	632,863	637,786	642,710	647,635	652,560	657,487	662,415	667,343	672,272
Commercial	267,416	269,494	271,573	273,652	275,732	277,812	279,892	281,973	284,054	286,136
Industrial	0	0	0	0	0	0	0	0	0	0
Government	34,994	35,038	35,082	35,127	35,171	35,215	35,260	35,305	35,349	35,394
Recycled	33,581	33,624	33,666	33,709	33,752	33,794	33,837	33,880	33,923	33,966
Other	248	248	248	249	249	249	250	250	250	251
Unaccounted	92,763	93,484	94,206	94,927	95,649	96,371	97,092	97,814	98,537	99,259
Total	1,973,988	1,988,970	2,003,955	2,018,943	2,033,934	2,048,927	2,063,924	2,078,924	2,093,927	2,108,932

Customer Type	Demand 2021 (AF)	Demand 2022 (AF)	Demand 2023 (AF)	Demand 2024 (AF)	Demand 2025 (AF)	Demand 2026 (AF)	Demand 2027 (AF)	Demand 2028 (AF)	Demand 2029 (AF)	Demand 2030 (AF)
Resident	2,105	2,122	2,138	2,155	2,171	2,188	2,204	2,221	2,237	2,254
Multi- Residential	1,442	1,453	1,464	1,475	1,487	1,498	1,509	1,521	1,532	1,543
Commercial	614	619	623	628	633	638	643	647	652	657
Industrial	0	0	0	0	0	0	0	0	0	0
Government	80	80	81	81	81	81	81	81	81	81
Recycled	77	77	77	77	77	78	78	78	78	78
Other	1	1	1	1	1	1	1	1	1	1
Unaccounted	213	215	216	218	220	221	223	225	226	228
Total	4,532	4,566	4,600	4,635	4,669	4,704	4,738	4,773	4,807	4,841

California Water Service Company - Hawthorne District

Worksheet 10

Water Supply and Demand Analysis and Projections

2030's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☒ Low ☐ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2,031	Projected Services 2,032	Projected Services 2,033	Projected Services 2,034	Projected Services 2,035	Projected Services 2,036	Projected Services 2,037	Projected Services 2,038	Projected Services 2,039	Projected Services 2,040
Resident	5,250	5,288	5,326	5,364	5,402	5,416	5,430	5,439	5,447	5,453
Multi- Residential	904	911	917	924	930	933	935	937	938	939
Commercial	669	674	678	683	688	690	692	693	694	695
Industrial	8	8	9	9	9	9	9	9	9	9
Government	67	67	67	67	67	67	67	67	68	68
Recycled	20	20	20	20	20	20	20	20	20	20
Other	2	2	2	2	2	2	2	2	2	2
Total	6,919	6,969	7,019	7,069	7,119	7,137	7,156	7,168	7,178	7,185

Customer Type	Demand 2031 (ccf)	Demand 2032 (ccf)	Demand 2033 (ccf)	Demand 2034 (ccf)	Demand 2035 (ccf)	Demand 2036 (ccf)	Demand 2037 (ccf)	Demand 2038 (ccf)	Demand 2039 (ccf)	Demand 2030 (ccf)
Resident	988,841	996,028	1,003,217	1,010,407	1,017,598	1,020,232	1,022,866	1,024,591	1,026,013	1,027,132
Multi- Residential	677,203	682,134	687,067	692,000	696,934	698,740	700,546	701,728	702,702	703,468
Commercial	288,218	290,300	292,383	294,467	296,550	297,315	298,080	298,582	298,996	299,322
Industrial	0	0	0	0	0	0	0	0	0	0
Government	35,439	35,483	35,528	35,573	35,618	35,663	35,708	35,753	35,799	35,844
Recycled	34,008	34,051	34,095	34,138	34,181	34,224	34,267	34,311	34,354	34,397
Other	251	251	252	252	252	252	253	253	253	254
Unaccounted	99,981	100,704	101,427	102,150	102,873	103,138	103,404	103,578	103,721	103,834
Total	2,123,941	2,138,953	2,153,968	2,168,986	2,184,006	2,189,564	2,195,125	2,198,795	2,201,838	2,204,252

Customer Type	Demand 2031 (AF)	Demand 2032 (AF)	Demand 2033 (AF)	Demand 2034 (AF)	Demand 2035 (AF)	Demand 2036 (AF)	Demand 2037 (AF)	Demand 2038 (AF)	Demand 2039 (AF)	Demand 2030 (AF)
Resident	2,270	2,287	2,303	2,320	2,336	2,342	2,348	2,352	2,355	2,358
Multi- Residential	1,555	1,566	1,577	1,589	1,600	1,604	1,608	1,611	1,613	1,615
Commercial	662	666	671	676	681	683	684	685	686	687
Industrial	0	0	0	0	0	0	0	0	0	0
Government	81	81	82	82	82	82	82	82	82	82
Recycled	78	78	78	78	78	79	79	79	79	79
Other	1	1	1	1	1	1	1	1	1	1
Unaccounted	230	231	233	235	236	237	237	238	238	238
Total	4,876	4,910	4,945	4,979	5,014	5,027	5,039	5,048	5,055	5,060

California Water Service Company - Hawthorne District

Worksheet 11

Water Supply and Demand Analysis and Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth with proposed development added between 2010 to 2020 and ☐ Low ☒ Average ☐ High Demand per Service for each Customer Class.

Summary of Historical Growth Rate from Worksheet 2			
Customer Type	14-Year Average Historical Growth Rate	Individual Growth Rate Selected	Notes
Single Family Residential	-0.119%	0.126%	Overall growth rate used
Multi Family Residential	0.098%	0.126%	Overall growth rate used
Commercial	1.525%	0.126%	Overall growth rate used
Industrial	0.000%	0.126%	Overall growth rate used
Government	32.315%	0.126%	Overall growth rate used
Recycled	1.216%	0.126%	Overall growth rate used
Other	18.571%	0.126%	Overall growth rate used
Overall	0.126%	0.616%	

Summary of Average Demand per Service from Worksheets 5 and 6										
Demand/Serv. Units	Residential	Multi-Residential (service)	Multi-Residential (unit)	Commercial	Industrial	Government	Recycled	Total Other	Unaccounted Total Serv.	Combined Demand/Serv.
Gal/Service/Yr	178,041	732,992	76,956	344,371	0	856,016	1,705,226	762,016	8,455	275,119
AF/Service/Yr	0.546	2.249	0.236	1.057	0.000	2.627	5.233	2.339	0.026	0.844
Gal/Service/Day	488	2,008	211	943	0	2,345	4,672	2,088	23	754

California Water Service Company - Hawthorne District

Worksheet 11

Water Supply and Demand Analysis and Projections

30-year projection Summary

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 5-Year Average Annual Growth and ☐ Low ☒ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2010	Projected Services 2015	Projected Services 2020	Projected Services 2025	Projected Services 2030	Projected Services 2035	Projected Services 2040	Services projected to be added from 2010 - 2040
Single Family Residential	4,531	4,640	4,830	5,021	5,211	5,402	5,453	922
Multi Family Residential	780	799	832	865	897	930	939	159
Commercial	578	592	616	640	664	688	695	117
Industrial	2	3	4	6	8	9	9	7
Government	65	65	66	66	67	67	68	3
Recycled	19	19	19	19	20	20	20	1
Other	2	2	2	2	2	2	2	0
Total	5,977	6,120	6,369	6,619	6,869	7,119	7,185	1,209

Customer Type	Projected Demand 2010 (ccf)	Projected Demand 2015 (ccf)	Projected Demand 2020 (ccf)	Projected Demand 2025 (ccf)	Projected Demand 2030 (ccf)	Projected Demand 2035 (ccf)	Projected Demand 2040 (ccf)	Projected demand to be added from 2010 - 2040 (ccf)
Single Family Residential	1,078,334	1,104,372	1,149,655	1,194,983	1,240,354	1,285,770	1,297,816	219,482
Multi Family Residential	764,279	782,768	814,933	847,129	879,356	911,614	920,161	155,882
Commercial	265,961	272,344	283,437	294,540	305,653	316,778	319,739	53,778
Industrial	0	0	0	0	0	0	0	0
Government	74,475	74,947	75,422	75,900	76,381	76,865	77,352	2,877
Recycled	43,366	43,641	43,918	44,196	44,476	44,758	45,041	1,675
Other	2,040	2,053	2,066	2,079	2,092	2,105	2,119	79
Unaccounted	67,548	69,170	71,988	74,809	77,633	80,459	81,211	13,663
Total	2,296,003	2,349,295	2,441,419	2,533,635	2,625,946	2,718,350	2,743,440	447,437

Customer Type	Projected Demand 2010 (AF)	Projected Demand 2015 (AF)	Projected Demand 2020 (AF)	Projected Demand 2025 (AF)	Projected Demand 2030 (AF)	Projected Demand 2035 (AF)	Projected Demand 2040 (AF)	Projected demand to be added from 2010 - 2040 (AF)
Single Family Residential	2,476	2,535	2,639	2,743	2,847	2,952	2,979	504
Multi Family Residential	1,755	1,797	1,871	1,945	2,019	2,093	2,112	358
Commercial	611	625	651	676	702	727	734	123
Industrial	0	0	0	0	0	0	0	0
Government	171	172	173	174	175	176	178	7
Recycled	100	100	101	101	102	103	103	4
Other	5	5	5	5	5	5	5	0
Unaccounted	155	159	165	172	178	185	186	31
Total	5,271	5,393	5,605	5,816	6,028	6,241	6,298	1,027

California Water Service Company - Hawthorne District

Worksheet 11

Water Supply and Demand Analysis and Projections

2000's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 5-Year Average Annual Growth and ☐ Low ☒ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Actual Services 2001	Actual Services 2002	Actual Services 2003	Actual Services 2004	Actual Services 2005	Actual Services 2006	Actual Services 2007	Actual Services 2008	Actual Services 2009	Projected Services 2010
Resident	4,512	4,500	4,493	4,520	4,534	4,535	4,541	4,535	4,525	4,531
Multi- Residential	787	785	780	783	781	780	780	780	779	780
Commercial	554	557	553	559	571	574	584	584	577	578
Industrial	0	0	0	0	0	0	0	2	2	2
Government	52	59	61	61	61	61	62	63	65	65
Recycled	18	17	19	19	19	19	19	19	19	19
Other	3	4	6	5	4	2	5	4	2	2
Total	5,926	5,922	5,912	5,947	5,970	5,971	5,991	5,987	5,969	5,977

Customer Type	Demand 2001 (ccf)	Demand 2002 (ccf)	Demand 2003 (ccf)	Demand 2004 (ccf)	Demand 2005 (ccf)	Demand 2006 (ccf)	Demand 2007 (ccf)	Demand 2008 (ccf)	Demand 2009 (ccf)	Demand 2010 (ccf)
Resident	1,073,879	1,071,023	1,069,357	1,075,783	1,079,115	1,079,333	1,080,880	1,079,353	1,076,973	1,078,334
Multi- Residential	771,153	769,193	764,294	767,233	765,274	764,294	764,294	764,294	763,314	764,279
Commercial	255,037	256,418	254,577	257,339	262,863	264,244	268,848	268,848	265,625	265,961
Industrial	0	0	0	0	0	0	0	0	0	0
Government	59,505	67,515	69,804	69,804	69,804	69,804	70,948	72,092	74,381	74,475
Recycled	41,032	38,752	43,311	43,311	43,311	43,311	43,311	43,311	43,311	43,366
Other	3,056	4,075	6,112	5,093	4,075	2,037	5,093	4,075	2,037	2,040
Unaccounted	66,977	66,932	66,819	67,214	67,474	67,485	67,716	67,666	67,463	67,548
Total	2,270,638	2,273,907	2,274,273	2,285,777	2,291,915	2,290,508	2,301,090	2,299,639	2,293,104	2,296,003

Customer Type	Demand 2001 (AF)	Demand 2002 (AF)	Demand 2003 (AF)	Demand 2004 (AF)	Demand 2005 (AF)	Demand 2006 (AF)	Demand 2007 (AF)	Demand 2008 (AF)	Demand 2009 (AF)	Demand 2010 (AF)
Resident	2,465	2,459	2,455	2,470	2,477	2,478	2,481	2,478	2,472	2,476
Multi- Residential	1,770	1,766	1,755	1,761	1,757	1,755	1,755	1,755	1,752	1,755
Commercial	585	589	584	591	603	607	617	617	610	611
Industrial	0	0	0	0	0	0	0	0	0	0
Government	137	155	160	160	160	160	163	166	171	171
Recycled	94	89	99	99	99	99	99	99	99	100
Other	7	9	14	12	9	5	12	9	5	5
Unaccounted	154	154	153	154	155	155	155	155	155	155
Total	5,213	5,220	5,221	5,247	5,262	5,258	5,283	5,279	5,264	5,271

California Water Service Company - Hawthorne District

Worksheet 11

Water Supply and Demand Analysis and Projections

2010's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 5-Year Average Annual Growth and ☐ Low ☒ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2011	Projected Services 2012	Projected Services 2013	Projected Services 2014	Projected Services 2015	Projected Services 2016	Projected Services 2017	Projected Services 2018	Projected Services 2019	Projected Services 2020
Resident	4,569	4,574	4,588	4,610	4,640	4,678	4,716	4,754	4,792	4,830
Multi- Residential	787	788	790	794	799	805	812	819	825	832
Commercial	583	583	585	588	592	596	601	606	611	616
Industrial	2	2	2	3	3	3	3	4	4	4
Government	65	65	65	65	65	66	66	66	66	66
Recycled	19	19	19	19	19	19	19	19	19	19
Other	2	2	2	2	2	2	2	2	2	2
Total	6,026	6,034	6,052	6,081	6,120	6,170	6,220	6,270	6,319	6,369

Customer Type	Demand 2011 (ccf)	Demand 2012 (ccf)	Demand 2013 (ccf)	Demand 2014 (ccf)	Demand 2015 (ccf)	Demand 2016 (ccf)	Demand 2017 (ccf)	Demand 2018 (ccf)	Demand 2019 (ccf)	Demand 2020 (ccf)
Resident	1,087,379	1,088,744	1,092,031	1,097,240	1,104,372	1,113,425	1,122,480	1,131,537	1,140,595	1,149,655
Multi- Residential	770,703	771,671	774,004	777,703	782,768	789,199	795,630	802,063	808,498	814,933
Commercial	268,176	268,513	269,320	270,597	272,344	274,562	276,780	278,999	281,217	283,437
Industrial	0	0	0	0	0	0	0	0	0	0
Government	74,569	74,663	74,758	74,852	74,947	75,042	75,137	75,232	75,327	75,422
Recycled	43,421	43,476	43,531	43,586	43,641	43,696	43,751	43,807	43,862	43,918
Other	2,042	2,045	2,048	2,050	2,053	2,055	2,058	2,061	2,063	2,066
Unaccounted	68,111	68,197	68,402	68,726	69,170	69,733	70,297	70,861	71,424	71,988
Total	2,314,402	2,317,309	2,324,093	2,334,755	2,349,295	2,367,712	2,386,133	2,404,558	2,422,986	2,441,419

Customer Type	Demand 2011 (AF)	Demand 2012 (AF)	Demand 2013 (AF)	Demand 2014 (AF)	Demand 2015 (AF)	Demand 2016 (AF)	Demand 2017 (AF)	Demand 2018 (AF)	Demand 2019 (AF)	Demand 2020 (AF)
Resident	2,496	2,499	2,507	2,519	2,535	2,556	2,577	2,598	2,618	2,639
Multi- Residential	1,769	1,772	1,777	1,785	1,797	1,812	1,827	1,841	1,856	1,871
Commercial	616	616	618	621	625	630	635	640	646	651
Industrial	0	0	0	0	0	0	0	0	0	0
Government	171	171	172	172	172	172	172	173	173	173
Recycled	100	100	100	100	100	100	100	101	101	101
Other	5	5	5	5	5	5	5	5	5	5
Unaccounted	156	157	157	158	159	160	161	163	164	165
Total	5,313	5,320	5,335	5,360	5,393	5,436	5,478	5,520	5,562	5,605

California Water Service Company - Hawthorne District

Worksheet 11

Water Supply and Demand Analysis and Projections

2020's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 5-Year Average Annual Growth and ☐ Low ☒ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2021	Projected Services 2022	Projected Services 2023	Projected Services 2024	Projected Services 2025	Projected Services 2026	Projected Services 2027	Projected Services 2028	Projected Services 2029	Projected Services 2030
Resident	4,868	4,907	4,945	4,983	5,021	5,059	5,097	5,135	5,173	5,211
Multi- Residential	838	845	851	858	865	871	878	884	891	897
Commercial	621	625	630	635	640	645	649	654	659	664
Industrial	5	5	5	6	6	6	7	7	7	8
Government	66	66	66	66	66	66	66	67	67	67
Recycled	19	19	19	19	19	19	19	19	19	20
Other	2	2	2	2	2	2	2	2	2	2
Total	6,419	6,469	6,519	6,569	6,619	6,669	6,719	6,769	6,819	6,869

Customer Type	Demand 2021 (ccf)	Demand 2022 (ccf)	Demand 2023 (ccf)	Demand 2024 (ccf)	Demand 2025 (ccf)	Demand 2026 (ccf)	Demand 2027 (ccf)	Demand 2028 (ccf)	Demand 2029 (ccf)	Demand 2030 (ccf)
Resident	1,158,717	1,167,781	1,176,847	1,185,914	1,194,983	1,204,054	1,213,126	1,222,201	1,231,277	1,240,354
Multi- Residential	821,370	827,808	834,247	840,687	847,129	853,572	860,016	866,462	872,908	879,356
Commercial	285,656	287,877	290,097	292,318	294,540	296,762	298,984	301,207	303,430	305,653
Industrial	0	0	0	0	0	0	0	0	0	0
Government	75,517	75,613	75,708	75,804	75,900	75,996	76,092	76,188	76,284	76,381
Recycled	43,973	44,029	44,084	44,140	44,196	44,252	44,308	44,364	44,420	44,476
Other	2,068	2,071	2,074	2,076	2,079	2,082	2,084	2,087	2,089	2,092
Unaccounted	72,552	73,116	73,680	74,245	74,809	75,374	75,938	76,503	77,068	77,633
Total	2,459,855	2,478,294	2,496,738	2,515,185	2,533,635	2,552,090	2,570,548	2,589,010	2,607,476	2,625,946

Customer Type	Demand 2021 (AF)	Demand 2022 (AF)	Demand 2023 (AF)	Demand 2024 (AF)	Demand 2025 (AF)	Demand 2026 (AF)	Demand 2027 (AF)	Demand 2028 (AF)	Demand 2029 (AF)	Demand 2030 (AF)
Resident	2,660	2,681	2,702	2,723	2,743	2,764	2,785	2,806	2,827	2,847
Multi- Residential	1,886	1,900	1,915	1,930	1,945	1,960	1,974	1,989	2,004	2,019
Commercial	656	661	666	671	676	681	686	691	697	702
Industrial	0	0	0	0	0	0	0	0	0	0
Government	173	174	174	174	174	174	175	175	175	175
Recycled	101	101	101	101	101	102	102	102	102	102
Other	5	5	5	5	5	5	5	5	5	5
Unaccounted	167	168	169	170	172	173	174	176	177	178
Total	5,647	5,689	5,732	5,774	5,816	5,859	5,901	5,944	5,986	6,028

California Water Service Company - Hawthorne District

Worksheet 11

Water Supply and Demand Analysis and Projections

2030's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 5-Year Average Annual Growth and ☐ Low ☒ Average ☐ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2031	Projected Services 2032	Projected Services 2033	Projected Services 2034	Projected Services 2035	Projected Services 2036	Projected Services 2037	Projected Services 2038	Projected Services 2039	Projected Services 2040
Resident	5,250	5,288	5,326	5,364	5,402	5,416	5,430	5,439	5,447	5,453
Multi- Residential	904	911	917	924	930	933	935	937	938	939
Commercial	669	674	678	683	688	690	692	693	694	695
Industrial	8	8	9	9	9	9	9	9	9	9
Government	67	67	67	67	67	67	67	67	68	68
Recycled	20	20	20	20	20	20	20	20	20	20
Other	2	2	2	2	2	2	2	2	2	2
Total	6,919	6,969	7,019	7,069	7,119	7,137	7,156	7,168	7,178	7,185

Customer Type	Demand 2031 (ccf)	Demand 2032 (ccf)	Demand 2033 (ccf)	Demand 2034 (ccf)	Demand 2035 (ccf)	Demand 2036 (ccf)	Demand 2037 (ccf)	Demand 2038 (ccf)	Demand 2039 (ccf)	Demand 2030 (ccf)
Resident	1,249,434	1,258,515	1,267,598	1,276,683	1,285,770	1,289,097	1,292,426	1,294,605	1,296,402	1,297,816
Multi- Residential	885,805	892,256	898,707	905,160	911,614	913,976	916,339	917,885	919,159	920,161
Commercial	307,878	310,102	312,327	314,552	316,778	317,595	318,412	318,948	319,390	319,739
Industrial	0	0	0	0	0	0	0	0	0	0
Government	76,477	76,574	76,671	76,768	76,865	76,962	77,059	77,157	77,254	77,352
Recycled	44,532	44,588	44,645	44,701	44,758	44,814	44,871	44,928	44,985	45,041
Other	2,095	2,097	2,100	2,103	2,105	2,108	2,111	2,113	2,116	2,119
Unaccounted	78,198	78,763	79,328	79,894	80,459	80,667	80,874	81,010	81,123	81,211
Total	2,644,419	2,662,896	2,681,377	2,699,861	2,718,350	2,725,220	2,732,093	2,736,647	2,740,429	2,743,440

Customer Type	Demand 2031 (AF)	Demand 2032 (AF)	Demand 2033 (AF)	Demand 2034 (AF)	Demand 2035 (AF)	Demand 2036 (AF)	Demand 2037 (AF)	Demand 2038 (AF)	Demand 2039 (AF)	Demand 2030 (AF)
Resident	2,868	2,889	2,910	2,931	2,952	2,959	2,967	2,972	2,976	2,979
Multi- Residential	2,034	2,048	2,063	2,078	2,093	2,098	2,104	2,107	2,110	2,112
Commercial	707	712	717	722	727	729	731	732	733	734
Industrial	0	0	0	0	0	0	0	0	0	0
Government	176	176	176	176	176	177	177	177	177	178
Recycled	102	102	102	103	103	103	103	103	103	103
Other	5	5	5	5	5	5	5	5	5	5
Unaccounted	180	181	182	183	185	185	186	186	186	186
Total	6,071	6,113	6,156	6,198	6,241	6,256	6,272	6,283	6,291	6,298

California Water Service Company - Hawthorne District

Worksheet 12

Water Supply and Demand Analysis and Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth with proposed development added between 2010 to 2020 and ☐ Low ☐ Average ☒ High Demand per Service for each Customer Class.

Summary of Historical Growth Rate from Worksheet 2			
Customer Type	14-Year Average Historical Growth Rate	Individual Growth Rate Selected	Notes
Single Family Residential	-0.119%	0.126%	Overall growth rate used
Multi Family Residential	0.098%	0.126%	Overall growth rate used
Commercial	1.525%	0.126%	Overall growth rate used
Industrial	0.000%	0.126%	Overall growth rate used
Government	32.315%	0.126%	Overall growth rate used
Recycled	1.216%	0.126%	Overall growth rate used
Other	18.571%	0.126%	Overall growth rate used
Overall	0.126%	0.616%	

Summary of Highest Demand per Service from Worksheets 5 and 6										
Demand/Serv. Units	Residential	Multi-Residential (service)	Multi-Residential (unit)	Commercial	Industrial	Government	Recycled	Total Other	Unaccounted Total Serv.	Combined Demand/Serv.
Gal/Service/Yr	212,380	712,547	74,610	342,962	0	2,477,684	2,351,171	1,093,951	10,228	281,588
AF/Service/Yr	0.652	2.187	0.229	1.053	0.000	7.604	7.215	3.357	0.031	0.864
Gal/Service/Day	582	1,952	204	940	0	6,788	6,442	2,997	28	771

California Water Service Company - Hawthorne District

Worksheet 12

Water Supply and Demand Analysis and Projections

30-year projection Summary

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☐ Low ☐ Average ☒ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2010	Projected Services 2015	Projected Services 2020	Projected Services 2025	Projected Services 2030	Projected Services 2035	Projected Services 2040	Services projected to be added from 2010 - 2040
Single Family Residential	4,531	4,640	4,830	5,021	5,211	5,402	5,453	922
Multi Family Residential	780	799	832	865	897	930	939	159
Commercial	578	592	616	640	664	688	695	117
Industrial	2	3	4	6	8	9	9	7
Government	65	65	66	66	67	67	68	3
Recycled	19	19	19	19	20	20	20	1
Other	2	2	2	2	2	2	2	0
Total	5,977	6,120	6,369	6,619	6,869	7,119	7,185	1,209

Customer Type	Projected Demand 2010 (ccf)	Projected Demand 2015 (ccf)	Projected Demand 2020 (ccf)	Projected Demand 2025 (ccf)	Projected Demand 2030 (ccf)	Projected Demand 2035 (ccf)	Projected Demand 2040 (ccf)	Projected demand to be added from 2010 - 2040 (ccf)
Single Family Residential	1,286,315	1,317,374	1,371,392	1,425,462	1,479,584	1,533,759	1,548,128	261,813
Multi Family Residential	742,961	760,934	792,202	823,500	854,828	886,187	894,495	151,534
Commercial	264,873	271,230	282,277	293,335	304,403	315,482	318,431	53,558
Industrial	0	0	0	0	0	0	0	0
Government	215,563	216,929	218,304	219,688	221,080	222,481	223,891	8,328
Recycled	59,793	60,172	60,554	60,937	61,324	61,712	62,103	2,310
Other	2,928	2,947	2,966	2,985	3,003	3,022	3,042	113
Unaccounted	81,713	83,675	87,084	90,496	93,912	97,331	98,241	16,528
Total	2,654,146	2,713,261	2,814,778	2,916,402	3,018,134	3,119,974	3,148,331	494,185

Customer Type	Projected Demand 2010 (AF)	Projected Demand 2015 (AF)	Projected Demand 2020 (AF)	Projected Demand 2025 (AF)	Projected Demand 2030 (AF)	Projected Demand 2035 (AF)	Projected Demand 2040 (AF)	Projected demand to be added from 2010 - 2040 (AF)
Single Family Residential	2,953	3,024	3,148	3,272	3,397	3,521	3,554	601
Multi Family Residential	1,706	1,747	1,819	1,891	1,962	2,034	2,053	348
Commercial	608	623	648	673	699	724	731	123
Industrial	0	0	0	0	0	0	0	0
Government	495	498	501	504	508	511	514	19
Recycled	137	138	139	140	141	142	143	5
Other	7	7	7	7	7	7	7	0
Unaccounted	188	192	200	208	216	223	226	38
Total	6,093	6,229	6,462	6,695	6,929	7,163	7,228	1,135

California Water Service Company - Hawthorne District

Worksheet 12

Water Supply and Demand Analysis and Projections

2000's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☐ Low ☐ Average ☒ High Demand per Service for each Customer Class.

Customer Type	Actual Services 2001	Actual Services 2002	Actual Services 2003	Actual Services 2004	Actual Services 2005	Actual Services 2006	Actual Services 2007	Actual Services 2008	Actual Services 2009	Projected Services 2010
Resident	4,512	4,500	4,493	4,520	4,534	4,535	4,541	4,535	4,525	4,531
Multi- Residential	787	785	780	783	781	780	780	780	779	780
Commercial	554	557	553	559	571	574	584	584	577	578
Industrial	0	0	0	0	0	0	0	2	2	2
Government	52	59	61	61	61	61	62	63	65	65
Recycled	18	17	19	19	19	19	19	19	19	19
Other	3	4	6	5	4	2	5	4	2	2
Total	5,926	5,922	5,912	5,947	5,970	5,971	5,991	5,987	5,969	5,977

Customer Type	Demand 2001 (ccf)	Demand 2002 (ccf)	Demand 2003 (ccf)	Demand 2004 (ccf)	Demand 2005 (ccf)	Demand 2006 (ccf)	Demand 2007 (ccf)	Demand 2008 (ccf)	Demand 2009 (ccf)	Demand 2010 (ccf)
Resident	1,281,000	1,277,593	1,275,605	1,283,271	1,287,246	1,287,506	1,289,351	1,287,530	1,284,691	1,286,315
Multi- Residential	749,643	747,738	742,975	745,833	743,928	742,975	742,975	742,975	742,023	742,961
Commercial	253,994	255,369	253,535	256,286	261,788	263,163	267,748	267,748	264,538	264,873
Industrial	0	0	0	0	0	0	0	0	0	0
Government	172,233	195,418	202,042	202,042	202,042	202,042	205,354	208,667	215,291	215,563
Recycled	56,575	53,432	59,718	59,718	59,718	59,718	59,718	59,718	59,718	59,793
Other	4,387	5,850	8,774	7,312	5,850	2,925	7,312	5,850	2,925	2,928
Unaccounted	81,022	80,967	80,830	81,309	81,623	81,636	81,916	81,856	81,610	81,713
Total	2,598,853	2,616,366	2,623,481	2,635,771	2,642,194	2,639,965	2,654,375	2,654,342	2,650,795	2,654,146

Customer Type	Demand 2001 (AF)	Demand 2002 (AF)	Demand 2003 (AF)	Demand 2004 (AF)	Demand 2005 (AF)	Demand 2006 (AF)	Demand 2007 (AF)	Demand 2008 (AF)	Demand 2009 (AF)	Demand 2010 (AF)
Resident	2,941	2,933	2,928	2,946	2,955	2,956	2,960	2,956	2,949	2,953
Multi- Residential	1,721	1,717	1,706	1,712	1,708	1,706	1,706	1,706	1,703	1,706
Commercial	583	586	582	588	601	604	615	615	607	608
Industrial	0	0	0	0	0	0	0	0	0	0
Government	395	449	464	464	464	464	471	479	494	495
Recycled	130	123	137	137	137	137	137	137	137	137
Other	10	13	20	17	13	7	17	13	7	7
Unaccounted	186	186	186	187	187	187	188	188	187	188
Total	5,966	6,006	6,023	6,051	6,066	6,061	6,094	6,094	6,085	6,093

California Water Service Company - Hawthorne District

Worksheet 12

Water Supply and Demand Analysis and Projections

2010's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☐ Low ☐ Average ☒ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2011	Projected Services 2012	Projected Services 2013	Projected Services 2014	Projected Services 2015	Projected Services 2016	Projected Services 2017	Projected Services 2018	Projected Services 2019	Projected Services 2020
Resident	4,569	4,574	4,588	4,610	4,640	4,678	4,716	4,754	4,792	4,830
Multi- Residential	787	788	790	794	799	805	812	819	825	832
Commercial	583	583	585	588	592	596	601	606	611	616
Industrial	2	2	2	3	3	3	3	4	4	4
Government	65	65	65	65	65	66	66	66	66	66
Recycled	19	19	19	19	19	19	19	19	19	19
Other	2	2	2	2	2	2	2	2	2	2
Total	6,026	6,034	6,052	6,081	6,120	6,170	6,220	6,270	6,319	6,369

Customer Type	Demand 2011 (ccf)	Demand 2012 (ccf)	Demand 2013 (ccf)	Demand 2014 (ccf)	Demand 2015 (ccf)	Demand 2016 (ccf)	Demand 2017 (ccf)	Demand 2018 (ccf)	Demand 2019 (ccf)	Demand 2020 (ccf)
Resident	1,297,104	1,298,732	1,302,653	1,308,867	1,317,374	1,328,173	1,338,975	1,349,778	1,360,584	1,371,392
Multi- Residential	749,206	750,147	752,415	756,011	760,934	767,185	773,438	779,691	785,946	792,202
Commercial	267,079	267,415	268,218	269,490	271,230	273,439	275,648	277,857	280,067	282,277
Industrial	0	0	0	0	0	0	0	0	0	0
Government	215,836	216,109	216,382	216,655	216,929	217,204	217,478	217,753	218,028	218,304
Recycled	59,869	59,945	60,020	60,096	60,172	60,248	60,325	60,401	60,477	60,554
Other	2,932	2,936	2,940	2,943	2,947	2,951	2,955	2,958	2,962	2,966
Unaccounted	82,394	82,497	82,745	83,138	83,675	84,356	85,038	85,720	86,402	87,084
Total	2,674,420	2,677,780	2,685,373	2,697,200	2,713,261	2,733,556	2,753,855	2,774,159	2,794,466	2,814,778

Customer Type	Demand 2011 (AF)	Demand 2012 (AF)	Demand 2013 (AF)	Demand 2014 (AF)	Demand 2015 (AF)	Demand 2016 (AF)	Demand 2017 (AF)	Demand 2018 (AF)	Demand 2019 (AF)	Demand 2020 (AF)
Resident	2,978	2,981	2,991	3,005	3,024	3,049	3,074	3,099	3,123	3,148
Multi- Residential	1,720	1,722	1,727	1,736	1,747	1,761	1,776	1,790	1,804	1,819
Commercial	613	614	616	619	623	628	633	638	643	648
Industrial	0	0	0	0	0	0	0	0	0	0
Government	495	496	497	497	498	499	499	500	501	501
Recycled	137	138	138	138	138	138	138	139	139	139
Other	7	7	7	7	7	7	7	7	7	7
Unaccounted	189	189	190	191	192	194	195	197	198	200
Total	6,140	6,147	6,165	6,192	6,229	6,275	6,322	6,369	6,415	6,462

California Water Service Company - Hawthorne District

Worksheet 12

Water Supply and Demand Analysis and Projections

2020's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☐ Low ☐ Average ☒ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2021	Projected Services 2022	Projected Services 2023	Projected Services 2024	Projected Services 2025	Projected Services 2026	Projected Services 2027	Projected Services 2028	Projected Services 2029	Projected Services 2030
Resident	4,868	4,907	4,945	4,983	5,021	5,059	5,097	5,135	5,173	5,211
Multi- Residential	838	845	851	858	865	871	878	884	891	897
Commercial	621	625	630	635	640	645	649	654	659	664
Industrial	5	5	5	6	6	6	7	7	7	8
Government	66	66	66	66	66	66	66	67	67	67
Recycled	19	19	19	19	19	19	19	19	19	20
Other	2	2	2	2	2	2	2	2	2	2
Total	6,419	6,469	6,519	6,569	6,619	6,669	6,719	6,769	6,819	6,869

Customer Type	Demand 2021 (ccf)	Demand 2022 (ccf)	Demand 2023 (ccf)	Demand 2024 (ccf)	Demand 2025 (ccf)	Demand 2026 (ccf)	Demand 2027 (ccf)	Demand 2028 (ccf)	Demand 2029 (ccf)	Demand 2030 (ccf)
Resident	1,382,202	1,393,013	1,403,827	1,414,644	1,425,462	1,436,282	1,447,104	1,457,929	1,468,755	1,479,584
Multi- Residential	798,459	804,718	810,977	817,238	823,500	829,763	836,028	842,293	848,560	854,828
Commercial	284,488	286,699	288,910	291,122	293,335	295,547	297,761	299,974	302,188	304,403
Industrial	0	0	0	0	0	0	0	0	0	0
Government	218,580	218,856	219,133	219,410	219,688	219,965	220,243	220,522	220,801	221,080
Recycled	60,630	60,707	60,784	60,860	60,937	61,014	61,092	61,169	61,246	61,324
Other	2,969	2,973	2,977	2,981	2,985	2,988	2,992	2,996	3,000	3,003
Unaccounted	87,766	88,448	89,131	89,813	90,496	91,179	91,862	92,545	93,229	93,912
Total	2,835,094	2,855,415	2,875,739	2,896,069	2,916,402	2,936,740	2,957,082	2,977,428	2,997,779	3,018,134

Customer Type	Demand 2021 (AF)	Demand 2022 (AF)	Demand 2023 (AF)	Demand 2024 (AF)	Demand 2025 (AF)	Demand 2026 (AF)	Demand 2027 (AF)	Demand 2028 (AF)	Demand 2029 (AF)	Demand 2030 (AF)
Resident	3,173	3,198	3,223	3,248	3,272	3,297	3,322	3,347	3,372	3,397
Multi- Residential	1,833	1,847	1,862	1,876	1,891	1,905	1,919	1,934	1,948	1,962
Commercial	653	658	663	668	673	678	684	689	694	699
Industrial	0	0	0	0	0	0	0	0	0	0
Government	502	502	503	504	504	505	506	506	507	508
Recycled	139	139	140	140	140	140	140	140	141	141
Other	7	7	7	7	7	7	7	7	7	7
Unaccounted	201	203	205	206	208	209	211	212	214	216
Total	6,509	6,555	6,602	6,649	6,695	6,742	6,789	6,835	6,882	6,929

California Water Service Company - Hawthorne District

Worksheet 12

Water Supply and Demand Analysis and Projections

2030's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and ☐ Low ☐ Average ☒ High Demand per Service for each Customer Class.

Customer Type	Projected Services 2031	Projected Services 2032	Projected Services 2033	Projected Services 2034	Projected Services 2035	Projected Services 2036	Projected Services 2037	Projected Services 2038	Projected Services 2039	Projected Services 2040
Resident	5,250	5,288	5,326	5,364	5,402	5,416	5,430	5,439	5,447	5,453
Multi- Residential	904	911	917	924	930	933	935	937	938	939
Commercial	669	674	678	683	688	690	692	693	694	695
Industrial	8	8	9	9	9	9	9	9	9	9
Government	67	67	67	67	67	67	67	67	68	68
Recycled	20	20	20	20	20	20	20	20	20	20
Other	2	2	2	2	2	2	2	2	2	2
Total	6,919	6,969	7,019	7,069	7,119	7,137	7,156	7,168	7,178	7,185

Customer Type	Demand 2031 (ccf)	Demand 2032 (ccf)	Demand 2033 (ccf)	Demand 2034 (ccf)	Demand 2035 (ccf)	Demand 2036 (ccf)	Demand 2037 (ccf)	Demand 2038 (ccf)	Demand 2039 (ccf)	Demand 2030 (ccf)
Resident	1,490,415	1,501,248	1,512,083	1,522,920	1,533,759	1,537,728	1,541,699	1,544,298	1,546,441	1,548,128
Multi- Residential	861,097	867,368	873,640	879,913	886,187	888,483	890,780	892,282	893,521	894,495
Commercial	306,618	308,833	311,049	313,265	315,482	316,296	317,110	317,643	318,084	318,431
Industrial	0	0	0	0	0	0	0	0	0	0
Government	221,359	221,639	221,919	222,200	222,481	222,762	223,044	223,326	223,608	223,891
Recycled	61,401	61,479	61,556	61,634	61,712	61,790	61,868	61,947	62,025	62,103
Other	3,007	3,011	3,015	3,019	3,022	3,026	3,030	3,034	3,038	3,042
Unaccounted	94,595	95,279	95,963	96,647	97,331	97,582	97,833	97,998	98,134	98,241
Total	3,038,493	3,058,857	3,079,225	3,099,597	3,119,974	3,127,667	3,135,364	3,140,528	3,144,850	3,148,331

Customer Type	Demand 2031 (AF)	Demand 2032 (AF)	Demand 2033 (AF)	Demand 2034 (AF)	Demand 2035 (AF)	Demand 2036 (AF)	Demand 2037 (AF)	Demand 2038 (AF)	Demand 2039 (AF)	Demand 2030 (AF)
Resident	3,422	3,446	3,471	3,496	3,521	3,530	3,539	3,545	3,550	3,554
Multi- Residential	1,977	1,991	2,006	2,020	2,034	2,040	2,045	2,048	2,051	2,053
Commercial	704	709	714	719	724	726	728	729	730	731
Industrial	0	0	0	0	0	0	0	0	0	0
Government	508	509	509	510	511	511	512	513	513	514
Recycled	141	141	141	141	142	142	142	142	142	143
Other	7	7	7	7	7	7	7	7	7	7
Unaccounted	217	219	220	222	223	224	225	225	225	226
Total	6,975	7,022	7,069	7,116	7,163	7,180	7,198	7,210	7,220	7,228

California Water Service Company - Hawthorne District

Worksheet 13

Water Supply and Demand Analysis and Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth

Summary of Historical Growth Rate from Worksheet 2			
Customer Type	14-Year Average Historical Growth Rate	Individual Growth Rate Selected	Notes
Single Family Residential	-0.119%	0.126%	Overall growth rate used
Multi Family Residential	0.098%	0.126%	Overall growth rate used
Commercial	1.525%	0.126%	Overall growth rate used
Industrial	0.000%	0.126%	Overall growth rate used
Government	32.315%	0.126%	Overall growth rate used
Recycled	1.216%	0.126%	Overall growth rate used
Other	18.571%	0.126%	Overall growth rate used
Overall	0.126%	0.126%	

California Water Service Company - Hawthorne District

Worksheet 13

Water Supply and Demand Analysis and Projections

30-year projection Summary

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth

Customer Type	Projected Services 2010	Projected Services 2015	Projected Services 2020	Projected Services 2025	Projected Services 2030	Projected Services 2035	Projected Services 2040	Services projected to be added from 2010 - 2040
Single Family Residential	4,531	4,559	4,588	4,617	4,647	4,676	4,706	175
Multi Family Residential	780	785	790	795	800	805	810	30
Commercial	578	581	585	589	593	596	600	22
Industrial	2	2	2	2	2	2	2	0
Government	65	65	66	66	67	67	68	3
Recycled	19	19	19	19	20	20	20	1
Other	2	2	2	2	2	2	2	0
Total	5,977	6,014	6,053	6,091	6,129	6,168	6,207	231

California Water Service Company - Hawthorne District

Worksheet 13

Water Supply and Demand Analysis and Projections

2000's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth

Customer Type	Actual Services 2001	Actual Services 2002	Actual Services 2003	Actual Services 2004	Actual Services 2005	Actual Services 2006	Actual Services 2007	Actual Services 2008	Actual Services 2009	Projected Services 2010
Resident	4,512	4,500	4,493	4,520	4,534	4,535	4,541	4,535	4,525	4,531
Multi- Residential	787	785	780	783	781	780	780	780	779	780
Commercial	554	557	553	559	571	574	584	584	577	578
Industrial	0	0	0	0	0	0	0	2	2	2
Government	52	59	61	61	61	61	62	63	65	65
Recycled	18	17	19	19	19	19	19	19	19	19
Other	3	4	6	5	4	2	5	4	2	2
Total	5,926	5,922	5,912	5,947	5,970	5,971	5,991	5,987	5,969	5,977

2010's Projections

Customer Type	Projected Services 2011	Projected Services 2012	Projected Services 2013	Projected Services 2014	Projected Services 2015	Projected Services 2016	Projected Services 2017	Projected Services 2018	Projected Services 2019	Projected Services 2020
Resident	4,536	4,542	4,548	4,554	4,559	4,565	4,571	4,577	4,583	4,588
Multi- Residential	781	782	783	784	785	786	787	788	789	790
Commercial	578	579	580	581	581	582	583	584	584	585
Industrial	2	2	2	2	2	2	2	2	2	2
Government	65	65	65	65	65	66	66	66	66	66
Recycled	19	19	19	19	19	19	19	19	19	19
Other	2	2	2	2	2	2	2	2	2	2
Total	5,984	5,992	5,999	6,007	6,014	6,022	6,030	6,037	6,045	6,053

California Water Service Company - Hawthorne District

Worksheet 13

Water Supply and Demand Analysis and Projections

2020's Projections

Scenario #1: Based on Maintaining Growth at the ☐ 10-Year ☒ 14-Year Average Annual Growth and

Customer Type	Projected Services 2021	Projected Services 2022	Projected Services 2023	Projected Services 2024	Projected Services 2025	Projected Services 2026	Projected Services 2027	Projected Services 2028	Projected Services 2029	Projected Services 2030
Resident	4,594	4,600	4,606	4,612	4,617	4,623	4,629	4,635	4,641	4,647
Multi- Residential	791	792	793	794	795	796	797	798	799	800
Commercial	586	587	587	588	589	590	590	591	592	593
Industrial	2	2	2	2	2	2	2	2	2	2
Government	66	66	66	66	66	66	66	67	67	67
Recycled	19	19	19	19	19	19	19	19	19	20
Other	2	2	2	2	2	2	2	2	2	2
Total	6,060	6,068	6,076	6,083	6,091	6,099	6,106	6,114	6,122	6,129

2030's Projections

Customer Type	Projected Services 2031	Projected Services 2032	Projected Services 2033	Projected Services 2034	Projected Services 2035	Projected Services 2036	Projected Services 2037	Projected Services 2038	Projected Services 2039	Projected Services 2040
Resident	4,653	4,658	4,664	4,670	4,676	4,682	4,688	4,694	4,700	4,706
Multi- Residential	801	802	803	804	805	806	807	808	809	810
Commercial	593	594	595	596	596	597	598	599	599	600
Industrial	2	2	2	2	2	2	2	2	2	2
Government	67	67	67	67	67	67	67	67	68	68
Recycled	20	20	20	20	20	20	20	20	20	20
Other	2	2	2	2	2	2	2	2	2	2
Total	6,137	6,145	6,153	6,161	6,168	6,176	6,184	6,192	6,200	6,207

California Water Service Company - Hawthorne District

Worksheet 13a

Water Supply and Demand Analysis and Projections

Scenario #1: Based on Maintaining Growth at the ☒ 10-Year ☐ 14-Year Average Annual Growth

Summary of Historical Growth Rate from Worksheet 2			
Customer Type	10-Year Average Historical Growth Rate	Individual Growth Rate Selected	Notes
Single Family Residential	-0.275%	0.045%	Overall growth rate used
Multi Family Residential	-0.026%	0.045%	Overall growth rate used
Commercial	1.887%	0.045%	Overall growth rate used
Industrial	0.000%	0.045%	Overall growth rate used
Government	40.062%	0.045%	Overall growth rate used
Recycled	1.673%	0.045%	Overall growth rate used
Other	27.666%	0.045%	Overall growth rate used
Overall	0.045%	0.045%	

California Water Service Company - Hawthorne District

Worksheet 13a

Water Supply and Demand Analysis and Projections

30-year projection Summary

Scenario #1: Based on Maintaining Growth at the ☒ 10-Year ☐ 14-Year Average Annual Growth

Customer Type	Projected Services 2010	Projected Services 2015	Projected Services 2020	Projected Services 2025	Projected Services 2030	Projected Services 2035	Projected Services 2040	Services projected to be added from 2010 - 2040
Single Family Residential	4,527	4,537	4,547	4,558	4,568	4,578	4,589	62
Multi Family Residential	779	781	783	785	786	788	790	11
Commercial	577	579	580	581	582	584	585	8
Industrial	2	2	2	2	2	2	2	0
Government	65	65	65	65	66	66	66	1
Recycled	19	19	19	19	19	19	19	0
Other	2	2	2	2	2	2	2	0
Total	5,972	5,985	5,999	6,012	6,026	6,039	6,053	81

California Water Service Company - Hawthorne District

Worksheet 13a

Water Supply and Demand Analysis and Projections

2000's Projections

Scenario #1: Based on Maintaining Growth at the ☒ 10-Year ☐ 14-Year Average Annual Growth

Customer Type	Actual Services 2001	Actual Services 2002	Actual Services 2003	Actual Services 2004	Actual Services 2005	Actual Services 2006	Actual Services 2007	Actual Services 2008	Actual Services 2009	Projected Services 2010
Resident	4,512	4,500	4,493	4,520	4,534	4,535	4,541	4,535	4,525	4,527
Multi- Residential	787	785	780	783	781	780	780	780	779	779
Commercial	554	557	553	559	571	574	584	584	577	577
Industrial	0	0	0	0	0	0	0	2	2	2
Government	52	59	61	61	61	61	62	63	65	65
Recycled	18	17	19	19	19	19	19	19	19	19
Other	3	4	6	5	4	2	5	4	2	2
Total	5,926	5,922	5,912	5,947	5,970	5,971	5,991	5,987	5,969	5,972

2010's Projections

Customer Type	Projected Services 2011	Projected Services 2012	Projected Services 2013	Projected Services 2014	Projected Services 2015	Projected Services 2016	Projected Services 2017	Projected Services 2018	Projected Services 2019	Projected Services 2020
Resident	4,529	4,531	4,533	4,535	4,537	4,539	4,541	4,543	4,545	4,547
Multi- Residential	780	780	780	781	781	781	782	782	783	783
Commercial	578	578	578	578	579	579	579	579	580	580
Industrial	2	2	2	2	2	2	2	2	2	2
Government	65	65	65	65	65	65	65	65	65	65
Recycled	19	19	19	19	19	19	19	19	19	19
Other	2	2	2	2	2	2	2	2	2	2
Total	5,974	5,977	5,980	5,982	5,985	5,988	5,991	5,993	5,996	5,999

California Water Service Company - Hawthorne District

Worksheet 13a

Water Supply and Demand Analysis and Projections

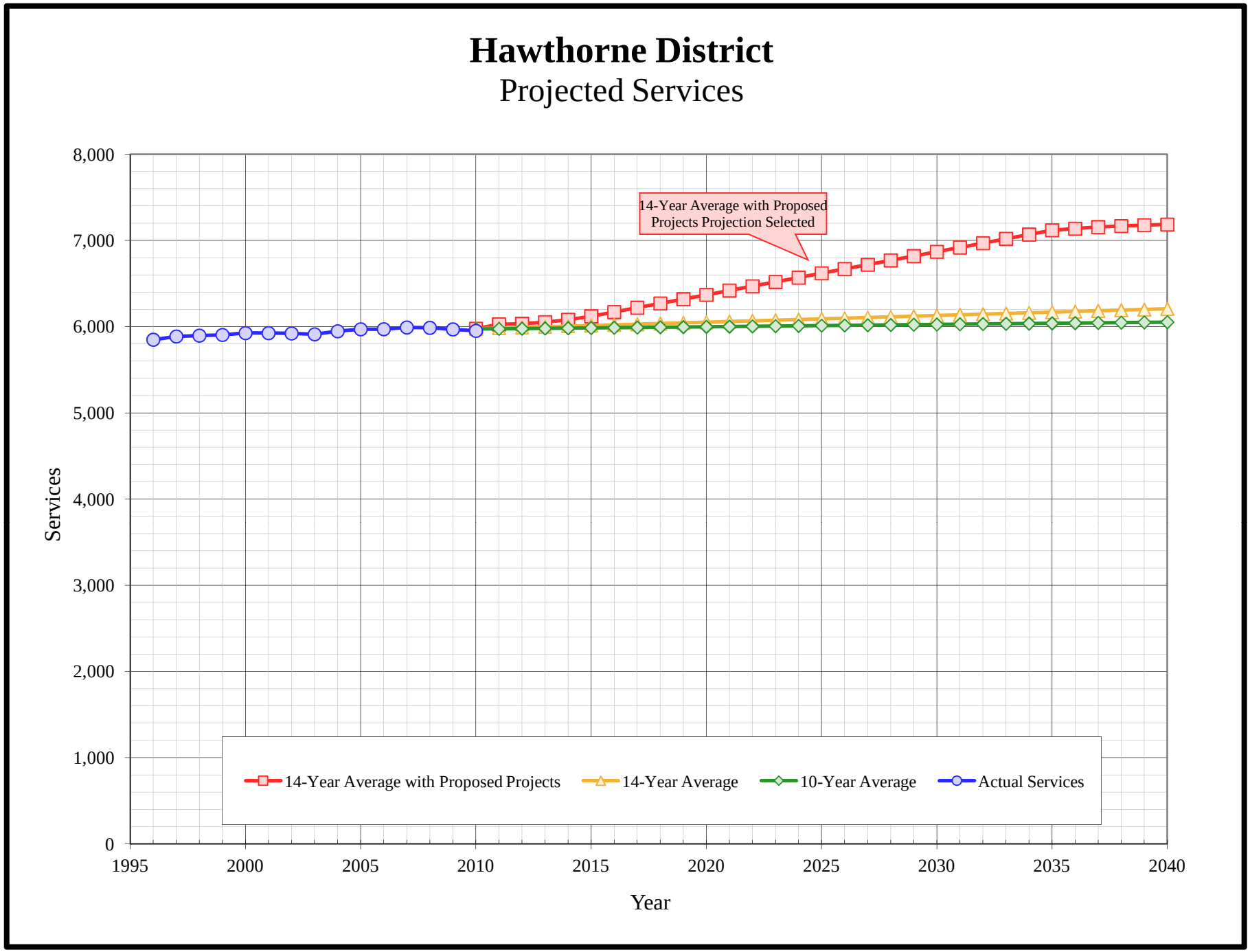
2020's Projections

Scenario #1: Based on Maintaining Growth at the ☒ 10-Year ☐ 14-Year Average Annual Growth and

Customer Type	Projected Services 2021	Projected Services 2022	Projected Services 2023	Projected Services 2024	Projected Services 2025	Projected Services 2026	Projected Services 2027	Projected Services 2028	Projected Services 2029	Projected Services 2030
Resident	4,549	4,552	4,554	4,556	4,558	4,560	4,562	4,564	4,566	4,568
Multi- Residential	783	784	784	784	785	785	785	786	786	786
Commercial	580	580	581	581	581	581	582	582	582	582
Industrial	2	2	2	2	2	2	2	2	2	2
Government	65	65	65	65	65	65	66	66	66	66
Recycled	19	19	19	19	19	19	19	19	19	19
Other	2	2	2	2	2	2	2	2	2	2
Total	6,001	6,004	6,007	6,009	6,012	6,015	6,018	6,020	6,023	6,026

2030's Projections

Customer Type	Projected Services 2031	Projected Services 2032	Projected Services 2033	Projected Services 2034	Projected Services 2035	Projected Services 2036	Projected Services 2037	Projected Services 2038	Projected Services 2039	Projected Services 2040
Resident	4,570	4,572	4,574	4,576	4,578	4,580	4,582	4,584	4,586	4,589
Multi- Residential	787	787	787	788	788	789	789	789	790	790
Commercial	583	583	583	584	584	584	584	585	585	585
Industrial	2	2	2	2	2	2	2	2	2	2
Government	66	66	66	66	66	66	66	66	66	66
Recycled	19	19	19	19	19	19	19	19	19	19
Other	2	2	2	2	2	2	2	2	2	2
Total	6,028	6,031	6,034	6,037	6,039	6,042	6,045	6,047	6,050	6,053


Hawthorne District
Projected Services
14-Year Average with Proposed Projects Projection Selected
Services
Year
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1995
2000
2005
2010
2015
2020
2025
2030
2035
2040
14-Year Average with Proposed Projects
14-Year Average
10-Year Average
Actual Services

California Water Service Company - Hawthorne District

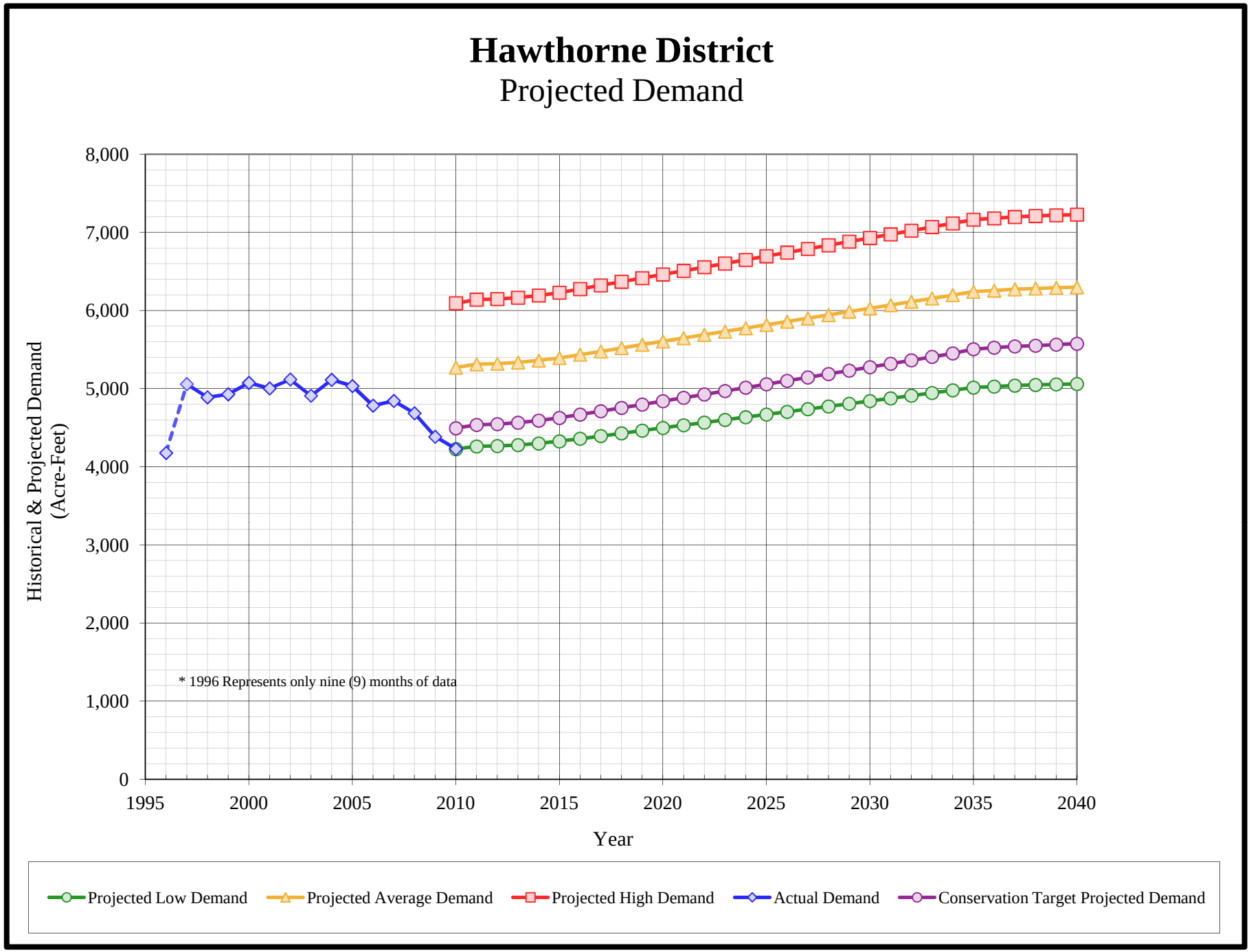
Worksheet 14

Water Supply and Demand Analysis and Projections

Projected Annual Average Services

Year	Actual Services	Projected Services		
		14-Year Average with Proposed Projects	10-Year Average	14-Year Average
1996	5,849			
1997	5,887			
1998	5,897			
1999	5,905			
2000	5,926			
2001	5,926			
2002	5,922			
2003	5,912			
2004	5,947			
2005	5,970			
2006	5,971			
2007	5,991			
2008	5,987			
2009	5,969			
2010	5,952	5,977	5,972	5,977
2011		6,026	5,974	5,984
2012		6,034	5,977	5,992
2013		6,052	5,980	5,999
2014		6,081	5,982	6,007
2015		6,120	5,985	6,014
2016		6,170	5,988	6,022
2017		6,220	5,991	6,030
2018		6,270	5,993	6,037
2019		6,319	5,996	6,045
2020		6,369	5,999	6,053

Year	Actual Services	Projected Services		
		14-Year Average with Proposed Projects	10-Year Average	14-Year Average
2021		6,419	6,001	6,060
2022		6,469	6,004	6,068
2023		6,519	6,007	6,076
2024		6,569	6,009	6,083
2025		6,619	6,012	6,091
2026		6,669	6,015	6,099
2027		6,719	6,018	6,106
2028		6,769	6,020	6,114
2029		6,819	6,023	6,122
2030		6,869	6,026	6,129
2031		6,919	6,028	6,137
2032		6,969	6,031	6,145
2033		7,019	6,034	6,153
2034		7,069	6,037	6,161
2035		7,119	6,039	6,168
2036		7,137	6,042	6,176
2037		7,156	6,045	6,184
2038		7,168	6,047	6,192
2039		7,178	6,050	6,200
2040		7,185	6,053	6,207


Hawthorne District
Projected Demand
Historical & Projected Demand (Acre-Feet)
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1995
2000
2005
2010
2015
2020
2025
2030
2035
2040
Year
* 1996 Represents only nine (9) months of data
Projected Low Demand
Projected Average Demand
Projected High Demand
Actual Demand
Conservation Target Projected Demand

California Water Service Company - Hawthorne District

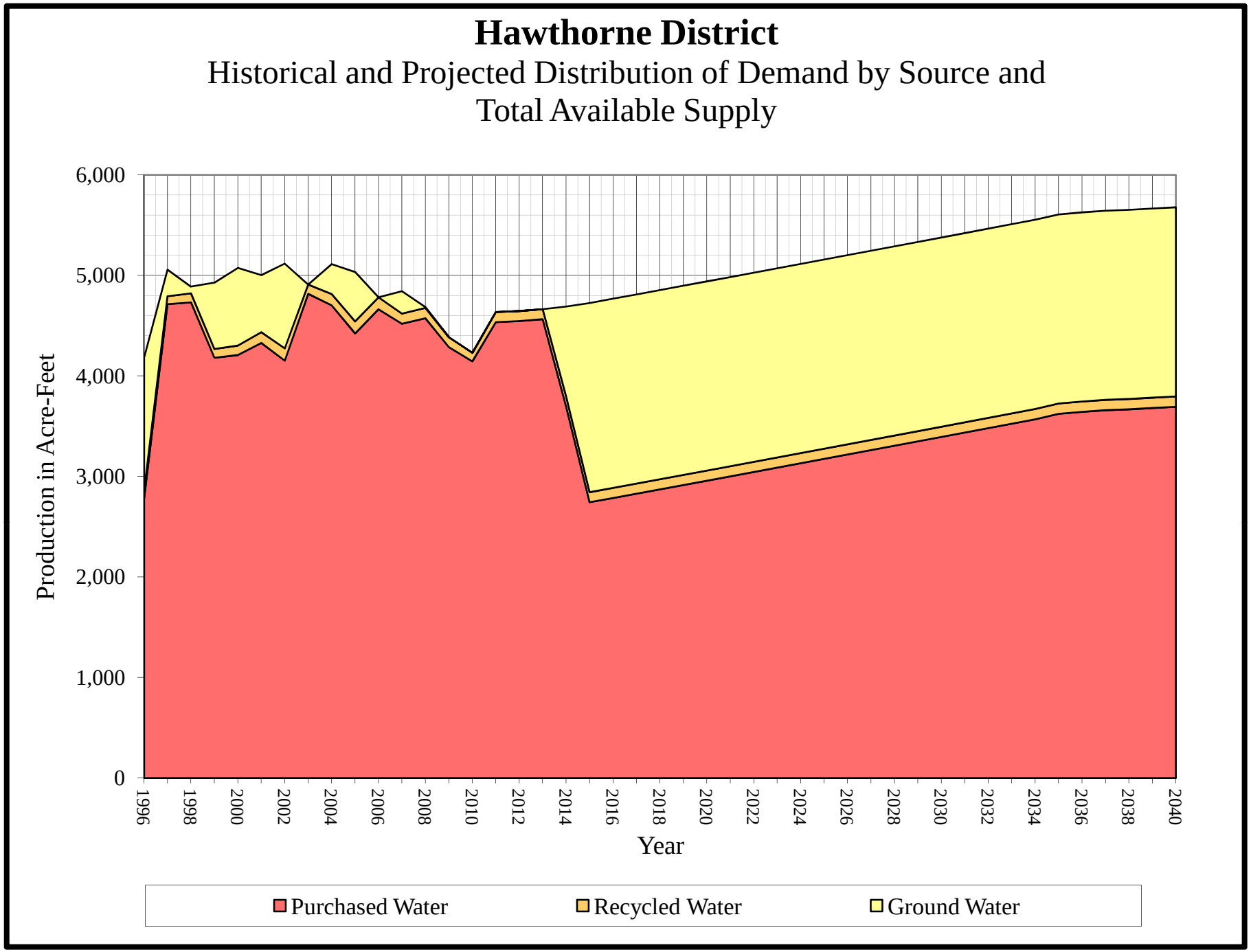
Worksheet 15

Water Supply and Demand Analysis and Projections

Projected Demand in Acre-Feet

Year	Actual Demand	Projected Low Demand	Projected Average Demand	Projected High Demand	Projected Demand With Conservation
1996	4,177				
1997	5,056				
1998	4,889				
1999	4,929				
2000	5,074				
2001	5,003				
2002	5,118				
2003	4,909				
2004	5,113				
2005	5,034				
2006	4,783				
2007	4,843				
2008	4,685				
2009	4,384				
2010	4,230	4,226	5,271	6,093	4,494
2011		4,261	5,313	6,140	4,536
2012		4,266	5,320	6,147	4,546
2013		4,279	5,335	6,165	4,565
2014		4,298	5,360	6,192	4,591
2015		4,325	5,393	6,229	4,626
2016		4,360	5,436	6,275	4,668
2017		4,394	5,478	6,322	4,711
2018		4,429	5,520	6,369	4,754
2019		4,463	5,562	6,415	4,797
2020		4,497	5,605	6,462	4,840

Year	Actual Demand	Projected Low Demand	Projected Average Demand	Projected High Demand	Projected Demand With Conservation
2016		4,360	5,436	6,275	4,668
2017		4,394	5,478	6,322	4,711
2018		4,429	5,520	6,369	4,754
2019		4,463	5,562	6,415	4,797
2020		4,497	5,605	6,462	4,840
2021		4,532	5,647	6,509	4,883
2022		4,566	5,689	6,555	4,926
2023		4,600	5,732	6,602	4,970
2024		4,635	5,774	6,649	5,013
2025		4,669	5,816	6,695	5,057
2026		4,704	5,859	6,742	5,100
2027		4,738	5,901	6,789	5,144
2028		4,773	5,944	6,835	5,188
2029		4,807	5,986	6,882	5,231
2030		4,841	6,028	6,929	5,275
2031		4,876	6,071	6,975	5,319
2032		4,910	6,113	7,022	5,363
2033		4,945	6,156	7,069	5,407
2034		4,979	6,198	7,116	5,452
2035		5,014	6,241	7,163	5,505
2036		5,027	6,256	7,180	5,525
2037		5,039	6,272	7,198	5,541
2038		5,048	6,283	7,210	5,550
2039		5,055	6,291	7,220	5,564
2040		5,060	6,298	7,228	5,575


Hawthorne District
Historical and Projected Distribution of Demand by Source and Total Available Supply
Production in Acre-Feet
6,000
5,000
4,000
3,000
2,000
1,000
0
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
2026
2028
2030
2032
2034
2036
2038
2040
Year
Purchased Water
Recycled Water
Ground Water

California Water Service Company - Hawthorne District

Worksheet 16

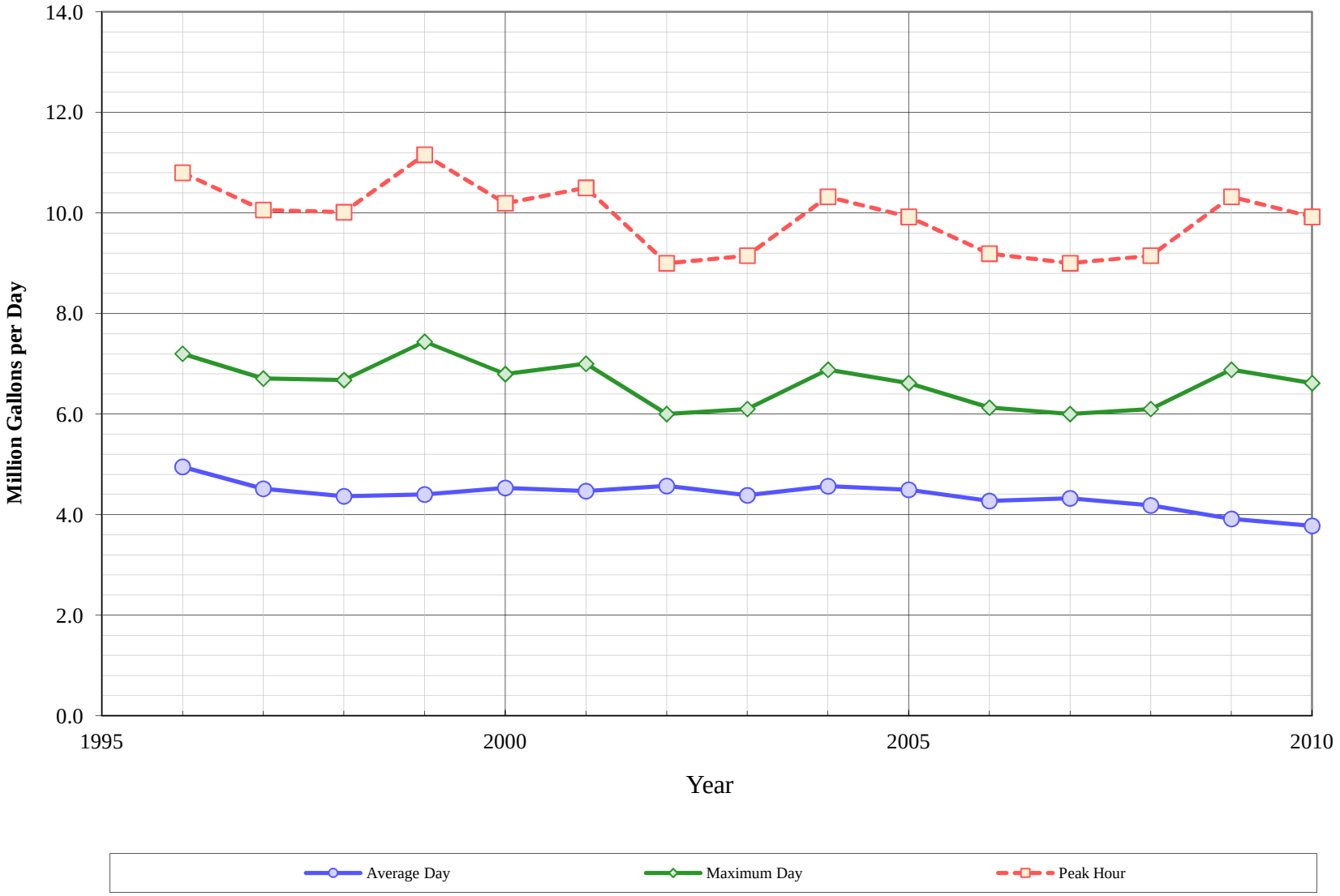
Water Supply and Demand Analysis and Projections

Historical and Projected Distribution of Demand by Source and Total Available Supply

Year	Purchased Water KGal	Purchased Water (Acre-Feet)	Recycled Water KGal	Recycled Water (Acre-Feet)	Ground Water KGal	Ground Water (Acre-Feet)	Conservation (kG)	Conservation (AF)	Total Demand (Average Conditions) KGal	Total Demand (Average Conditions) (Acre-Feet)
1996	907,534	2,785	19,941	61	433,639	1,331			1,361,114	4,177
1997	1,536,107	4,714	26,068	80	85,404	262			1,647,579	5,056
1998	1,542,156	4,733	29,173	90	21,694	67			1,593,023	4,889
1999	1,362,645	4,182	28,186	87	215,150	660			1,605,981	4,929
2000	1,371,227	4,208	30,812	95	251,486	772			1,653,525	5,075
2001	1,410,633	4,329	34,575	106	185,150	568			1,630,358	5,003
2002	1,353,060	4,152	39,967	123	274,536	843			1,667,563	5,118
2003	1,569,579	4,817	30,148	93	0	0			1,599,727	4,909
2004	1,532,334	4,703	36,740	113	97,049	298			1,666,123	5,113
2005	1,441,573	4,424	38,828	119	159,831	491			1,640,232	5,034
2006	1,519,834	4,664	38,529	118	144	0			1,558,507	4,783
2007	1,472,728	4,520	32,685	100	72,819	224			1,578,232	4,843
2008	1,490,576	4,574	33,427	103	2,633	8			1,526,636	4,685
2009	1,396,847	4,287	31,828	98	0	0			1,428,675	4,385
2010	1,350,907	4,146	27,347	84	0	0			1,378,254	4,230
2011	1,478,061	4,536	32,482	100	0	0	0	0	1,510,543	4,636
2012	1,481,426	4,546	32,523	100	0	0	0	0	1,513,949	4,646
2013	1,487,418	4,565	32,564	100	0	0	0	0	1,519,982	4,665
2014	1,202,772	3,691	32,605	100	293,271	900	0	0	1,528,649	4,691
2015	894,048	2,744	32,647	100	613,263	1,882	0	0	1,539,958	4,726
2016	907,966	2,786	32,688	100	613,263	1,882	0	0	1,553,916	4,769
2017	921,911	2,829	32,729	100	613,263	1,882	0	0	1,567,903	4,812
2018	935,883	2,872	32,770	101	613,263	1,882	0	0	1,581,917	4,855
2019	949,883	2,915	32,812	101	613,263	1,882	0	0	1,595,958	4,898
2020	963,911	2,958	32,853	101	613,263	1,882	0	0	1,610,028	4,941
2021	977,966	3,001	32,895	101	613,263	1,882	0	0	1,624,124	4,984
2022	992,049	3,044	32,937	101	613,263	1,882	0	0	1,638,249	5,028
2023	1,006,160	3,088	32,978	101	613,263	1,882	0	0	1,652,401	5,071
2024	1,020,298	3,131	33,020	101	613,263	1,882	0	0	1,666,581	5,114
2025	1,034,464	3,175	33,062	101	613,263	1,882	0	0	1,680,788	5,158
2026	1,048,657	3,218	33,103	102	613,263	1,882	0	0	1,695,024	5,202
2027	1,062,878	3,262	33,145	102	613,263	1,882	0	0	1,709,287	5,246
2028	1,077,127	3,306	33,187	102	613,263	1,882	0	0	1,723,577	5,289
2029	1,091,403	3,349	33,229	102	613,263	1,882	0	0	1,737,895	5,333
2030	1,105,707	3,393	33,271	102	613,263	1,882	0	0	1,752,242	5,377
2031	1,120,039	3,437	33,313	102	613,263	1,882	0	0	1,766,615	5,421
2032	1,134,399	3,481	33,355	102	613,263	1,882	0	0	1,781,017	5,466
2033	1,148,786	3,525	33,397	102	613,263	1,882	0	0	1,795,446	5,510
2034	1,163,201	3,570	33,440	103	613,263	1,882	0	0	1,809,903	5,554
2035	1,180,579	3,623	33,440	103	613,263	1,882	0	0	1,827,281	5,608
2036	1,187,012	3,643	33,440	103	613,263	1,882	0	0	1,833,714	5,627
2037	1,192,436	3,659	33,440	103	613,263	1,882	0	0	1,839,138	5,644
2038	1,195,347	3,668	33,440	103	613,263	1,882	0	0	1,842,049	5,653
2039	1,199,656	3,682	33,440	103	613,263	1,882	0	0	1,846,358	5,666
2040	1,203,434	3,693	33,440	103	613,263	1,882	0	0	1,850,136	5,678

Hawthorne District

Average Day, Maximum Day, and Peak Hour Demand



California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
Historical and Projected Maximum Day Demand

Worksheet 17

Year	Historical Annual Demand (AF)	Historical Annual Demand (MG)	Average Day Demand (MG)	Average Day Use Per Service (gal)	Maximum Day Demand (MG)	Maximum Day Use Per Service (gal)	MDD to ADD Ratio	Peak Hour Demand (MG)	Peak Hour Use Per Service (gal)	PHD to MDD Ratio
1996	4,177	1,361	4.9	846	7.2	1,231	1.45	10.8	1,846	1.50
1997	5,056	1,648	4.5	767	6.7	1,139	1.49	10.1	1,709	1.50
1998	4,889	1,593	4.4	740	6.7	1,132	1.53	10.0	1,698	1.50
1999	4,929	1,606	4.4	745	7.4	1,260	1.69	11.2	1,889	1.50
2000	5,075	1,654	4.5	764	6.8	1,147	1.50	10.2	1,720	1.50
2001	5,003	1,630	4.5	754	7.0	1,181	1.57	10.5	1,772	1.50
2002	5,118	1,668	4.6	771	6.0	1,013	1.31	9.0	1,520	1.50
2003	4,909	1,600	4.4	741	6.1	1,032	1.39	9.2	1,548	1.50
2004	5,113	1,666	4.6	768	6.9	1,157	1.51	10.3	1,736	1.50
2005	5,034	1,640	4.5	753	6.6	1,108	1.47	9.9	1,662	1.50
2006	4,783	1,558	4.3	715	6.1	1,026	1.43	9.2	1,539	1.50
2007	4,843	1,578	4.3	722	6.0	1,001	1.39	9.0	1,502	1.50
2008	4,685	1,527	4.2	699	6.1	1,019	1.46	9.2	1,528	1.50
2009	4,385	1,429	3.9	656	6.9	1,153	1.76	10.3	1,729	1.50
2010	4,230	1,378	3.8	634	6.6	1,111	1.75	9.9	1,667	1.50
5 Year Average			4.0	678	6.4	1,071	1.59	9.6	1,593	1.50
10 Year Average			4.3	721	6.4	1,080	1.50	9.6	1,642	1.50

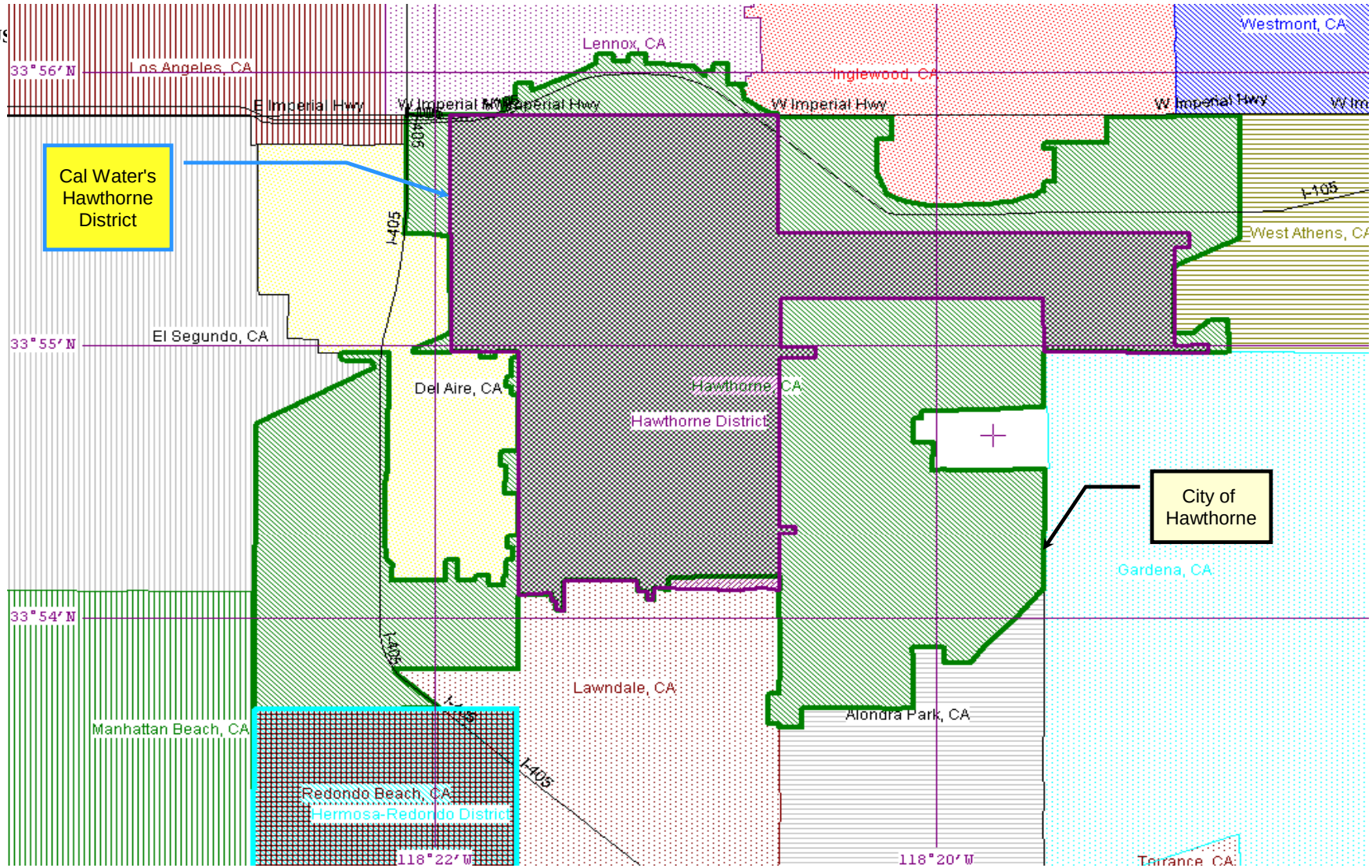
Five Year Average = 2006 through 2010. Ten Year Average = 2001 through 2010.

* 1996 Represents only nine (9) months of data

California Water Service Company - Hawthorne District

Worksheet 18

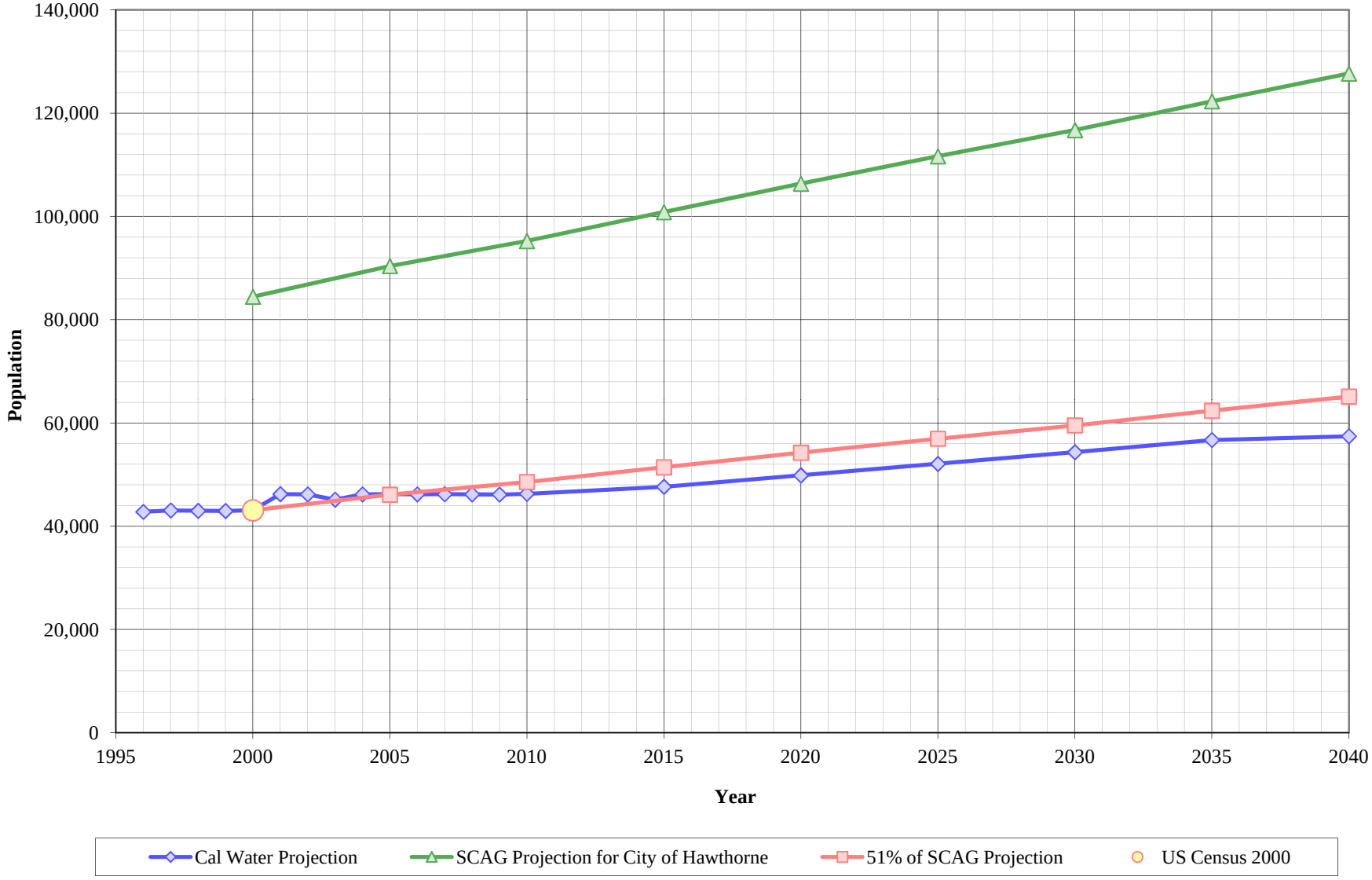
Water Supply and Demand Analysis and Projections



US Census 2000 Summary				
Area	**Census Tract Blocks**	**Population**	**Housing Units**	**Density**
District	206	43,088	14,707	2.93
City of Hawthorne	404	84,112	29,629	2.84
Percent District of the City		51.2%	49.6%	

Hawthorne District

Population Estimate



California Water Service Company - Hawthorne District

Worksheet 18

Water Supply and Demand Analysis and Projections

Population as of the 2000 Average Annual Services
Estimated District Population based on 2000 U.S. Census Data & Annual Service Count

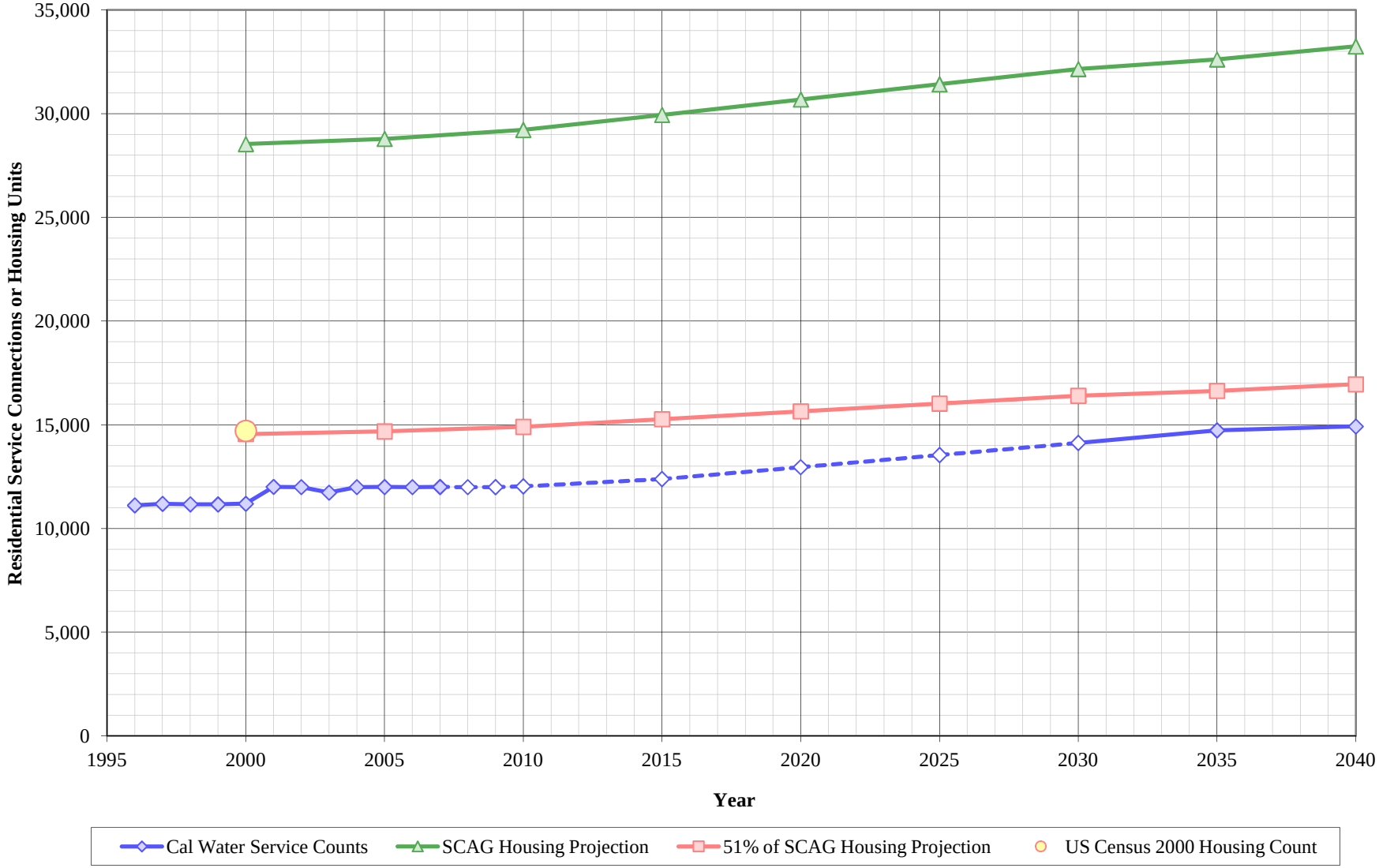
District Communities Served:
City of Hawthorne

Year	Single Family Residential Services (DU)	Multi Family Residential			Flat Rate Residential Services (DU)	Total Residential Dwelling Units	Estimated District Population
		Services	Residential Units (DU)	Unit Density			
1996	4,588	769	6,528	8.5	0	11,116	42,784
1997	4,612	780	6,577	8.4	0	11,189	43,065
1998	4,612	779	6,555	8.4	0	11,167	42,980
1999	4,619	780	6,542	8.4	0	11,161	42,957
2000	4,638	781	6,557	8.4	0	11,195	43,088
2001	4,512	787	7,496	9.5	0	12,008	46,217
2002	4,500	785	7,497	9.6	0	11,997	46,175
2003	4,493	780	7,237	9.3	0	11,730	45,147
2004	4,520	783	7,477	9.5	0	11,997	46,175
2005	4,534	781	7,467	9.6	0	12,001	46,190
2006	4,535	780	7,462	9.6	0	11,997	46,174
2007	4,541	780	7,462	9.6	0	12,003	46,199
2008	4,535	780	7,462	9.6	0	11,997	46,175
2009	4,525	779	7,462	9.6		11,987	46,136
2010	4,531	780	7,494	9.6	0	12,025	46,283
2015	4,640	799	7,739	9.7	0	12,379	47,644
2020	4,830	832	8,122	9.8	0	12,952	49,852
2025	5,021	865	8,511	9.8	0	13,532	52,082
2030	5,211	897	8,905	9.9	0	14,117	54,334
2035	5,402	933	9,329	10.0	0	14,732	56,700
2040	5,453	939	9,467	10.1	0	14,919	57,423

US Census 2000		Calculated Persons per CWS DU	Calculated Persons per US Census Housing Unit
Population	Housing Units		
43,088	14,707	3.849	2.930

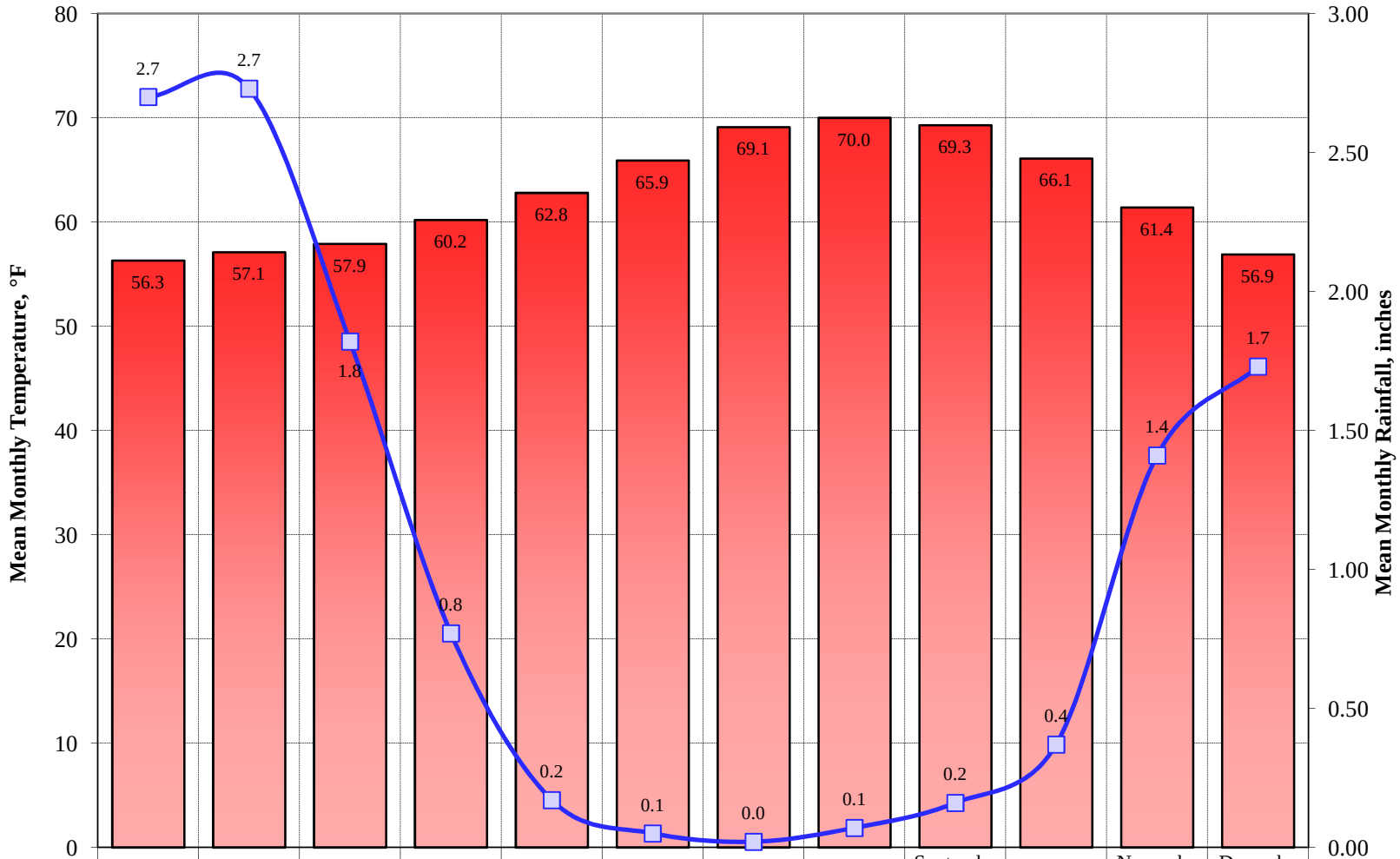
Hawthorne District

Housing Estimate



Hawthorne District

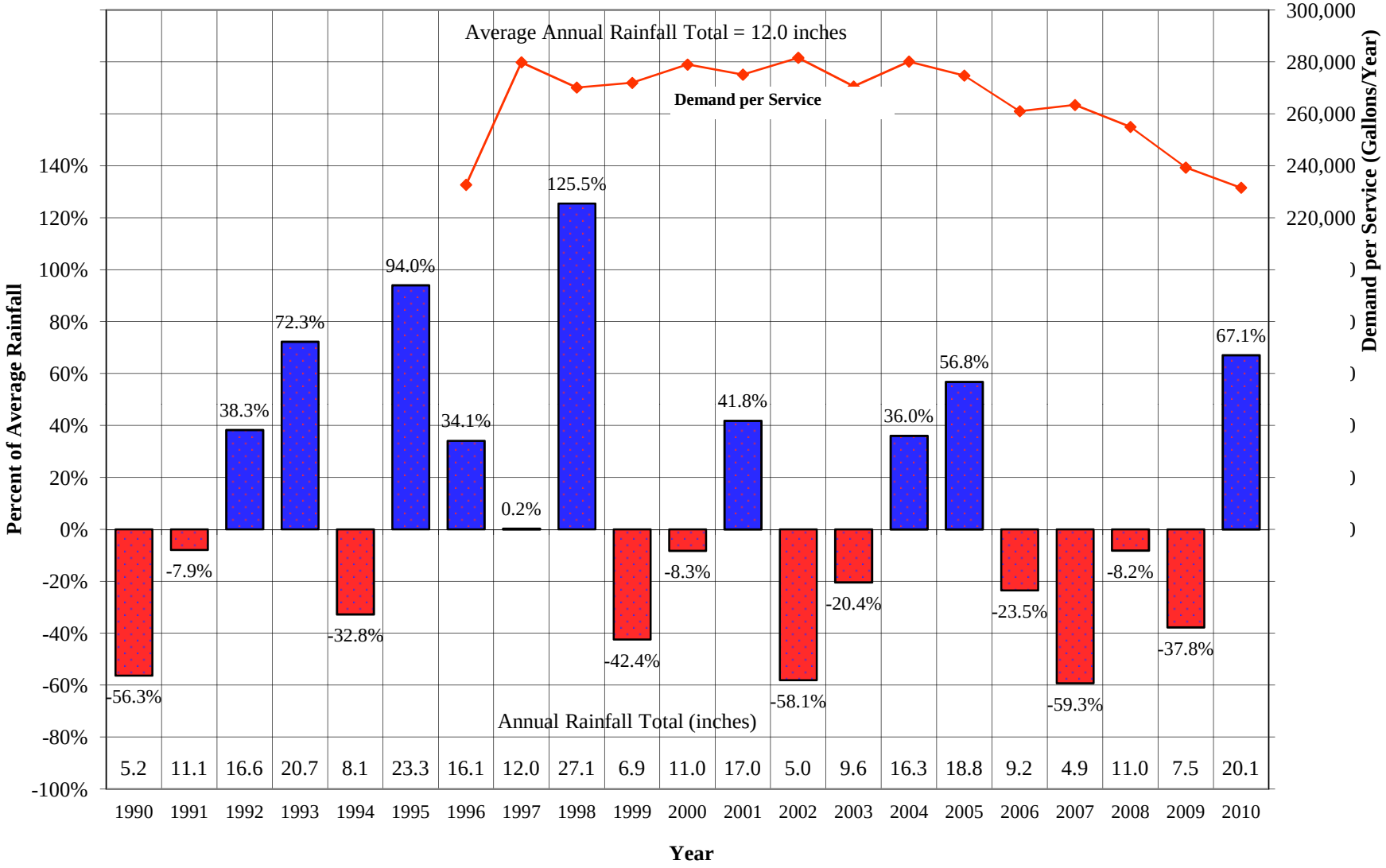
Average Monthly Temperature and Rainfall



	January	February	March	April	May	June	July	August	September	October	November	December
Temperature	56	57	58	60	63	66	69	70	69	66	61	57
Rainfall	2.7	2.7	1.8	0.8	0.2	0.1	0.0	0.1	0.2	0.4	1.4	1.7

Hawthorne District

Comparison of Annual Rainfall to Historical Average



California Water Service Company - Hawthorne District

Worksheet 19

Water Supply and Demand Analysis and Projections

Temperature & Rainfall History
(Fahrenheit, Inches) Measured @ Los Angeles WSO Arpt, California

Year		Annual Average Temp.	Annual Average Rainfall	Rainfall Percent Variation	Demand per Service (Gal / Yr)	Percent of Average Demand		Year		Annual Average Temp.	Annual Average Rainfall	Rainfall Percent Variation	Demand per Service (Gal / Yr)	Percent of Average Demand
1980		63.4	21.60	80.0%				1996		64.2	16.09	34.1%	232,702	88.0%
1981		64.6	11.39	-5.1%				1997		65.0	12.03	0.2%	279,867	105.8%
1982		63.0	13.68	14.0%				1998		62.1	27.06	125.5%	270,141	102.2%
1983		63.7	29.46	145.5%				1999		62.6	6.91	-42.4%	271,970	102.9%
1984		64.4	7.81	-34.9%				2000		63.0	11.01	-8.3%	279,029	105.5%
1985		62.5	9.32	-22.3%				2001		61.7	17.01	41.8%	275,119	104.0%
1986		63.7	15.93	32.8%				2002		62.1	5.03	-58.1%	281,588	106.5%
1987		62.7	7.23	-39.8%				2003		63.2	9.55	-20.4%	270,590	102.3%
1988		62.9	7.96	-33.7%				2004		63.3	16.32	36.0%	280,162	106.0%
1989		63.2	4.19	-65.1%				2005		63.0	18.81	56.8%	274,746	103.9%
1990		63.7	5.24	-56.3%				2006		63.8	9.18	-23.5%	261,016	98.7%
1991		62.5	11.05	-7.9%				2007		62.7	4.89	-59.3%	263,416	99.6%
1992		64.8	16.59	38.3%				2008		63.7	11.02	-8.2%	254,992	96.4%
1993		64.0	20.67	72.3%				2009		62.7	7.47	-37.8%	239,349	90.5%
1994		63.5	8.07	-32.8%				2010		62.0	20.05	67.1%	231,562	87.6%
1995		63.4	23.28	94.0%										

Source: Western Regional Climate C http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5114

	Average Water Year		Normal Water Year	Single-Dry Water Year	Multiple-Dry Water Years 1	2	3	4	
Calendar Year	-		1997	2002	2006	2007	2008	2009	
Demand per Service (gal/yr)	264,417		279,867	281,588	261,016	263,416	254,992	239,349	
Difference from Average	100.0%		100.0%	100.6%	93.3%	94.1%	91.1%	85.5%	

California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections

Worksheet 19

Temperature Data

Station:(045114) LOS ANGELES WSO ARPT															
From Year=1944 To Year=2010															
	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.		Min. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32 F	<= 32 F	<= 0 F
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Days	# Days	# Days
January	65	48	56	91	31/2003	27	4/1949	62	1986	47	1949	0.00	0.00	0.10	0.00
February	65	49	57	92	3/1963	34	12/1948	62	1995	51	1949	0.10	0.00	0.00	0.00
March	65	51	58	95	26/1988	35	5/1945	64	1959	53	1945	0.10	0.00	0.00	0.00
April	68	53	60	102	6/1989	42	4/1945	66	1992	56	1967	0.30	0.00	0.00	0.00
May	69	56	63	97	16/1956	45	7/1964	68	1997	58	1964	0.20	0.00	0.00	0.00
June	72	60	66	104	16/1981	48	8/1950	72	1981	62	1964	0.30	0.00	0.00	0.00
July	75	63	69	97	10/1959	52	6/1947	75	1959	66	1965	0.20	0.00	0.00	0.00
August	76	64	70	98	31/1955	51	9/1948	75	1994	66	2010	0.30	0.00	0.00	0.00
September	76	63	69	110	26/1963	47	26/1948	77	1984	65	1953	1.20	0.00	0.00	0.00
October	74	59	66	106	14/1961	43	30/1946	73	1958	62	1946	1.40	0.00	0.00	0.00
November	70	52	61	101	1/1966	38	23/1947	66	1976	57	1946	0.50	0.00	0.00	0.00
December	66	48	57	94	3/1958	32	21/1968	62	1958	53	1948	0.00	0.00	0.00	0.00
Annual	70	55	63	110	19630926	27	19490104	66	1959	60	1948	4.50	0.00	0.10	0.00

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Monthly	1.86	2.24	3.41	4.50	5.27	5.70	5.89	5.58	4.50	3.41	2.40	1.86	46.6

1) California Irrigation Management Information System (CIMIS), http://wwwcimis.water.ca.gov/cimis/ welcome.jsp, EvapoTranspiration (Eto) Zones Map, Zone 4

California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections

Worksheet 19

Precipitaion Data

Station:(045114) LOS ANGELES WSO ARPT														
From Year=1944 To Year=2010														
	Precipitation											Total Snowfall		
	Mean	High	Year	Low	Year	1 Day Max.		>= 0.01 in.	>= 0.10 in.	>= 0.50 in.	>= 1.00 in.	Mean	High	Year
	in.	in.	-	in.	-	in.	dd/yyyy or yyyymmdd	# Days	# Days	# Days	# Days	in.	in.	-
January	2.7	12.7	1995	0.000	1972	4.6	26/1956	6	4	2	1	0.000	0.000	1945
February	2.7	13.8	1998	0.000	1961	3.9	8/1962	6	4	2	1	0.000	0.000	1945
March	1.8	6.4	1983	0.000	1956	3.1	7/1968	6	4	1	0	0.000	0.000	1945
April	0.8	4.5	1965	0.000	1945	1.4	11/1999	3	2	1	0	0.000	0.000	1945
May	0.2	2.6	1977	0.000	1945	1.7	8/1977	1	0	0	0	0.000	0.000	1945
June	0.1	0.7	1993	0.000	1946	0.7	5/1993	1	0	0	0	0.000	0.000	1945
July	0.0	0.3	1992	0.000	1945	0.3	12/1992	0	0	0	0	0.000	0.000	1945
August	0.1	2.5	1977	0.000	1944	2.1	17/1977	0	0	0	0	0.000	0.000	1944
September	0.2	1.9	1983	0.000	1944	1.7	30/1983	1	0	0	0	0.000	0.000	1944
October	0.4	3.8	2004	0.000	1949	1.8	18/1972	2	1	0	0	0.000	0.000	1944
November	1.4	7.9	1946	0.000	1948	5.6	21/1967	4	2	1	0	0.000	0.000	1944
December	1.7	6.5	2004	0.000	1963	4.5	28/2004	5	3	1	0	0.000	0.000	1944
Annual	12.0	29.5	1983	2.950	1947	5.6	19671121	34	21	8	3	0.000	0.000	1945

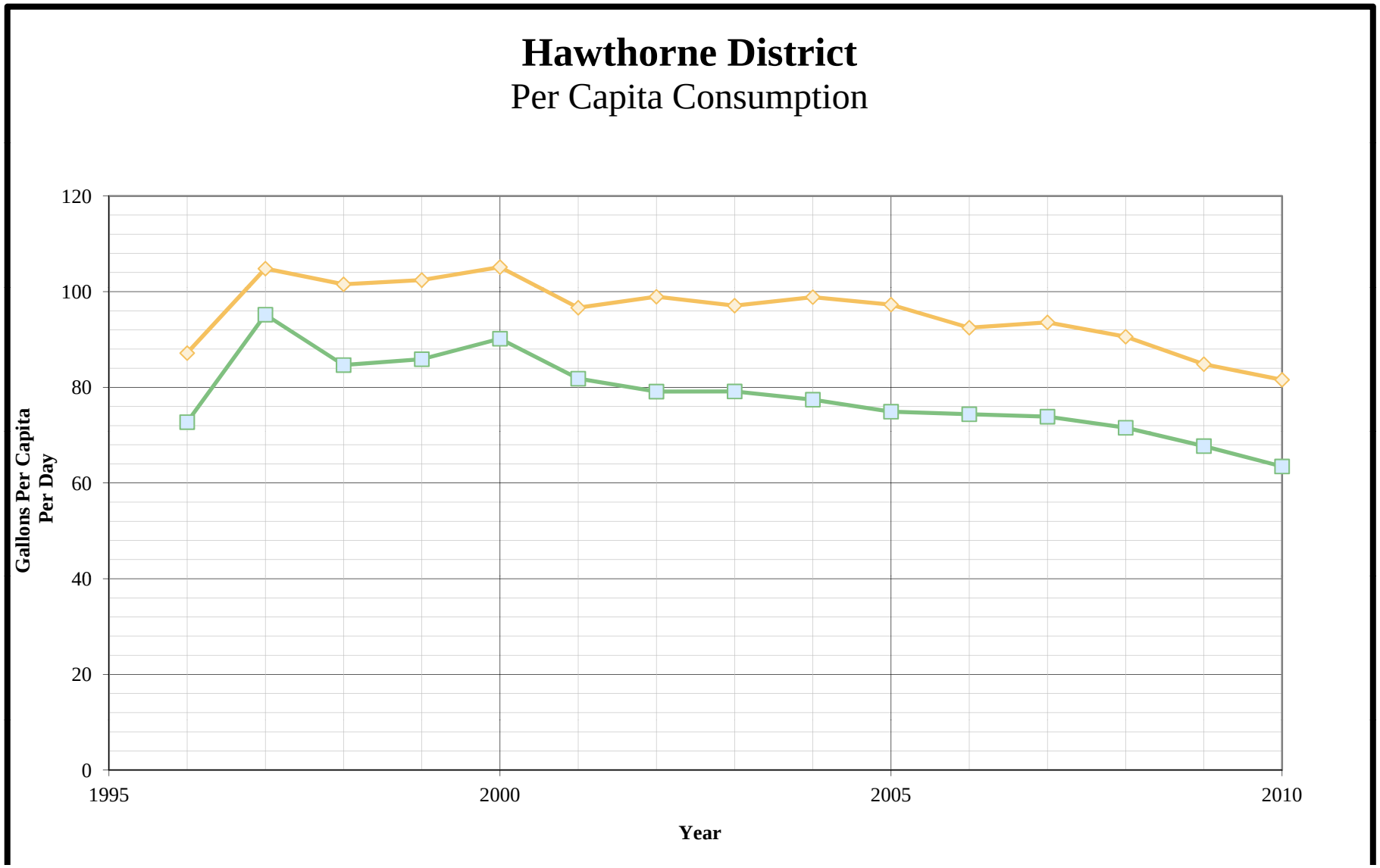
California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections

Worksheet 19

Groundwater Production Facilities

Unit No.	Design Capacity		Status
	Active	Inactive	
STA. 004-01	600		
STA. 008-01	900		
STA. 012-01	2,100		
STA. 013-01	2,000		

Total units:	4	4	0
Design Capacity (GPM)	5,600	5,600	0
Design Capacity (MGD)	8.1	8.1	0.0
Design Capacity (AFY)	9,033	9,033	0


Hawthorne District
Per Capita Consumption
120
100
80
60
40
20
0
Gallons Per Capita Per Day
1995
2000
2005
2010
Year

California Water Service Company - Hawthorne District

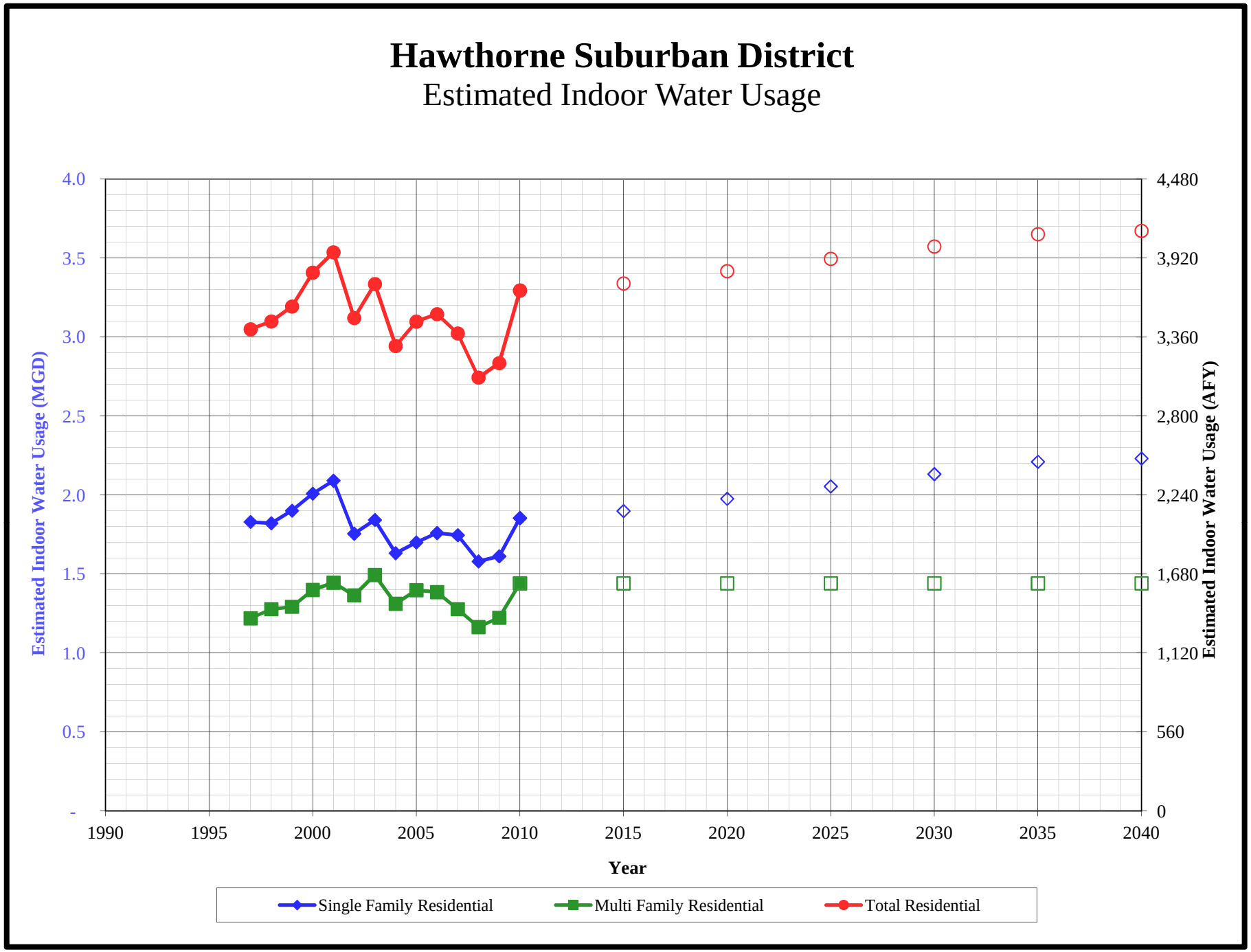
Worksheet 20

Water Supply and Demand Analysis and Projections

Per Capita Water Demand

Year	All Users			Residential Only		
	Usage (AFY)	Usage (MGY)	Gallons Per Capita Per Day	Usage (AFY)	Usage (MGY)	Gallons Per Capita Per Day
1996	4,177	1,361	87	3,485	1,136	73
1997	5,056	1,648	105	4,592	1,496	95
1998	4,889	1,593	102	4,076	1,328	85
1999	4,929	1,606	102	4,133	1,347	86
2000	5,075	1,654	105	4,352	1,418	90
2001	5,003	1,630	97	4,236	1,380	82
2002	5,118	1,668	99	4,092	1,333	79
2003	4,909	1,600	97	4,003	1,304	79
2004	5,113	1,666	99	4,005	1,305	77
2005	5,034	1,640	97	3,876	1,263	75
2006	4,783	1,558	92	3,847	1,254	74
2007	4,843	1,578	94	3,823	1,246	74
2008	4,685	1,527	91	3,701	1,206	72
2009	4,385	1,429	85	3,500	1,140	68
2010	4,230	1,378	82	3,290	1,072	63
5 Yr. Avg.	4,585	1,494	89	3,632	1,184	70
10 Yr. Avg.	4,810	1,567	93	3,837	1,250	74

Five year average is from years 2006 through 2010
Ten year average is from years 2001 through 2010
Includes recycled water


Hawthorne Suburban District
Estimated Indoor Water Usage
Estimated Indoor Water Usage (MGD)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
-
Estimated Indoor Water Usage (AFY)
4,480
3,920
3,360
2,800
2,240
1,680
1,120
560
0
1990
1995
2000
2005
2010
2015
2020
2025
2030
2035
2040
Year
Single Family Residential
Multi Family Residential
Total Residential

California Water Service Company - Hawthorne District

Worksheet 21

Water Supply and Demand Analysis and Projections

Estimated Indoor/Outdoor Water Usage

Year	Single Family Residential (SFR)					Multi Family Residential (MFR)							Total Indoor Use for SFR and MFR	
	Metered Single Family Residential Indoor Use (Annualized 90% of January Total)					Multi Family Residential	Multi Family Residential Indoor Use (Annualized 90% of January Total)							
	JAN (CCF)	AFY	MGD	GPD/Service	%	JAN (CCF)	AFY	MGD	GPD/Service	GPD/Unit	%		AFY	MGD
1997	82,654	2,049	1.83	397	68.2%	55,086	1,366	1.22	1,563	185.39	86.1%		3,415	3.0
1998	82,280	2,040	1.82	395	82.1%	57,701	1,431	1.28	1,639	194.84	89.9%		3,471	3.1
1999	85,868	2,129	1.90	411	84.9%	58,384	1,448	1.29	1,657	197.54	89.1%		3,576	3.2
2000	90,749	2,250	2.01	433	84.7%	63,204	1,567	1.40	1,791	213.35	92.5%		3,817	3.4
2001	94,465	2,342	2.09	463	95.0%	65,291	1,619	1.45	1,836	192.79	91.4%		3,961	3.5
2002	79,305	1,966	1.76	390	82.8%	61,661	1,529	1.36	1,739	182.05	89.1%		3,495	3.1
2003	83,222	2,063	1.84	410	89.1%	67,460	1,673	1.49	1,914	206.32	99.1%		3,736	3.3
2004	73,714	1,828	1.63	361	78.0%	59,249	1,469	1.31	1,675	175.39	88.4%		3,297	2.9
2005	76,799	1,904	1.70	375	84.6%	63,125	1,565	1.40	1,789	187.12	96.3%		3,469	3.1
2006	79,476	1,970	1.76	388	87.8%	62,591	1,552	1.39	1,776	185.66	96.8%		3,522	3.1
2007	78,862	1,955	1.75	384	85.5%	57,699	1,431	1.28	1,637	171.15	93.1%		3,386	3.0
2008	71,355	1,769	1.58	348	80.1%	52,581	1,304	1.16	1,492	155.97	87.3%		3,073	2.7
2009	72,817	1,805	1.61	356	86.6%	55,259	1,370	1.22	1,570	163.91	96.9%		3,175	2.8
2010		2,076	1.85	372	84%	-	1,614	1.44	1,813	175	92.0%	*Projected*	3,690	3.3
2015		2,127	1.90	354	84%	-	1,614	1.44	1,866	166	92.0%		3,740	3.3
2020		2,214	1.98	336	84%	-	1,614	1.44	1,919	157	92.0%		3,828	3.4
2025		2,301	2.05	318	84%	-	1,614	1.44	1,971	148	92.0%		3,915	3.5
2030		2,388	2.13	300	84%	-	1,614	1.44	2,024	139	92.0%		4,002	3.6
2035		2,476	2.21	282	84%	-	1,614	1.44	2,077	130	92.0%		4,090	3.7
2040		2,499	2.23	264	84%	-	1,614	1.44	2,129	121	92.0%		4,113	3.7

Note: Projected indoor usage calculated based on maintaining average indoor percentage amount as constant

California Water Service Company - Hawthorne District

Workheet 22

Water Supply and Demand Analysis and Projections

Projected Demand with Conservation Calculated Using Gross Per Capita Demand

Year	SBx7-7 Compliance Target (gpcd)	Anticipated GPCD with Proposed Programs	Estimated Population	SBx7-7 Compliance Target Unadjusted Baseline Demand (AFY)	SBx7-7 Compliance Target Projected Demand (AFY)	Anticipated SBx7-7 Target Demand With Proposed Programs (AFY)	Compliance Target Savings Requirement (AFY)	Savings Due to Proposed Programs (AFY)	Recycled Water Projection (AFY)
2005-2009 Average	87	87	46,190	4,485	4,485	4,485	0	0	-
2010	87	87	46,283	4,494	4,494	4,494	0	0	84
2011	87	87	46,719	4,536	4,536	4,530	0	6	100
2012	87	86	46,826	4,546	4,546	4,535	0	11	100
2013	87	86	47,015	4,565	4,565	4,548	0	17	100
2014	87	86	47,288	4,591	4,591	4,569	0	22	100
2015	87	86	47,644	4,626	4,626	4,598	0	27	100
2016	87	86	48,084	4,668	4,668	4,641	0	27	100
2017	87	86	48,524	4,711	4,711	4,684	0	27	100
2018	87	86	48,966	4,754	4,754	4,727	0	27	101
2019	87	86	49,409	4,797	4,797	4,770	0	27	101
2020	87	86	49,852	4,840	4,840	4,813	0	27	101
2021	87	86	50,296	4,883	4,883	4,856	0	27	101
2022	87	86	50,741	4,926	4,926	4,899	0	27	101
2023	87	86	51,187	4,970	4,970	4,942	0	27	101
2024	87	86	51,634	5,013	5,013	4,986	0	27	101
2025	87	86	52,082	5,057	5,057	5,029	0	27	101
2026	87	86	52,531	5,100	5,100	5,073	0	27	102
2027	87	86	52,980	5,144	5,144	5,116	0	27	102
2028	87	86	53,431	5,188	5,188	5,160	0	27	102
2029	87	86	53,882	5,231	5,231	5,204	0	27	102
2030	87	86	54,334	5,275	5,275	5,248	0	27	102
2031	87	86	54,787	5,319	5,319	5,292	0	27	102
2032	87	86	55,241	5,363	5,363	5,336	0	27	102
2033	87	86	55,696	5,407	5,407	5,380	0	27	102
2034	87	86	56,151	5,452	5,452	5,424	0	27	103
2035	87	86	56,700	5,505	5,505	5,478	0	27	103
2036	87	86	56,904	5,525	5,525	5,497	0	27	103
2037	87	86	57,075	5,541	5,541	5,514	0	27	103
2038	87	86	57,167	5,550	5,550	5,523	0	27	103
2039	87	86	57,303	5,564	5,564	5,536	0	27	103
2040	87	86	57,423	5,575	5,575	5,548	0	27	103

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