

Water Resources Planning Department

**Projection Analysis Work Sheets
for
Hawthorne District**

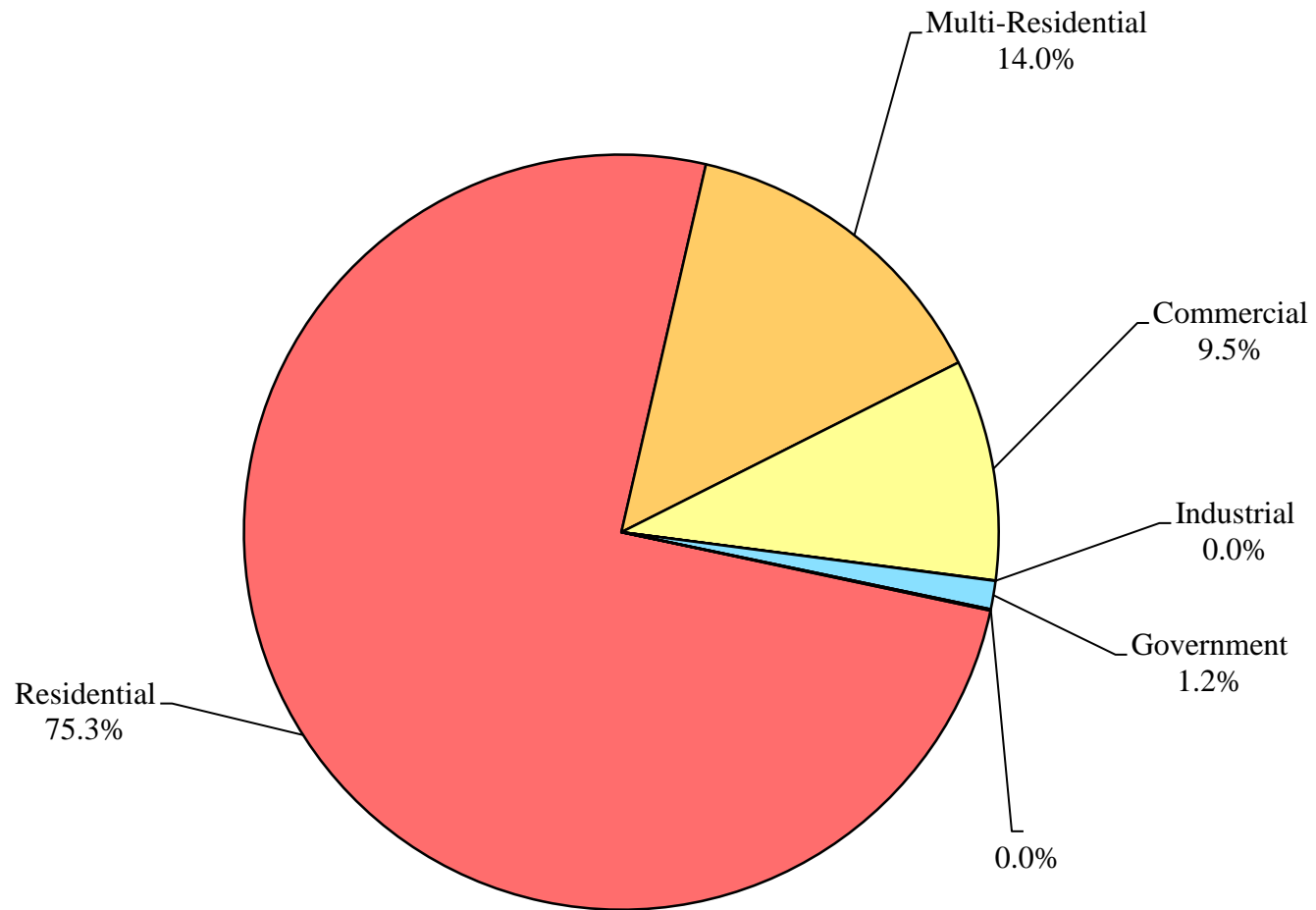
2015



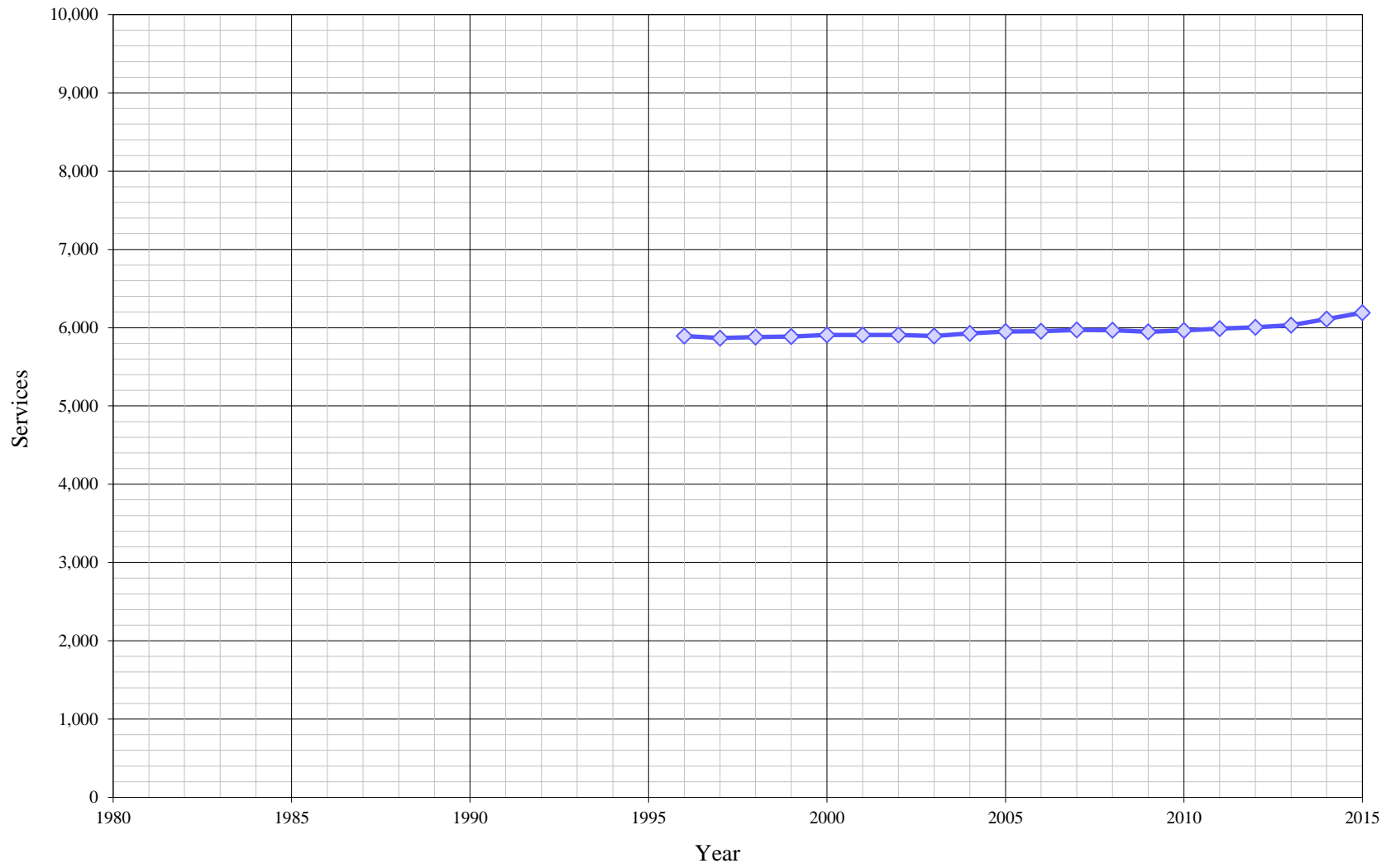
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Distribution of Services (2015)



Historical Services



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

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Reclaimed (REC)	Other (OTH)	Total	Annual Change
1990									
1991									
1992									
1993									
1994									
1995									
1996	4,731	689	466	0	7		2	5,895	5,895
1997	4,612	780	466	0	8		3	5,868	-27
1998	4,612	779	473	0	11		3	5,879	11
1999	4,619	780	474	0	11		3	5,887	8
2000	4,638	781	477	0	11		1	5,908	22
2001	4,512	787	554	0	52		3	5,908	-1
2002	4,500	785	557	0	59		4	5,906	-2
2003	4,493	780	553	0	61		6	5,892	-14
2004	4,520	783	559	0	61		5	5,928	36
2005	4,534	781	571	0	61		4	5,951	23
2006	4,535	780	574	1	61		2	5,953	2
2007	4,541	780	584	1	62		5	5,972	19
2008	4,535	780	584	2	63		4	5,967	-5
2009	4,525	779	577	2	65		2	5,949	-17
2010	4,540	780	574	2	67		2	5,965	16
2011	4,502	833	579	2	69		2	5,987	21
2012	4,509	837	584	2	72		2	6,006	19
2013	4,520	849	584	2	75		2	6,031	25
2014	4,581	860	588	2	75		4	6,110	79
2015	4,660	866	586	1	75		4	6,191	81
5 Yr Avg.	4,554	849	584	2	73		3	6,065	45
10 Yr Avg.	4,545	814	581	2	68		3	6,013	24
20 Yr Avg.	4,561	793	548	1	51		3	5,958	310

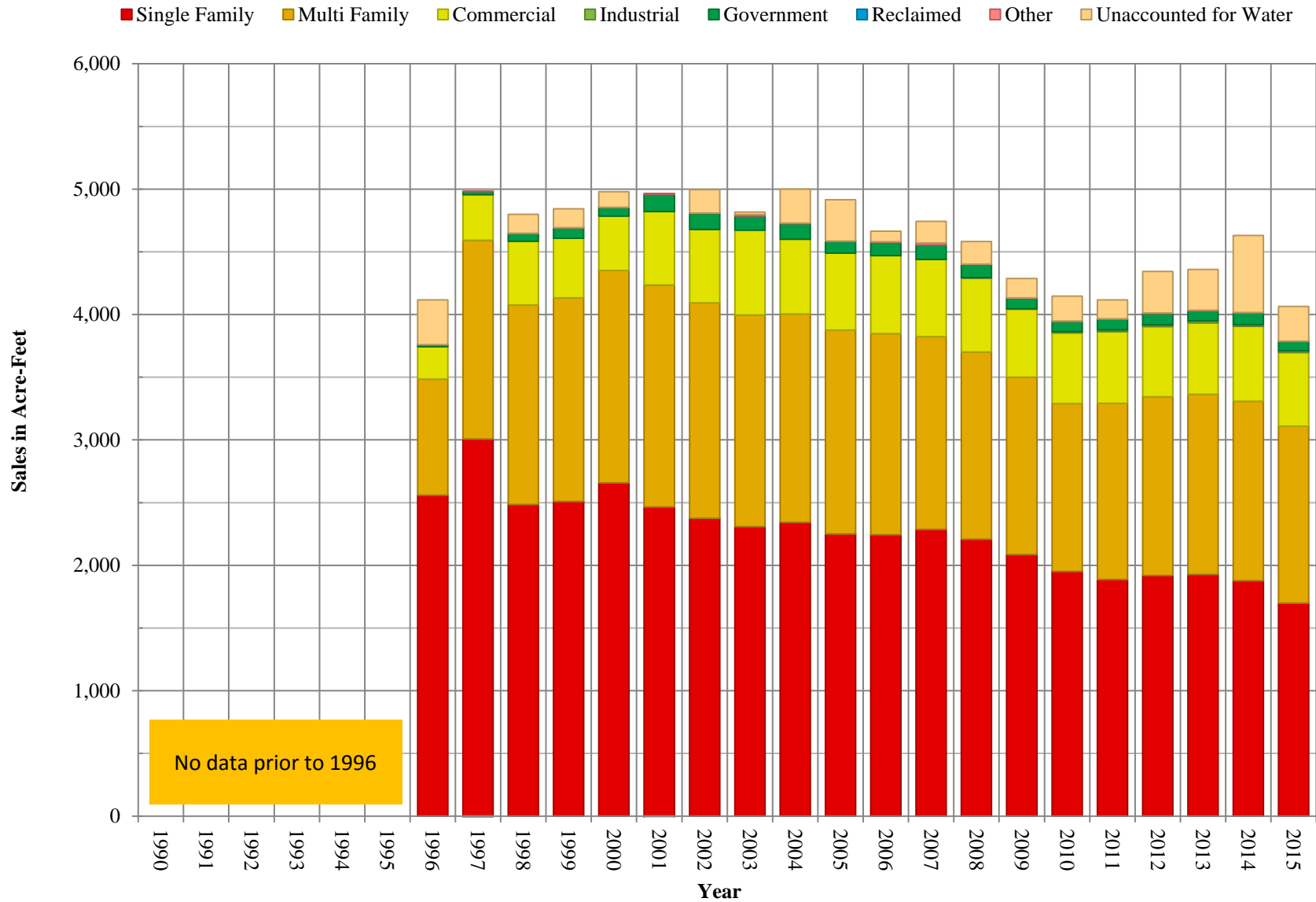
Note: Reclassification occurred between categories from 2007 to 2009

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

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Reclaimed (REC)	Other (OTH)	Total
1990								
1991								
1992								
1993								
1994								
1995								
1996								
1997	-2.52%	13.22%	-0.13%		14.29%		25.00%	-0.46%
1998	0.00%	-0.05%	1.61%		37.50%		36.67%	0.19%
1999	0.15%	0.10%	0.04%		0.00%		-2.44%	0.13%
2000	0.42%	0.06%	0.83%		0.00%		-67.50%	0.37%
2001	-2.72%	0.80%	15.94%		370.45%		200.00%	-0.01%
2002	-0.26%	-0.19%	0.59%		13.37%		35.90%	-0.04%
2003	-0.17%	-0.70%	-0.64%		3.98%		24.53%	-0.23%
2004	0.61%	0.36%	1.11%		0.00%		-9.09%	0.61%
2005	0.32%	-0.19%	2.07%		-0.68%		-16.67%	0.39%
2006	0.01%	-0.10%	0.57%		0.69%		-52.00%	0.04%
2007	0.14%	-0.09%	1.63%	27.27%	1.09%		125.00%	0.31%
2008	-0.13%	-0.02%	0.07%	42.86%	1.49%		-18.52%	-0.09%
2009	-0.24%	-0.02%	-1.26%	-5.00%	4.39%		-45.45%	-0.29%
2010	0.34%	0.11%	-0.51%	26.32%	2.81%		20.83%	0.27%
2011	-0.84%	6.75%	0.87%	0.00%	2.98%		-6.90%	0.36%
2012	0.16%	0.53%	0.95%	0.00%	3.86%		-11.11%	0.32%
2013	0.24%	1.37%	-0.04%	0.00%	4.29%		0.00%	0.42%
2014	1.36%	1.35%	0.74%	0.00%	-0.22%		83.33%	1.31%
2015	1.72%	0.61%	-0.38%	-45.83%	0.33%		-2.27%	1.33%
5 Yr. Avg.	0.53%	2.12%	0.43%	-9.17%	2.25%		12.61%	0.75%
10 Yr. Avg.	0.28%	1.05%	0.26%	5.07%	2.17%		9.29%	0.40%
15 Yr. Avg.	0.04%	0.70%	1.45%	5.07%	27.26%		21.84%	0.31%
20 Yr. Avg.	-0.07%	1.26%	1.27%	5.07%	24.24%		16.81%	0.26%

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Historical Sales

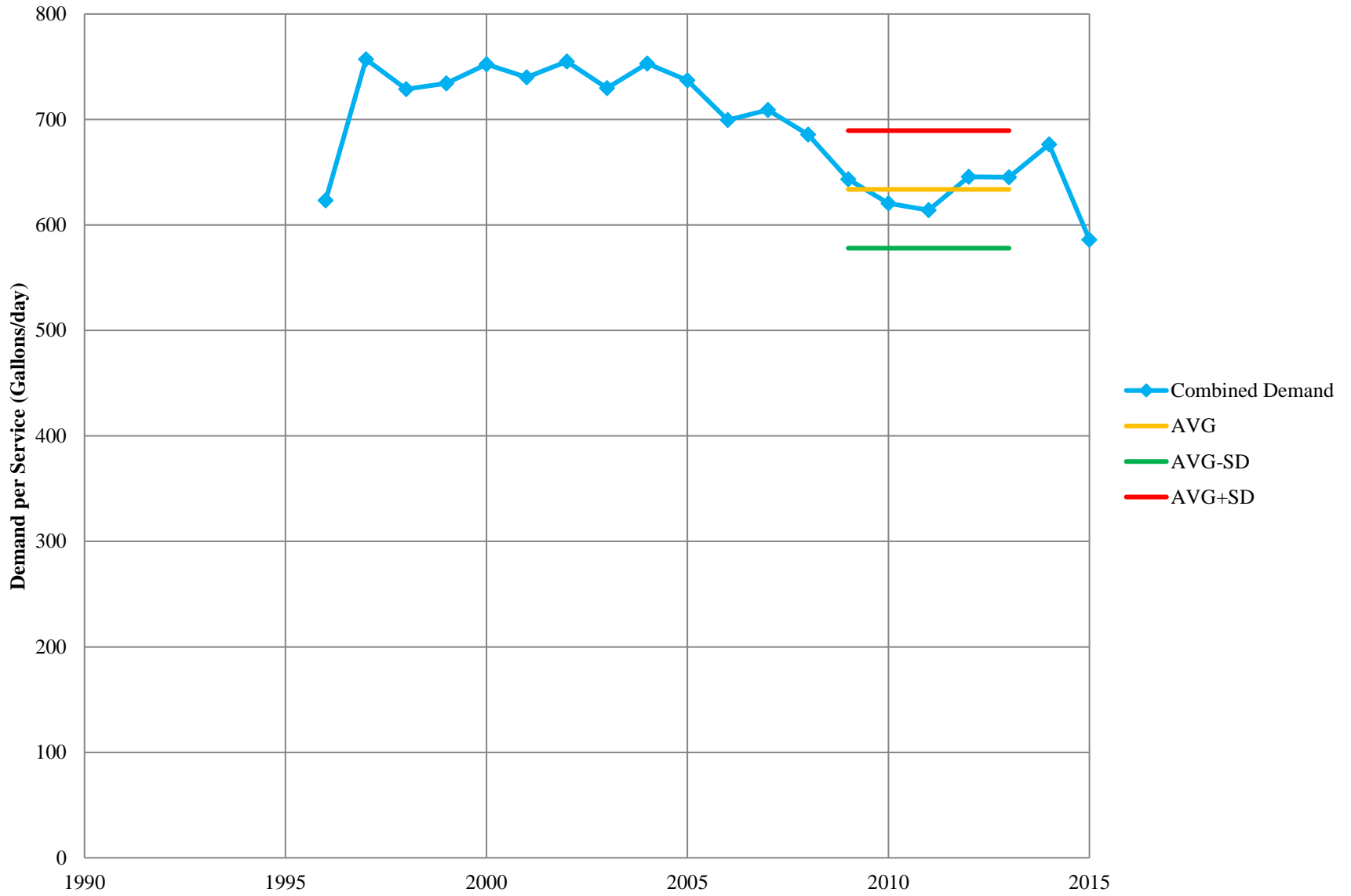


California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
Sales (AF)

Worksheet 3

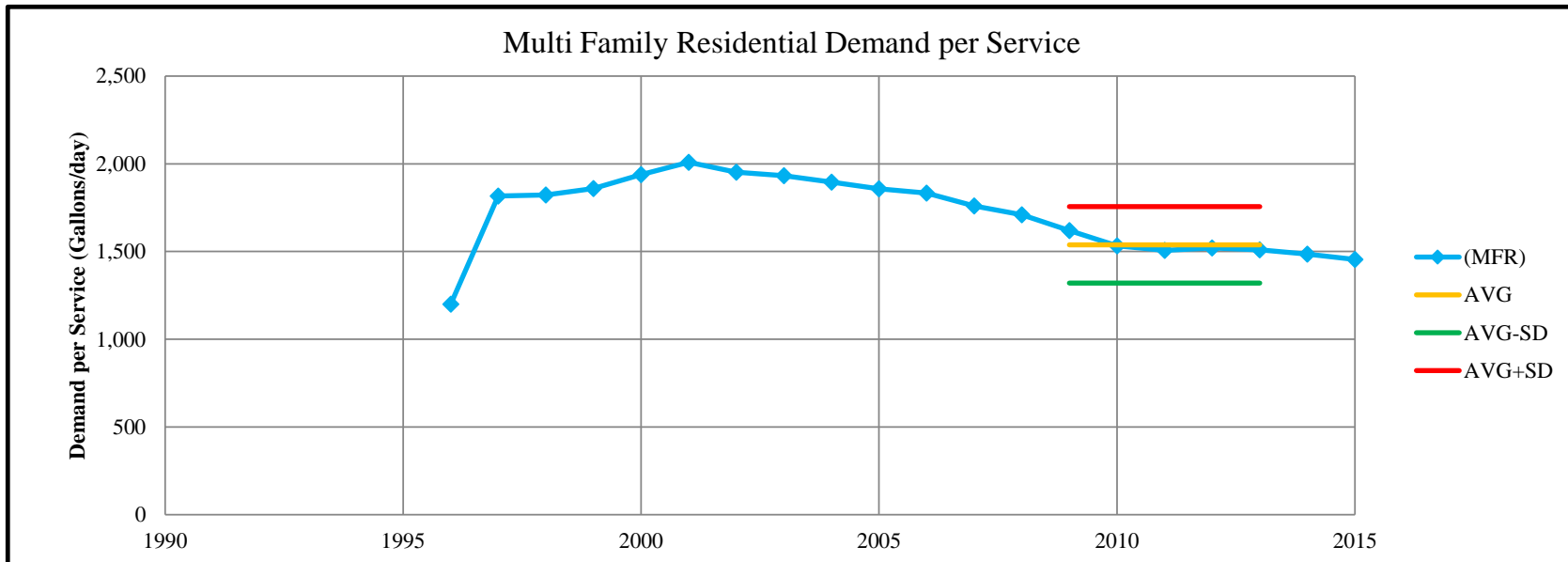
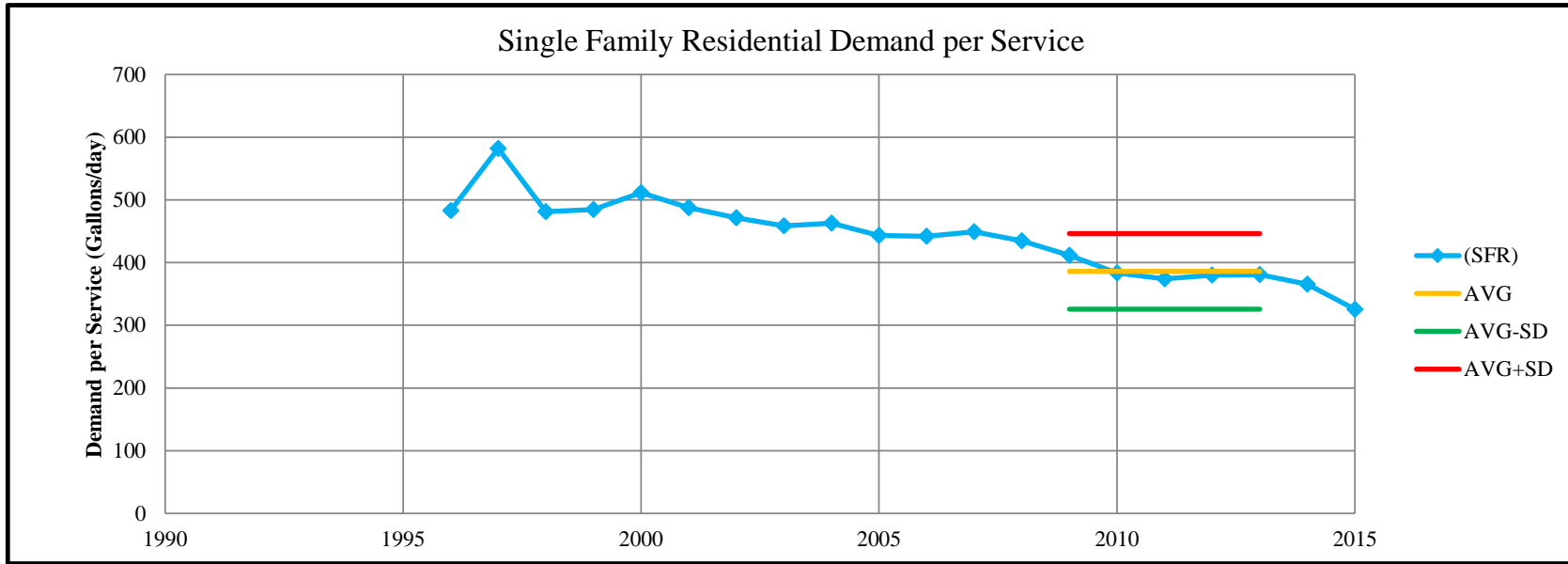
Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Reclaimed (REC)	Other (OTH)	Unaccounted for Water (UAFW)	Total Sales (AF)	Total Demand (AF)	Total Demand (MGal)
1990											
1991											
1992											
1993											
1994											
1995											
1996	2,560	925	259	0	14	0	1	356	3,759	4,116	1,341
1997	3,006	1,586	364	0	26	0	2	-8	4,984	4,976	1,622
1998	2,485	1,591	509	0	62	0	3	150	4,649	4,799	1,564
1999	2,509	1,624	475	0	84	0	1	149	4,693	4,842	1,578
2000	2,657	1,695	433	0	70	0	0	125	4,855	4,980	1,623
2001	2,465	1,770	585	0	137	0	7	-67	4,965	4,897	1,596
2002	2,375	1,717	586	0	128	0	3	186	4,809	4,995	1,628
2003	2,308	1,688	677	0	111	0	13	20	4,797	4,817	1,570
2004	2,343	1,662	595	0	125	0	3	272	4,729	5,000	1,629
2005	2,250	1,626	613	0	96	0	1	328	4,586	4,915	1,601
2006	2,245	1,603	622	1	106	0	4	84	4,581	4,665	1,520
2007	2,286	1,537	616	1	114	0	17	173	4,571	4,743	1,546
2008	2,209	1,492	589	5	104	0	3	180	4,402	4,582	1,493
2009	2,085	1,414	542	4	85	0	1	155	4,132	4,287	1,397
2010	1,951	1,340	563	10	83	0	2	197	3,948	4,146	1,351
2011	1,887	1,406	571	13	87	0	2	152	3,965	4,117	1,342
2012	1,918	1,426	560	13	90	0	4	331	4,012	4,344	1,415
2013	1,928	1,436	571	16	81	0	3	326	4,033	4,360	1,421
2014	1,876	1,431	599	14	93	0	5	613	4,016	4,630	1,509
2015	1,699	1,410	589	14	73	0	2	277	3,787	4,064	1,324

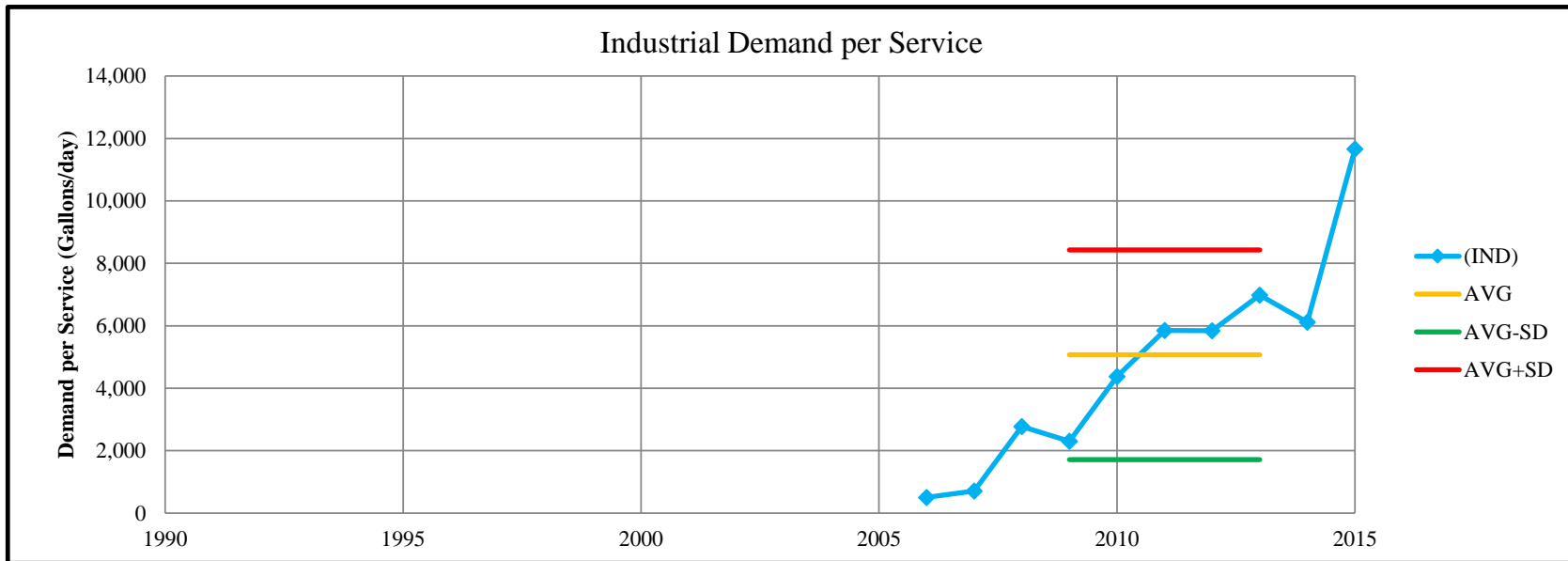
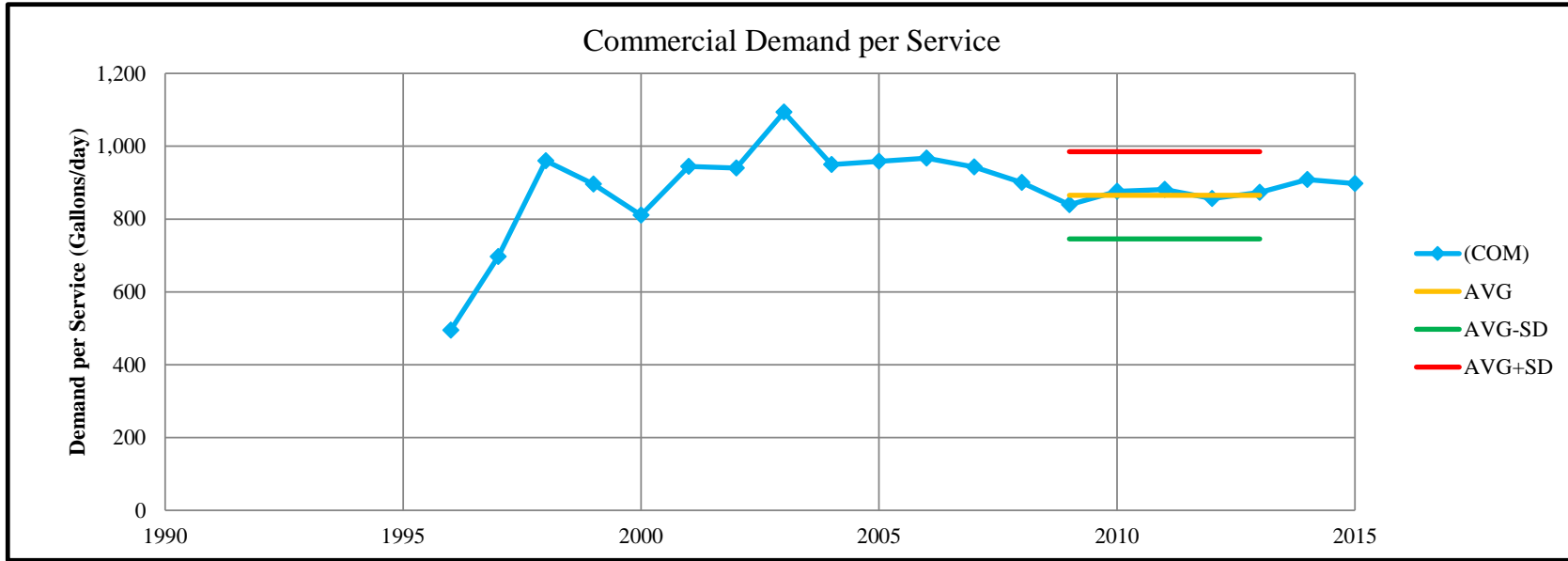
Combined Demand per Service

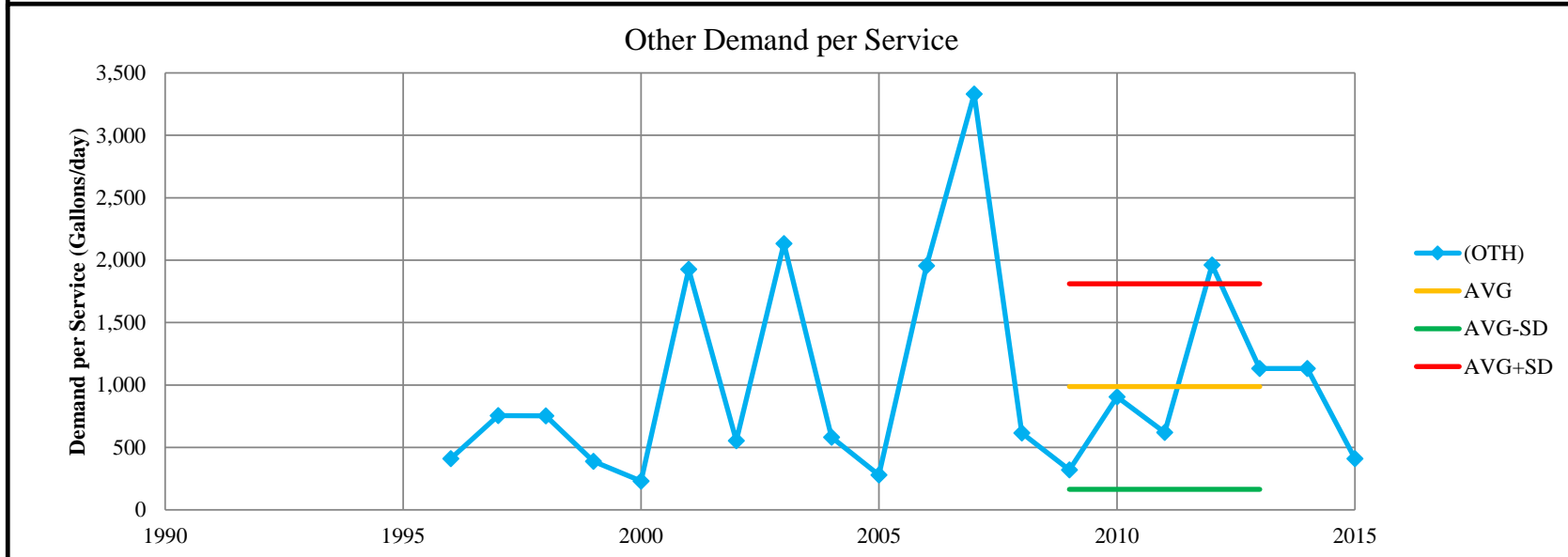
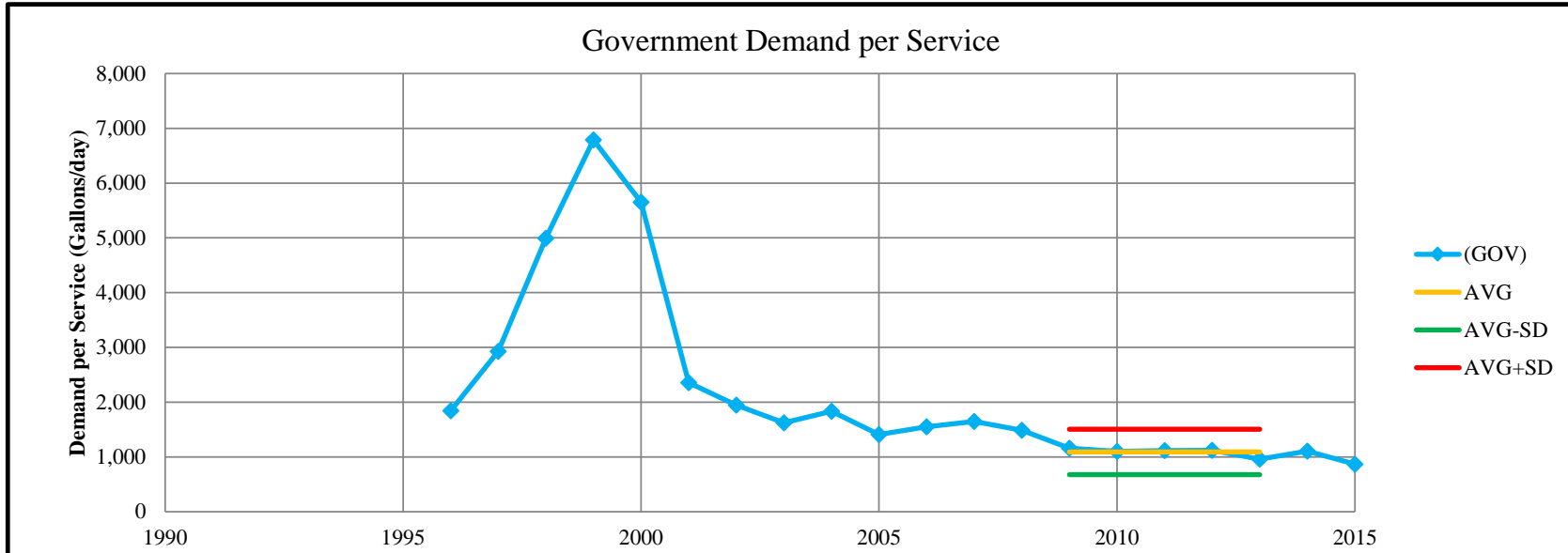


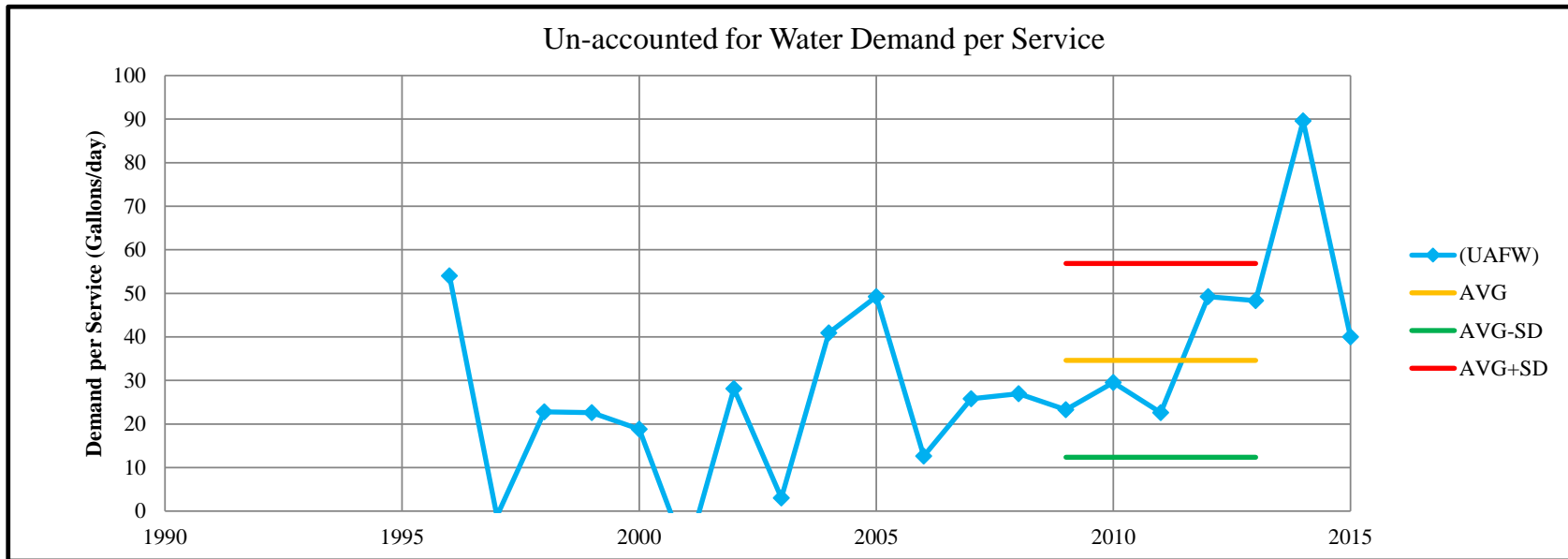
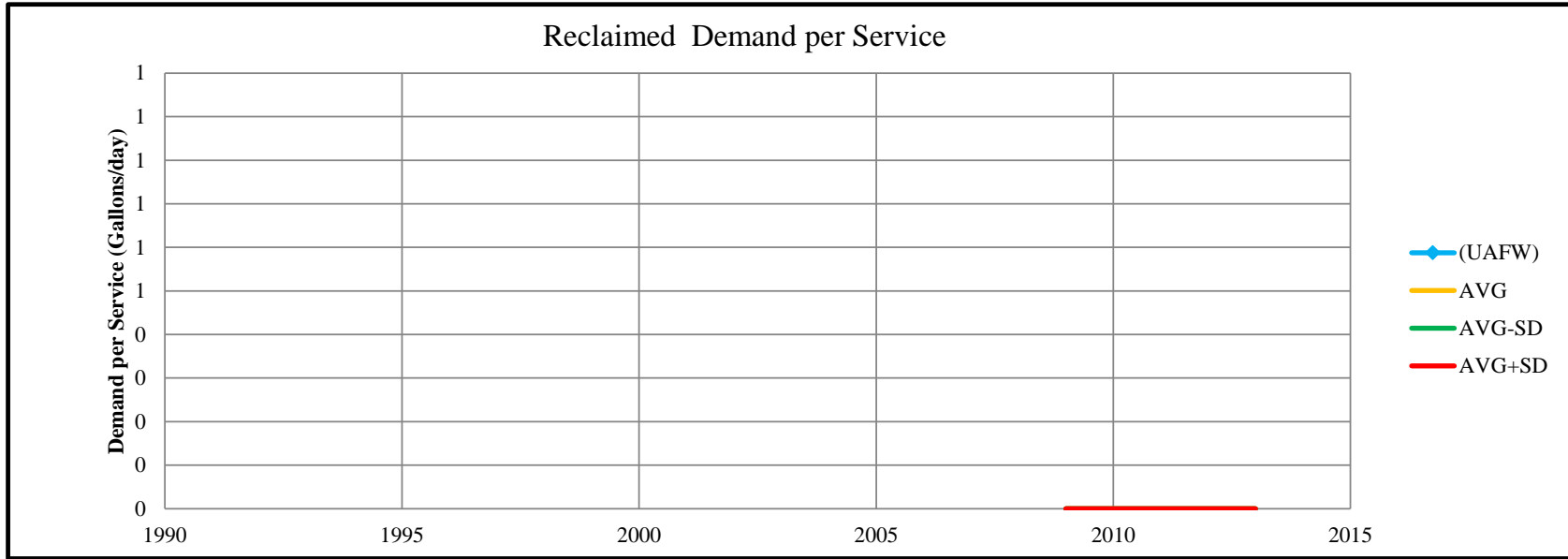
California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
Demand per Service (Gallons per Day)

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Reclaimed (REC)	Other (OTH)	Unaccounted for Water (UAFW)	Combined Demand/Serv
1990									
1991									
1992									
1993									
1994									
1995									
1996	483	1,200	495		1,842		411	54	623
1997	582	1,816	697		2,926		755	-1	757
1998	481	1,822	960		4,992		753	23	729
1999	485	1,859	896		6,788		389	23	734
2000	511	1,938	810		5,651		231	19	752
2001	488	2,009	944		2,357		1,927	-10	740
2002	471	1,952	940		1,948		553	28	755
2003	459	1,932	1,093		1,622		2,133	3	730
2004	463	1,896	950		1,834		582	41	753
2005	443	1,858	959		1,409		279	49	737
2006	442	1,833	968	505	1,551		1,954	13	699
2007	449	1,760	943	706	1,646		3,330	26	709
2008	435	1,709	900	2,773	1,489		615	27	686
2009	411	1,620	840	2,304	1,158		320	23	643
2010	384	1,533	876	4,377	1,100		905	30	620
2011	374	1,507	882	5,849	1,117		619	23	614
2012	380	1,521	856	5,842	1,121		1,961	49	646
2013	381	1,510	873	6,985	960		1,132	48	645
2014	366	1,485	908	6,119	1,106		1,133	90	676
2015	326	1,454	897	11,665	869		410	40	586
AVG	386	1,538	865	5,071	1,091		988	35	634
SD	60	218	120	3,358	415		823	22	56









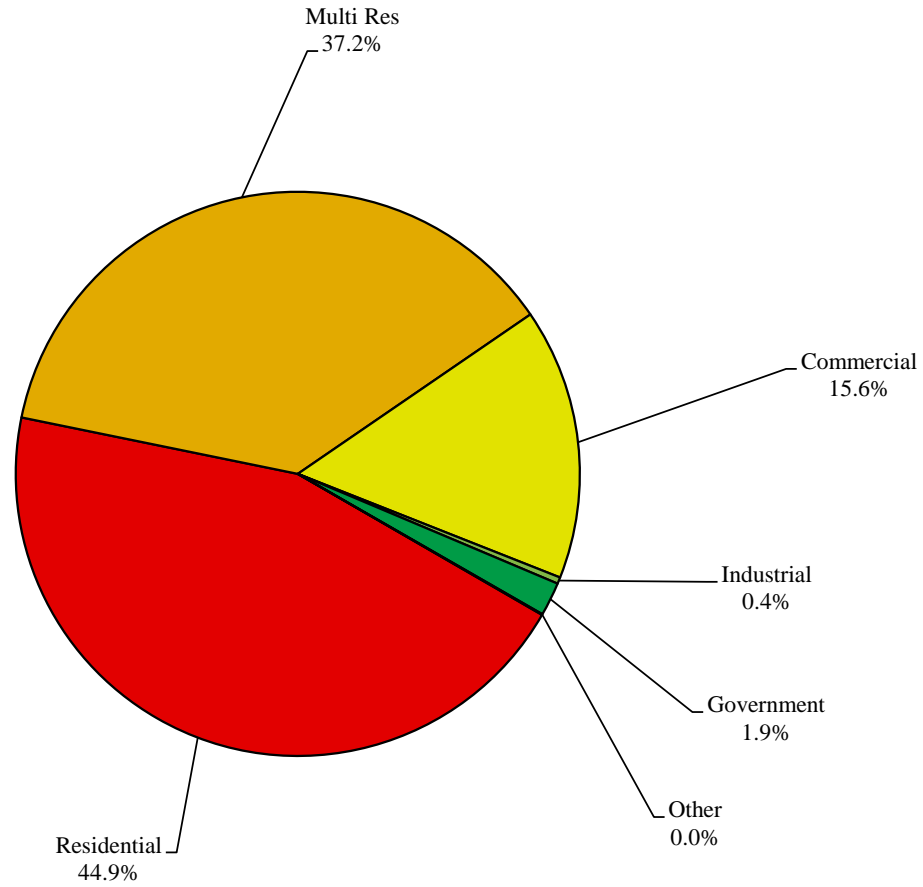
California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
Percentage Change in Annual Demand

Worksheet 5

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Unaccounted	Total
1991								
1992								
1993								
1994								
1995								
1996								
1997	17.42%	71.39%	40.63%		81.61%	129.68%	-102.17%	32.57%
1998	-17.33%	0.30%	39.91%		134.54%	36.37%	-2042.94%	-6.72%
1999	0.95%	2.10%	-6.58%		35.99%	-49.68%	-0.91%	0.95%
2000	5.93%	4.34%	-8.82%		-16.75%	-80.70%	-16.33%	3.46%
2001	-7.23%	4.47%	35.10%		96.19%	2404.92%	-154.15%	2.25%
2002	-3.64%	-3.04%	0.13%		-6.30%	-61.03%	-375.54%	-3.14%
2003	-2.85%	-1.67%	15.56%		-13.43%	380.69%	-89.35%	-0.25%
2004	1.53%	-1.55%	-12.16%		13.12%	-75.18%	1272.90%	-1.43%
2005	-3.95%	-2.16%	3.02%		-23.73%	-60.10%	20.72%	-3.01%
2006	-0.25%	-1.43%	1.50%		10.88%	236.33%	-74.40%	-0.12%
2007	1.83%	-4.09%	-0.99%	77.88%	7.25%	283.43%	105.35%	-0.22%
2008	-3.38%	-2.90%	-4.41%	460.95%	-8.19%	-84.94%	4.50%	-3.68%
2009	-5.58%	-5.23%	-7.93%	-21.06%	-18.78%	-71.66%	-14.04%	-6.14%
2010	-6.46%	-5.29%	3.82%	139.94%	-2.36%	241.99%	27.39%	-4.44%
2011	-3.26%	4.92%	1.51%	33.65%	4.55%	-36.27%	-23.13%	0.43%
2012	1.66%	1.46%	-1.98%	-0.12%	4.21%	181.47%	118.29%	1.19%
2013	0.51%	0.66%	1.93%	19.56%	-10.66%	-42.27%	-1.48%	0.52%
2014	-2.69%	-0.34%	4.84%	-12.40%	14.91%	83.44%	87.81%	-0.42%
2015	-9.43%	-1.46%	-1.62%	3.27%	-21.13%	-64.63%	-54.77%	-5.72%

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Percent of Total Sales by Type of Use (2015)

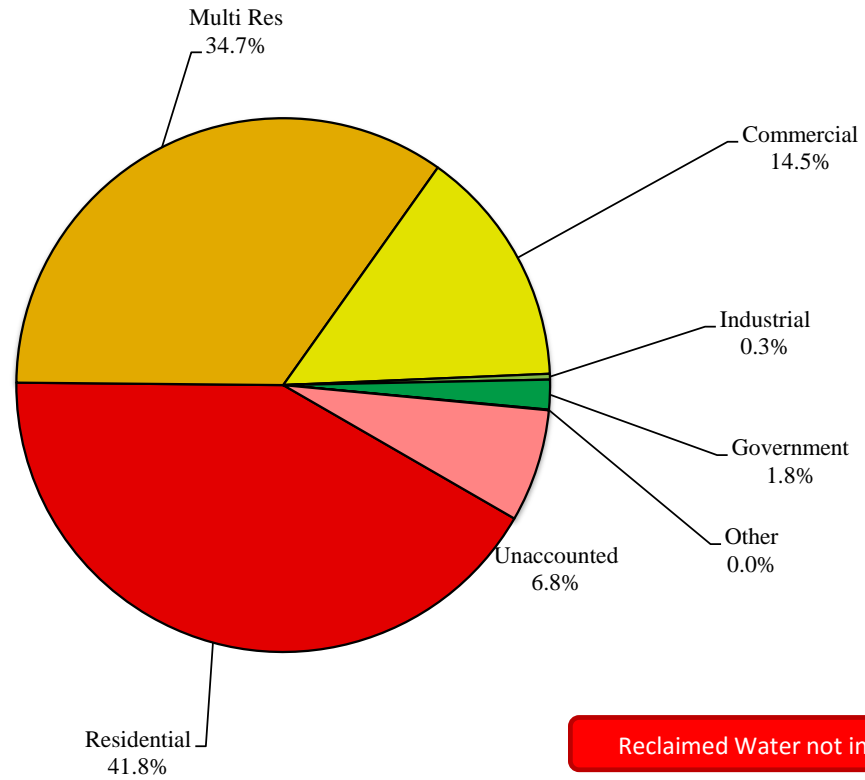


Reclaimed Water not included

California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
Percentage of Total Sales

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Percent Total
1980							
1981							
1982							
1983							
1984							
1985							
1986							
1987							
1988							
1989							
1990							
1991							
1992							
1993							
1994							
1995							
1996	68.10%	24.62%	6.88%	0.00%	0.38%	0.02%	100.00%
1997	60.31%	31.82%	7.30%	0.00%	0.53%	0.04%	100.00%
1998	53.45%	34.22%	10.94%	0.00%	1.32%	0.06%	100.00%
1999	53.45%	34.61%	10.13%	0.00%	1.78%	0.03%	100.00%
2000	54.73%	34.90%	8.93%	0.00%	1.43%	0.01%	100.00%
2001	49.66%	35.66%	11.79%	0.00%	2.75%	0.14%	100.00%
2002	49.40%	35.69%	12.19%	0.00%	2.66%	0.06%	100.00%
2003	48.11%	35.19%	14.12%	0.00%	2.31%	0.27%	100.00%
2004	49.55%	35.14%	12.59%	0.00%	2.65%	0.07%	100.00%
2005	49.07%	35.45%	13.37%	0.00%	2.08%	0.03%	100.00%
2006	49.01%	34.99%	13.59%	0.01%	2.31%	0.10%	100.00%
2007	50.02%	33.63%	13.48%	0.02%	2.49%	0.37%	100.00%
2008	50.17%	33.90%	13.38%	0.12%	2.37%	0.06%	100.00%
2009	50.47%	34.23%	13.12%	0.10%	2.05%	0.02%	100.00%
2010	49.41%	33.93%	14.26%	0.25%	2.10%	0.06%	100.00%
2011	47.59%	35.45%	14.41%	0.33%	2.18%	0.04%	100.00%
2012	47.81%	35.54%	13.96%	0.33%	2.25%	0.11%	100.00%
2013	47.80%	35.59%	14.15%	0.39%	2.00%	0.06%	100.00%
2014	46.71%	35.62%	14.90%	0.34%	2.31%	0.12%	100.00%
2015	44.87%	37.23%	15.55%	0.37%	1.93%	0.04%	100.00%

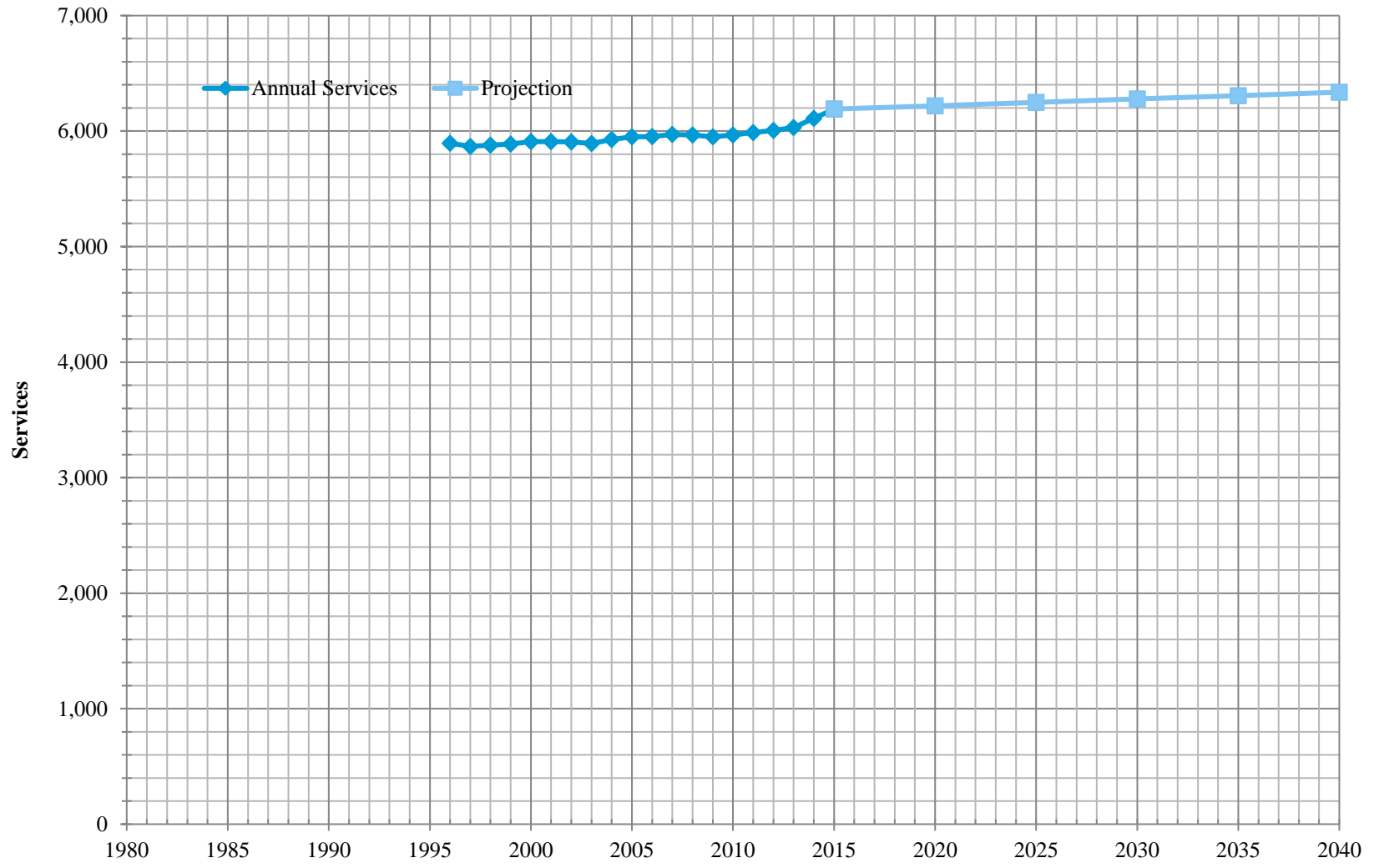
Percent of Total Demand by Type of Use (2015)



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

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Unaccounted	Percent Total
1980								
1981								
1982								
1983								
1984								
1985								
1986								
1987								
1988								
1989								
1990								
1991								
1992								
1993								
1994								
1995								
1996								
1997								
1998								
1999								
2000	53.36%	34.03%	8.70%	0.00%	1.40%	0.01%	2.50%	100.00%
2001	50.34%	36.15%	11.96%	0.00%	2.79%	0.14%	-1.38%	100.00%
2002	47.56%	34.37%	11.74%	0.00%	2.56%	0.05%	3.72%	100.00%
2003	47.91%	35.04%	14.06%	0.00%	2.30%	0.27%	0.41%	100.00%
2004	46.86%	33.23%	11.90%	0.00%	2.51%	0.07%	5.44%	100.00%
2005	45.79%	33.08%	12.48%	0.00%	1.95%	0.03%	6.68%	100.00%
2006	48.12%	34.36%	13.34%	0.01%	2.27%	0.09%	1.80%	100.00%
2007	48.20%	32.41%	12.99%	0.02%	2.40%	0.35%	3.64%	100.00%
2008	48.20%	32.57%	12.85%	0.11%	2.28%	0.06%	3.93%	100.00%
2009	48.65%	33.00%	12.65%	0.10%	1.98%	0.02%	3.62%	100.00%
2010	47.05%	32.31%	13.58%	0.24%	2.00%	0.06%	4.76%	100.00%
2011	45.83%	34.14%	13.88%	0.32%	2.10%	0.04%	3.69%	100.00%
2012	44.16%	32.83%	12.90%	0.30%	2.08%	0.10%	7.63%	100.00%
2013	44.22%	32.93%	13.10%	0.36%	1.85%	0.06%	7.49%	100.00%
2014	40.53%	30.90%	12.93%	0.30%	2.00%	0.10%	13.24%	100.00%
2015	41.81%	34.69%	14.49%	0.35%	1.80%	0.04%	6.82%	100.00%

Historical & Projected Services



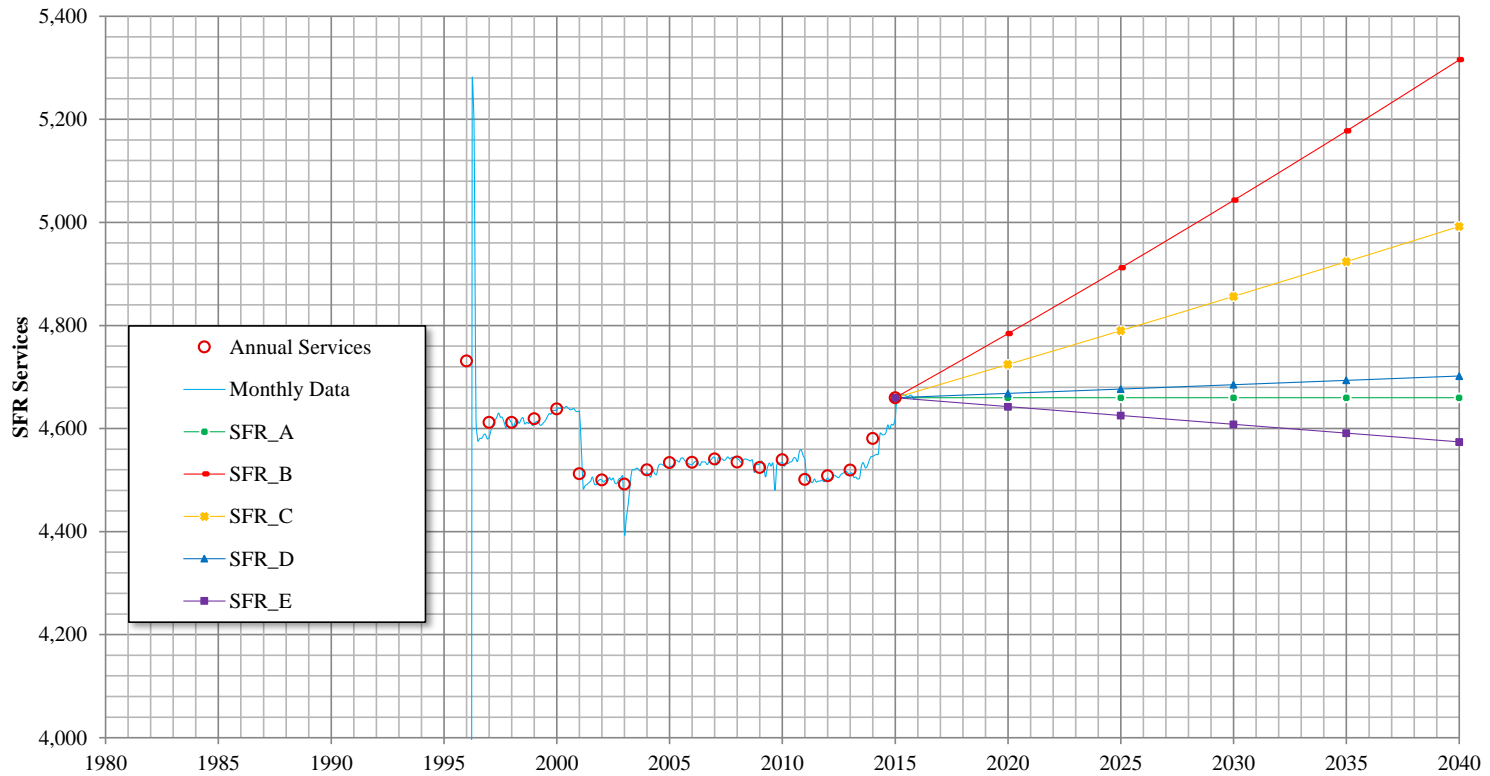
**California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections**

Customer Category		Selected Trend	Growth Rate	Actual Services				Projected Services					
				2000	2005	2010	Base Year 2015	2015	2020	2025	2030	2035	2040
SFR	SFR_D	15 Yr. Avg.	0.04%	4,638	4,534	4,540	4,660	4,660	4,668	4,677	4,685	4,693	4,702
MFR	MFR_E	20 Yr. Avg. Overall	0.26%	781	781	780	866	866	877	888	900	912	923
COM	COM_C	10 Yr. Avg.	0.26%	477	571	574	586	586	594	602	610	618	626
IND	IND_A	Zero Growth Rate	0.00%	0	0	2	1	1	1	1	1	1	1
GOV	GOV_E	20 Yr. Avg. Overall	0.26%	11	61	67	75	75	76	77	78	79	80
OTH	OTH_B	5 Yr. Avg. Overall	0.75%	1	4	2	4	4	4	4	4	4	4
TOTAL		Average growth rate 2016-2040	0.09%	5,908	5,951	5,965	6,191	6,191	6,220	6,248	6,278	6,307	6,337

California Water Service Company - Hawthorne District

Water Supply and Demand Analysis and Projections

SFR Historical & Projected Services

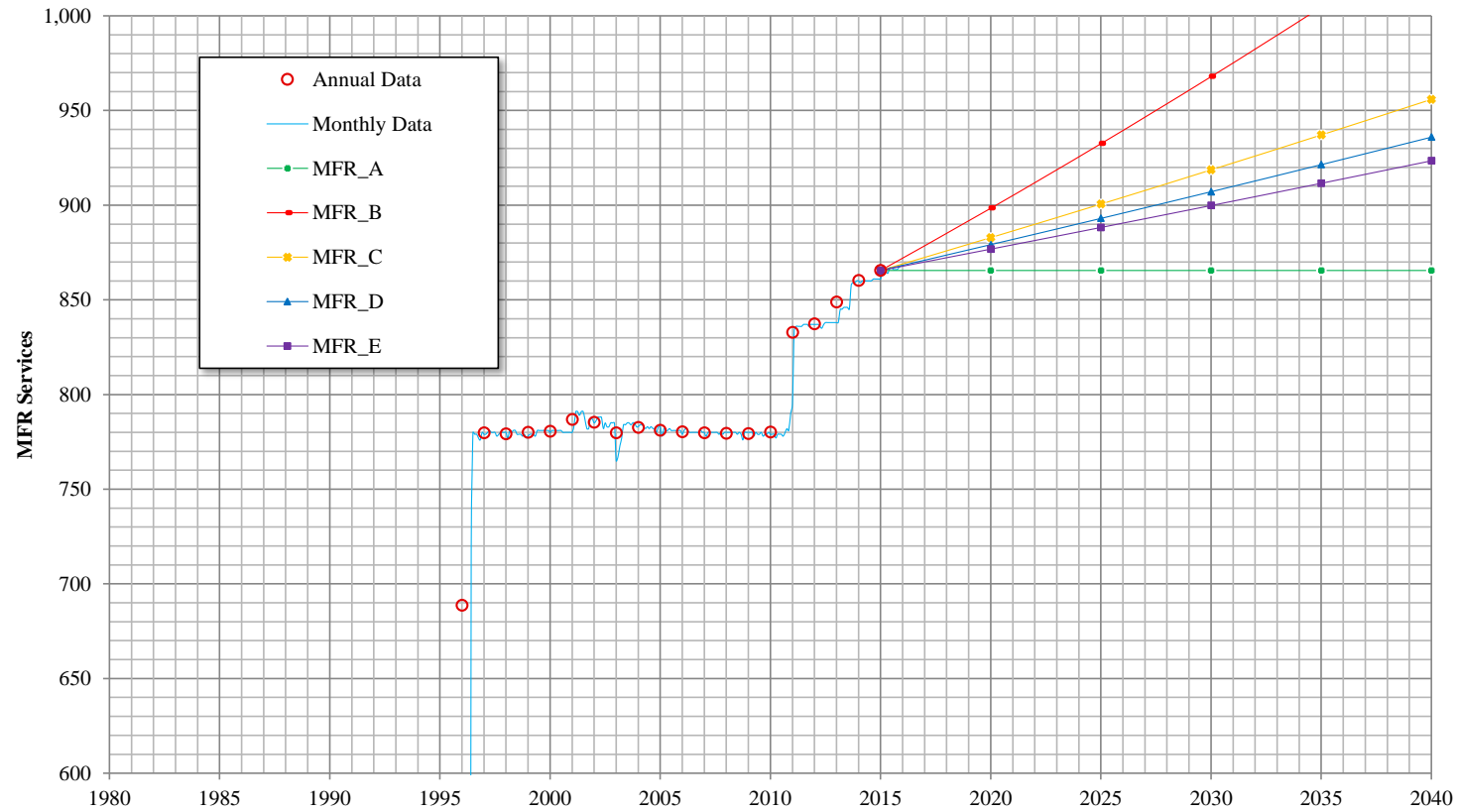


Customer Category	Trend	Growth Rate	Actual			Base Year	Projected						
			2000	2005	2010		2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
			SFR				4,638	4,534	4,540	4,660	4,660	4,660	4,660
	SFR_A	Zero Growth Rate	0.00%			4,660	4,660	4,660	4,660	4,660	4,660	4,660	4,660
	SFR_B	5 Yr. Avg.	0.53%			4,660	4,660	4,784	4,912	5,043	5,177	5,316	
	SFR_C	10 Yr. Avg.	0.28%			4,660	4,660	4,724	4,790	4,857	4,924	4,992	
	> SFR_D	15 Yr. Avg.	0.04%			4,660	4,660	4,668	4,677	4,685	4,693	4,702	
	SFR_E	20 Yr. Avg.	-0.07%			4,660	4,660	4,643	4,625	4,608	4,591	4,574	

California Water Service Company - Hawthorne District

Water Supply and Demand Analysis and Projections

MFR Historical & Projected Services

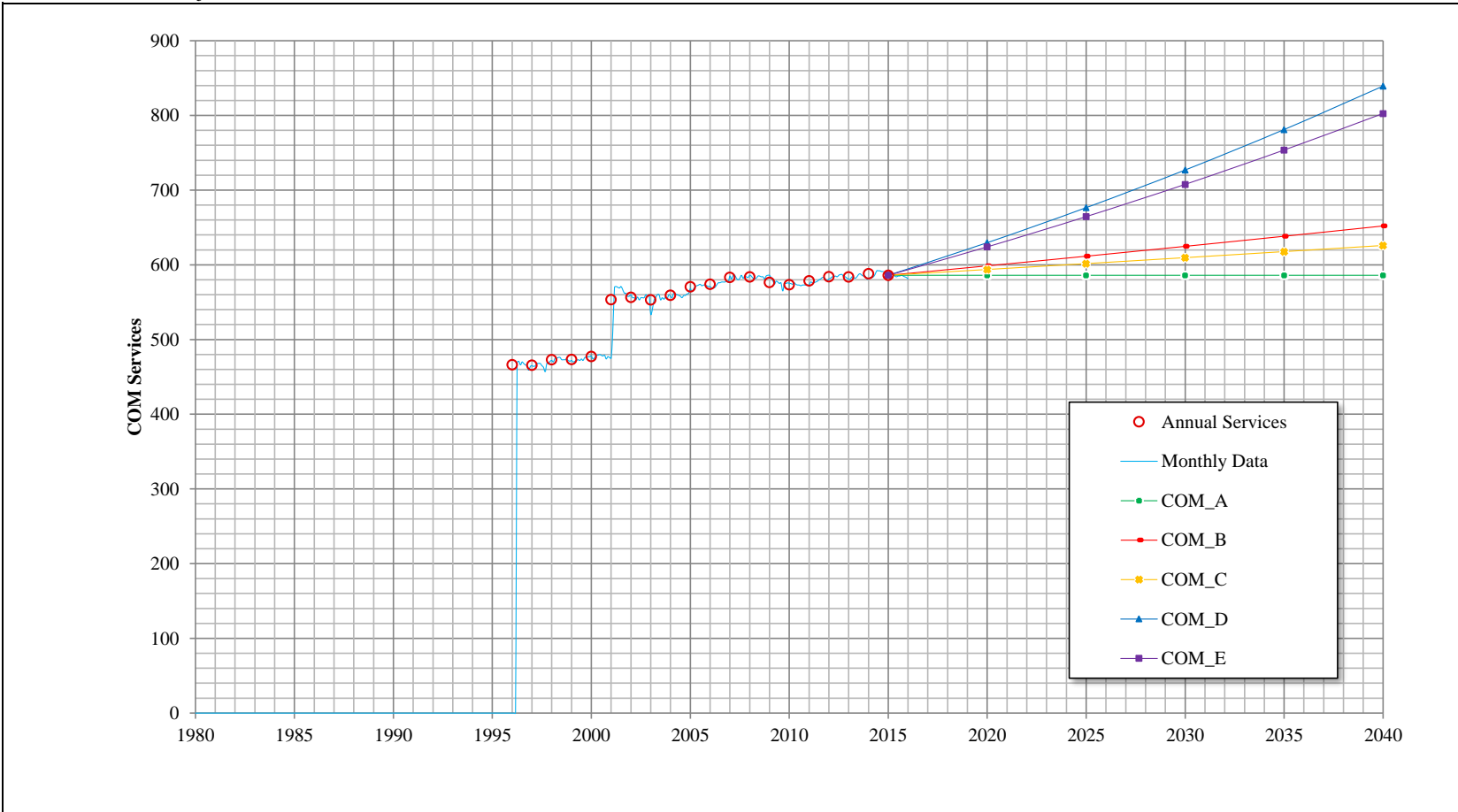


Customer Category	Trend	Growth Rate	Actual		Projected									
			2000	2005	2010	Base Year	2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040	
MFR			781	781	780	866	866	866	866	866	866	866	866	866
	MFR_A	Zero Growth Rate				866	866	866	866	866	866	866	866	866
	MFR_B	5 Yr. Avg. Overall				866	866	898	932	968	1,005	1,043		
	MFR_C	10 Yr. Avg. Overall				866	866	883	901	919	937	956		
	MFR_D	15 Yr. Avg. Overall				866	866	879	893	907	921	936		
	> MFR_E	20 Yr. Avg. Overall				866	866	877	888	900	912	923		

California Water Service Company - Hawthorne District

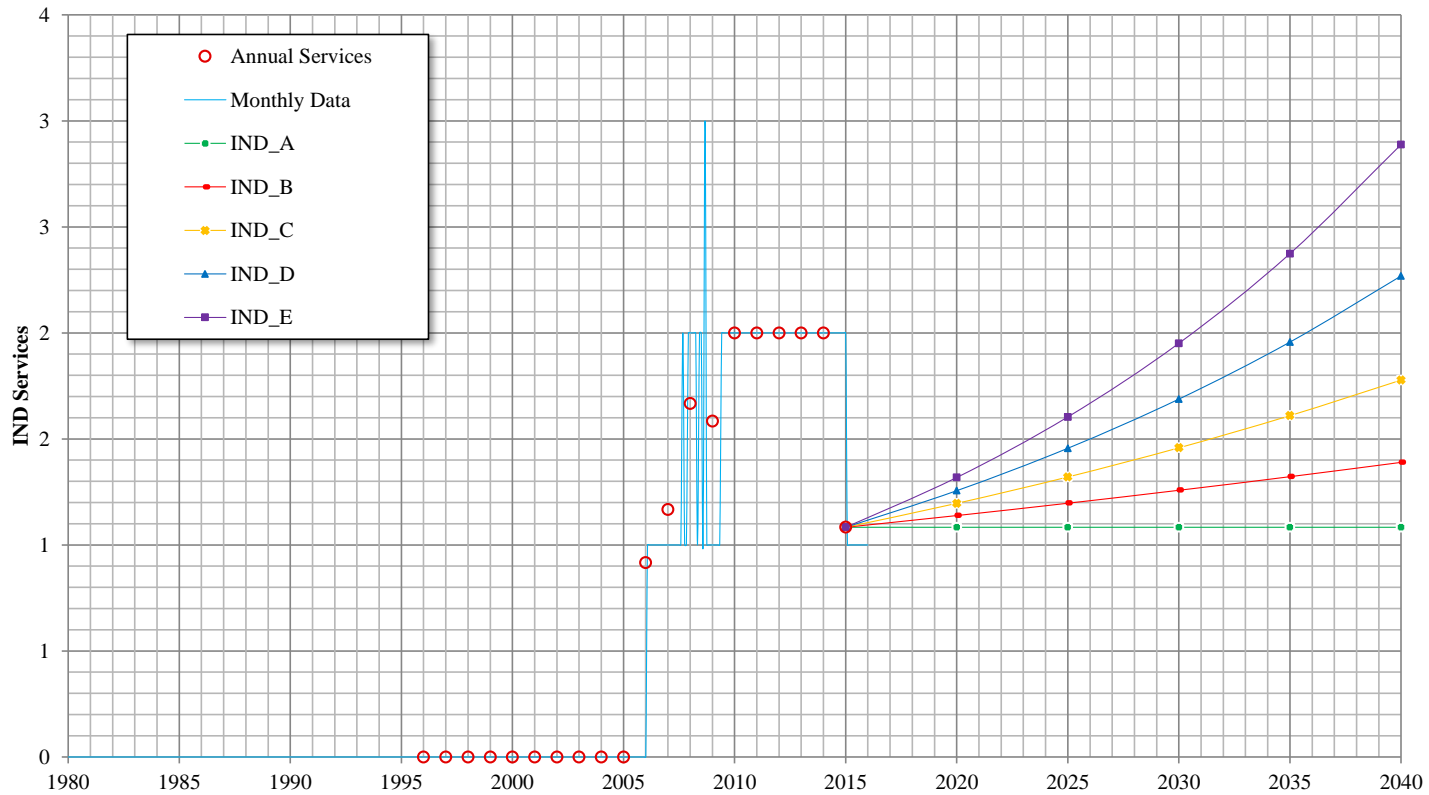
Water Supply and Demand Analysis and Projections

COM Historical & Projected Services



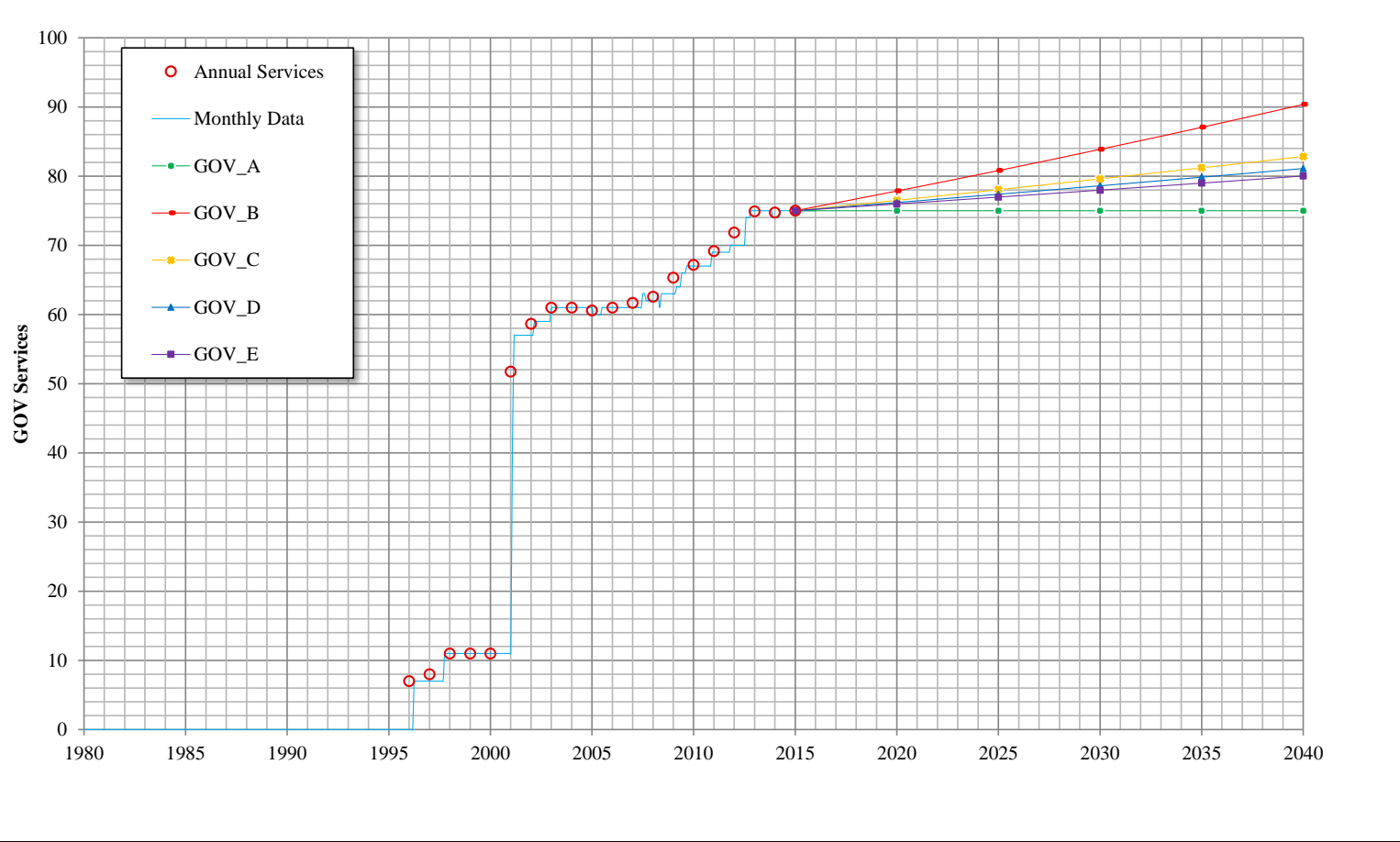
Customer Category	Trend	Growth Rate	Actual				Projected					
			2000	2005	2010	Base Year	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
COM			477	571	574	586	586	586	586	586	586	586
	COM_A	Zero Growth Rate				586	586	586	586	586	586	586
	COM_B	5 Yr. Avg.				586	586	599	612	625	638	652
	> COM_C	10 Yr. Avg.				586	586	594	602	610	618	626
	COM_D	15 Yr. Avg.				586	586	630	677	727	781	839
	COM_E	20 Yr. Avg.				586	586	624	665	708	754	803

California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
 IND Historical & Projected Services



Customer Category	Trend	Growth Rate	Actual			Base Year	Projected					
			2000	2005	2010		2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035
IND	>	IND_A	0	0	2	1	1	1	1	1	1	1
		IND_B				1	1	1	1	1	1	1
		IND_C				1	1	1	1	1	2	2
		IND_D				1	1	1	1	2	2	2
		IND_E				1	1	1	2	2	2	3

California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
 GOV Historical & Projected Services

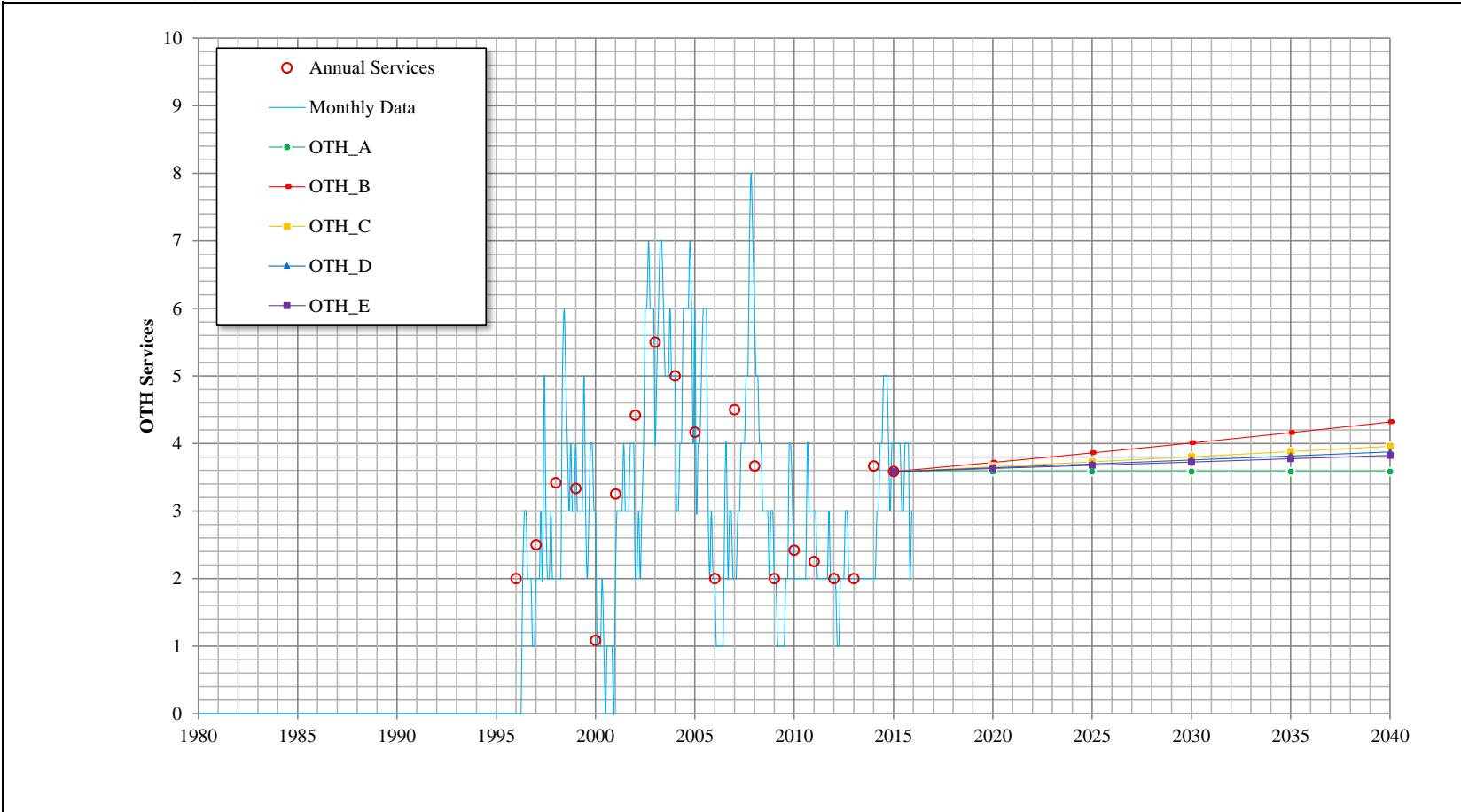


Customer Category	Trend	Growth Rate	Actual			Base Year 2015	Projected							
			2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040		
GOV			11	61	67	75								
	GOV_A	Zero Growth Rate	0.00%			75	75	75	75	75	75	75	75	75
	GOV_B	5 Yr. Avg. Overall	0.75%			75	75	78	81	84	87	90		
	GOV_C	10 Yr. Avg. Overall	0.40%			75	75	77	78	80	81	83		
	GOV_D	15 Yr. Avg. Overall	0.31%			75	75	76	77	79	80	81		
	> GOV_E	20 Yr. Avg. Overall	0.26%			75	75	76	77	78	79	80		

California Water Service Company - Hawthorne District

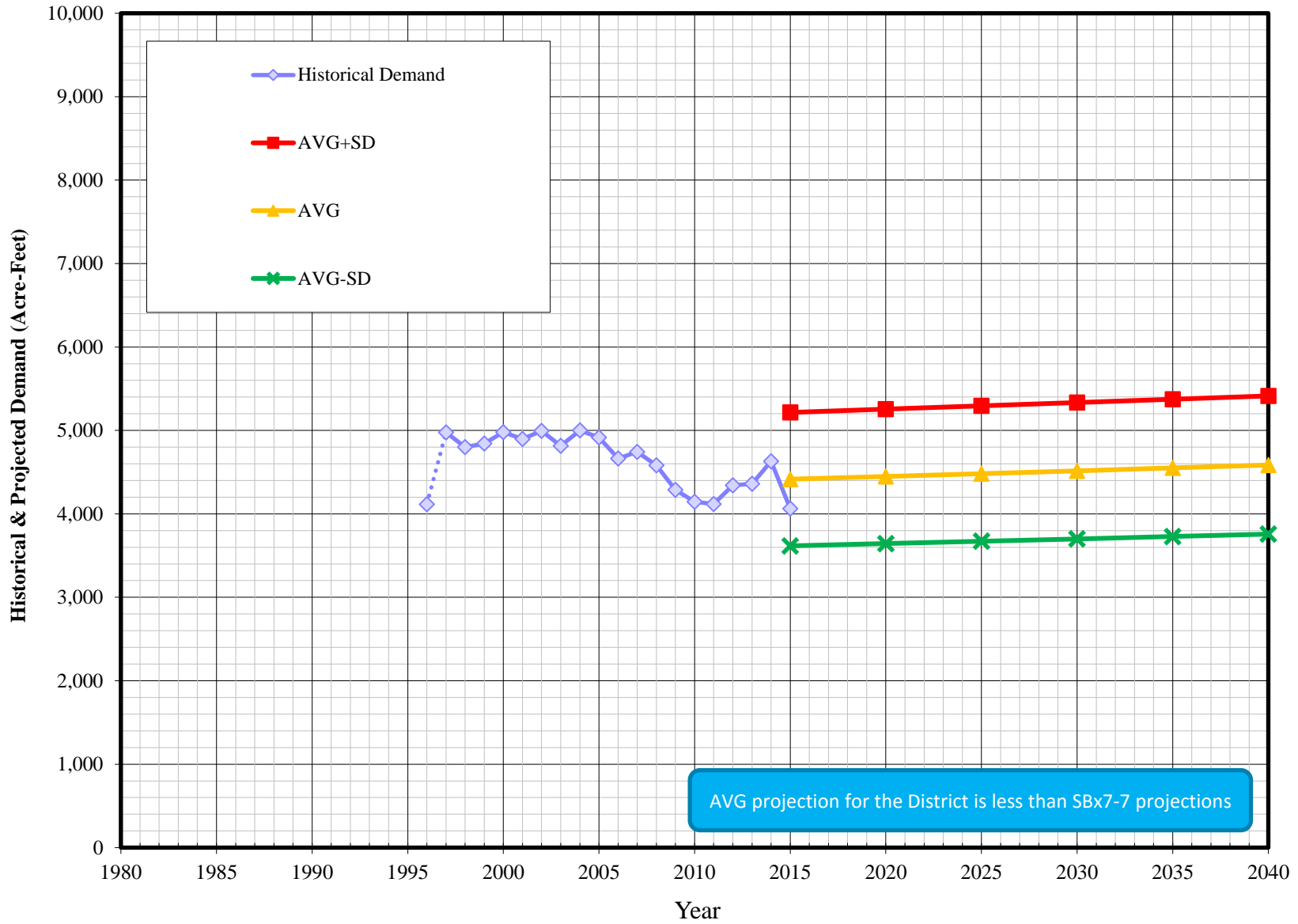
Water Supply and Demand Analysis and Projections

OTH Historical & Projected Services



Customer Category	Trend	Growth Rate	Actual				Projected							
			2000	2005	2010	Base Year 2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040		
OTH			1	4	2	4								
	OTH_A	Zero Growth Rate				4	4	4	4	4	4	4	4	4
	> OTH_B	5 Yr. Avg. Overall				4	4	4	4	4	4	4	4	4
	OTH_C	10 Yr. Avg. Overall				4	4	4	4	4	4	4	4	4
	OTH_D	15 Yr. Avg. Overall				4	4	4	4	4	4	4	4	4
	OTH_E	20 Yr. Avg. Overall				4	4	4	4	4	4	4	4	4

Historical & Projected Demand (HAW)

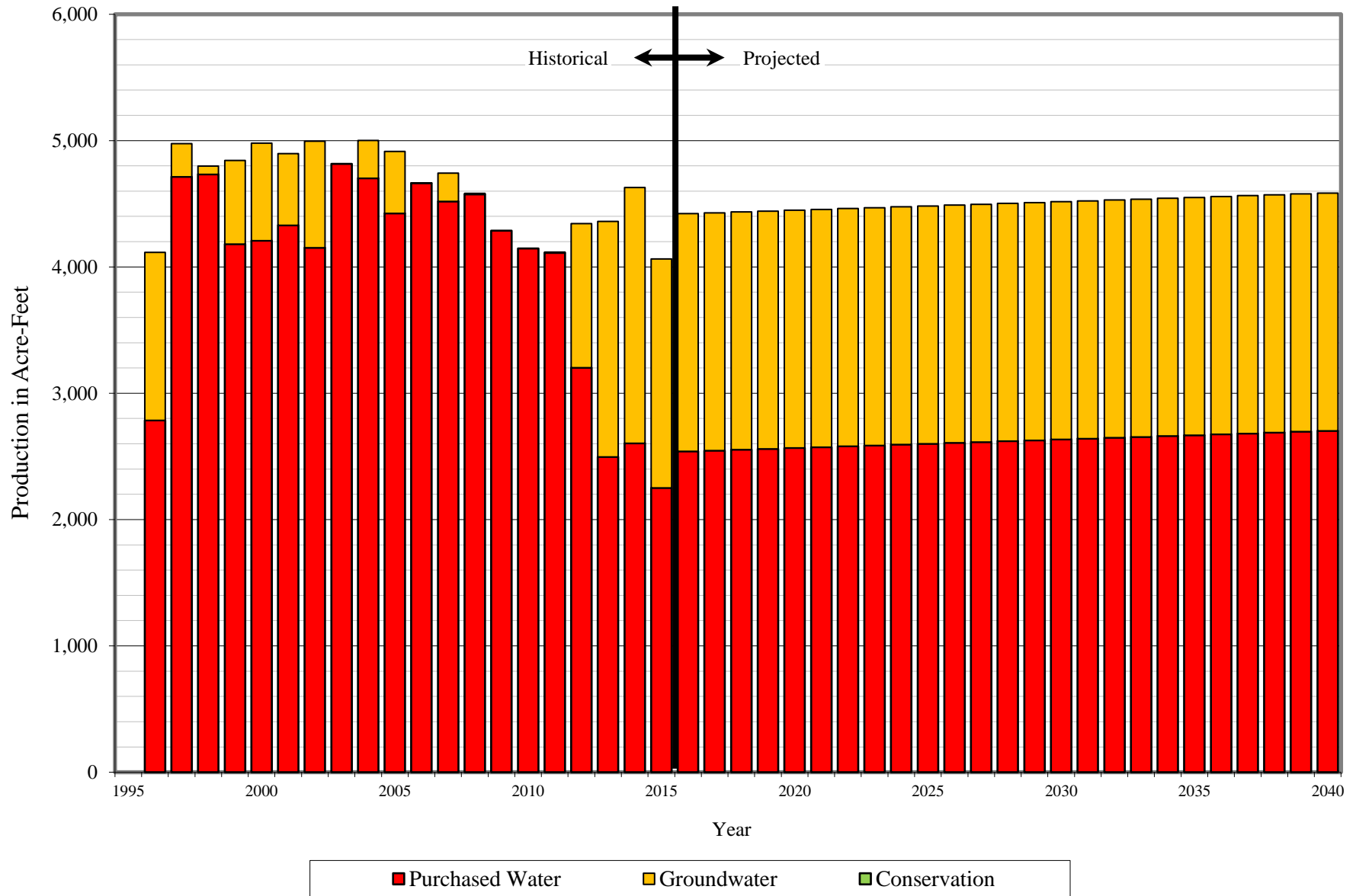


**California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections**

Customer Category	Actual Demand (AFY)								Projected Demand (AFY)					
	1980	1985	1990	1995	2000	2005	2010	2015	2015	2020	2025	2030	2035	2040
SFR	0	0	0	0	2,657	2,250	1,951	1,699	2,330	2,334	2,338	2,342	2,346	2,351
									2,015	2,018	2,022	2,026	2,029	2,033
									1,700	1,703	1,706	1,709	1,712	1,715
MFR	0	0	0	0	1,695	1,626	1,340	1,410	1,703	1,725	1,747	1,770	1,793	1,816
									1,491	1,511	1,530	1,550	1,571	1,591
									1,280	1,297	1,314	1,331	1,348	1,366
COM	0	0	0	0	433	613	563	589	647	655	664	673	682	691
									568	575	583	591	599	607
									489	496	502	509	516	523
IND	0	0	0	0	0	0	10	14	10	10	10	10	10	10
									6	6	6	6	6	6
									2	2	2	2	2	2
GOV	0	0	0	0	70	96	83	73	127	128	130	132	133	135
									92	93	94	95	97	98
									57	58	58	59	60	61
OTH	0	0	0	0	0	1	2	2	6	6	7	7	7	7
									4	5	5	5	5	5
									3	3	3	3	3	3
UAWF	0	0	0	0	125	328	197	277	394	396	398	400	402	404
									240	241	242	243	244	246
									86	86	87	87	87	88
TOTAL (AFY)	0	0	0	0	4,980	4,915	4,146	4,064	5,216	5,254	5,293	5,333	5,373	5,414
									4,416	4,449	4,483	4,517	4,551	4,586
									3,617	3,644	3,672	3,700	3,729	3,757
TOTAL (MGD)	0.00	0.00	0.00	0.00	4.45	4.39	3.70	3.63	4.66	4.69	4.73	4.76	4.80	4.83
									3.94	3.97	4.00	4.03	4.06	4.09
									3.23	3.25	3.28	3.30	3.33	3.35

2,015

Historical and Projected Distribution of Demand by Source



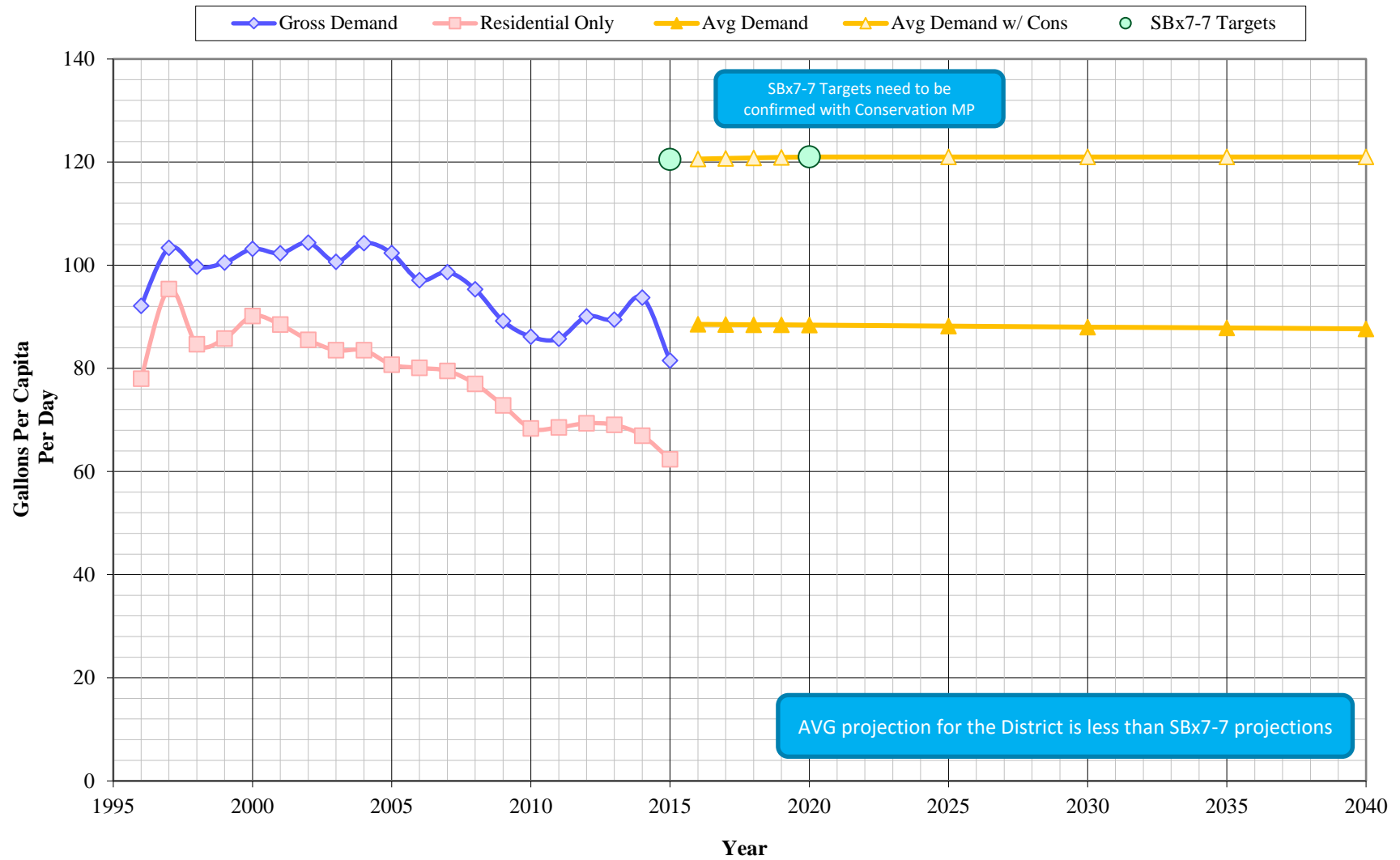
California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
Historical and Projected Distribution of Demand by Source

Year	Purchased Water		Ground Water		Reclaimed Water		Conservation		Total	
	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										
1988										
1989										
1990										
1991										
1992										
1993										
1994										
1995										
1996	2.49	2,785	1.19	1,331	0.00	0			3.67	4,116
1997	4.21	4,714	0.23	262	0.00	0			4.44	4,976
1998	4.23	4,733	0.06	67	0.00	0			4.28	4,799
1999	3.73	4,182	0.59	660	0.00	0			4.32	4,842
2000	3.76	4,208	0.69	772	0.00	0			4.45	4,980
2001	3.86	4,329	0.51	568	0.00	0			4.37	4,897
2002	3.71	4,152	0.75	843	0.00	0			4.46	4,995
2003	4.30	4,817	0.00	0	0.00	0			4.30	4,817
2004	4.20	4,703	0.27	298	0.00	0			4.46	5,000
2005	3.95	4,424	0.44	491	0.00	0			4.39	4,915
2006	4.16	4,664	0.00	0	0.00	0			4.16	4,665
2007	4.03	4,520	0.20	223	0.00	0			4.23	4,743
2008	4.08	4,574	0.01	8	0.00	0			4.09	4,582
2009	3.83	4,287	0.00	0	0.00	0			3.83	4,287
2010	3.70	4,146	0.00	0	0.00	0			3.70	4,146

Year	Purchased Water		Ground Water		Reclaimed Water		Conservation		Total	
	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY
2011	3.67	4,111	0.01	6	0.00	0	0.00	0	3.68	4,117
2012	2.86	3,203	1.02	1,141	0.00	0	0.00	0	3.88	4,344
2013	2.23	2,495	1.66	1,865	0.00	0	0.00	0	3.89	4,360
2014	2.33	2,605	1.81	2,025	0.00	0	0.00	0	4.13	4,630
2015	2.01	2,250	1.62	1,814	0.00	0	0.00	0	3.63	4,064
2016	2.27	2,540	1.68	1,882	0.00	0	0.00	0	3.95	4,422
2017	2.27	2,547	1.68	1,882	0.00	0	0.00	0	3.95	4,429
2018	2.28	2,554	1.68	1,882	0.00	0	0.00	0	3.96	4,436
2019	2.29	2,560	1.68	1,882	0.00	0	0.00	0	3.97	4,442
2020	2.29	2,567	1.68	1,882	0.00	0	0.00	0	3.97	4,449
2021	2.30	2,573	1.68	1,882	0.00	0	0.00	0	3.98	4,455
2022	2.30	2,580	1.68	1,882	0.00	0	0.00	0	3.98	4,462
2023	2.31	2,587	1.68	1,882	0.00	0	0.00	0	3.99	4,469
2024	2.32	2,594	1.68	1,882	0.00	0	0.00	0	4.00	4,476
2025	2.32	2,600	1.68	1,882	0.00	0	0.00	0	4.00	4,482
2026	2.33	2,607	1.68	1,882	0.00	0	0.00	0	4.01	4,489
2027	2.33	2,614	1.68	1,882	0.00	0	0.00	0	4.01	4,496
2028	2.34	2,621	1.68	1,882	0.00	0	0.00	0	4.02	4,503
2029	2.35	2,627	1.68	1,882	0.00	0	0.00	0	4.03	4,509
2030	2.35	2,634	1.68	1,882	0.00	0	0.00	0	4.03	4,516
2031	2.36	2,641	1.68	1,882	0.00	0	0.00	0	4.04	4,523
2032	2.36	2,648	1.68	1,882	0.00	0	0.00	0	4.04	4,530
2033	2.37	2,655	1.68	1,882	0.00	0	0.00	0	4.05	4,537
2034	2.38	2,661	1.68	1,882	0.00	0	0.00	0	4.06	4,543
2035	2.38	2,668	1.68	1,882	0.00	0	0.00	0	4.06	4,550
2036	2.39	2,675	1.68	1,882	0.00	0	0.00	0	4.07	4,557
2037	2.39	2,682	1.68	1,882	0.00	0	0.00	0	4.07	4,564
2038	2.40	2,689	1.68	1,882	0.00	0	0.00	0	4.08	4,571
2039	2.41	2,696	1.68	1,882	0.00	0	0.00	0	4.09	4,578
2040	2.41	2,703	1.68	1,882	0.00	0	0.00	0	4.09	4,585

^
|
ACTUAL
|
PROJECTED
v

Per Capita Consumption (HAW)



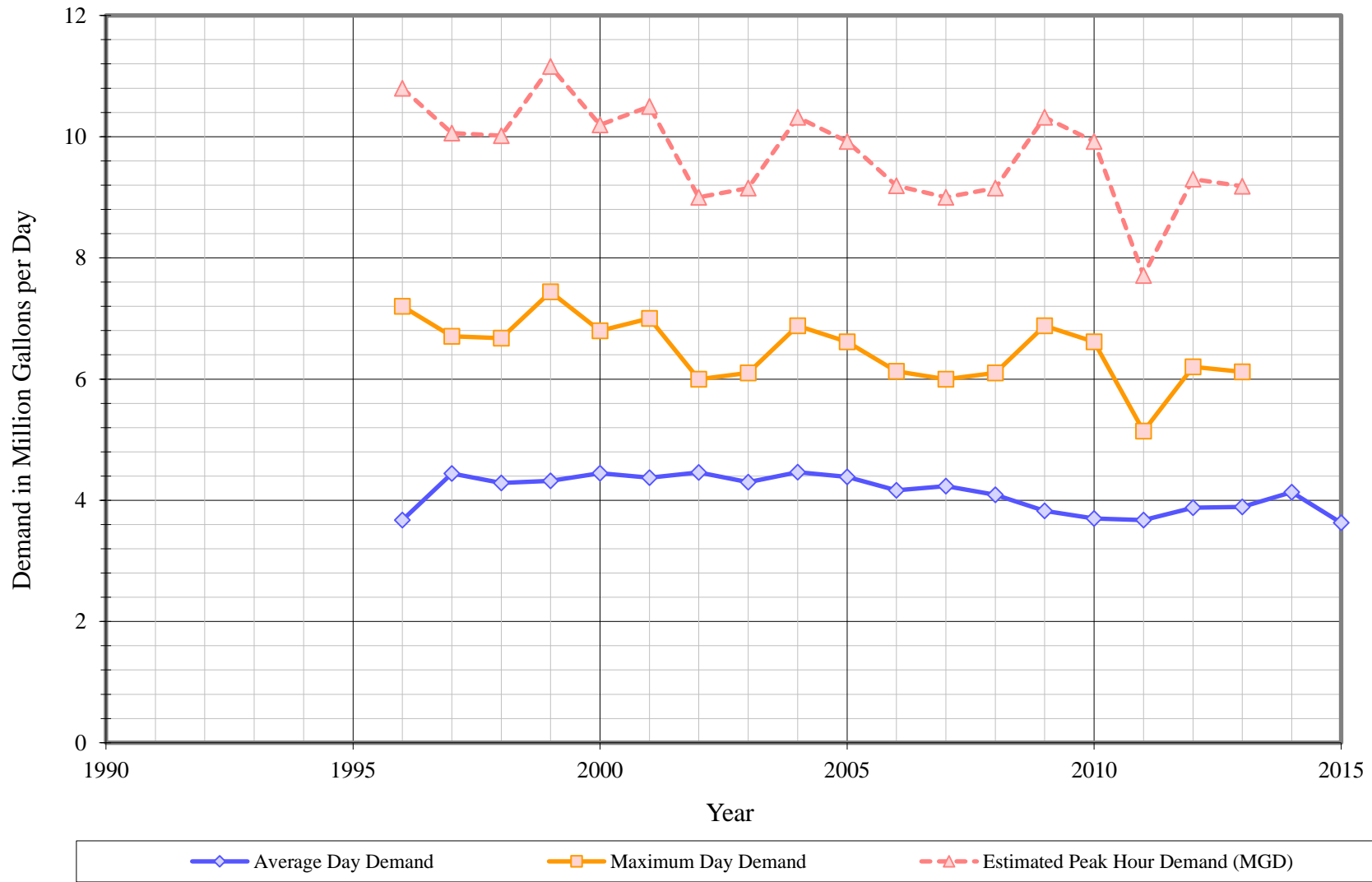
California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
Per Capita Water Demand Calculation

Worksheet 15

Year	POP	Historical				Projected			
		Gross Demand		Residential Only		Avg Demand		Avg Demand w/ Cons	
		Usage (AFY)	Per Capita (GPCPD)	Usage (AFY)	Per Capita (GPCPD)	Demand (AFY)	Per Capita (GPCPD)	Demand (AFY)	Per Capita (GPCPD)
1995									
1996	39,888	4,116	92	3,485	78				
1997	42,980	4,976	103	4,592	95				
1998	42,964	4,799	100	4,076	85				
1999	43,012	4,842	100	4,133	86				
2000	43,088	4,980	103	4,352	90				
2001	42,735	4,897	102	4,236	88				
2002	42,717	4,995	104	4,092	86				
2003	42,710	4,817	101	3,996	84				
2004	42,807	5,000	104	4,005	84				
2005	42,866	4,915	102	3,876	81				
2006	42,884	4,665	97	3,847	80				
2007	42,919	4,743	99	3,823	80				
2008	42,918	4,582	95	3,701	77				
2009	42,902	4,287	89	3,500	73				
2010	42,964	4,146	86	3,290	68				
2011	42,876	4,117	86	3,293	69				
2012	43,054	4,344	90	3,345	69				
2013	43,496	4,360	89	3,364	69				
2014	44,086	4,630	94	3,307	67				
2015	44,504	4,064	82	3,109	62				
2016	44,589					4,422	89	6,023	121
2017	44,674					4,429	89	6,040	121
2018	44,759					4,436	88	6,057	121
2019	44,845					4,442	88	6,073	121
2020	44,931					4,449	88	6,090	121
2025	45,363					4,482	88	6,148	121
2030	45,801					4,516	88	6,208	121
2035	46,244					4,550	88	6,268	121
2040	46,693					4,585	88	6,329	121

<i>SBx7-7 Targets</i>	
2015	121
2020	121

Average Day, Maximum Day, Peak Demand

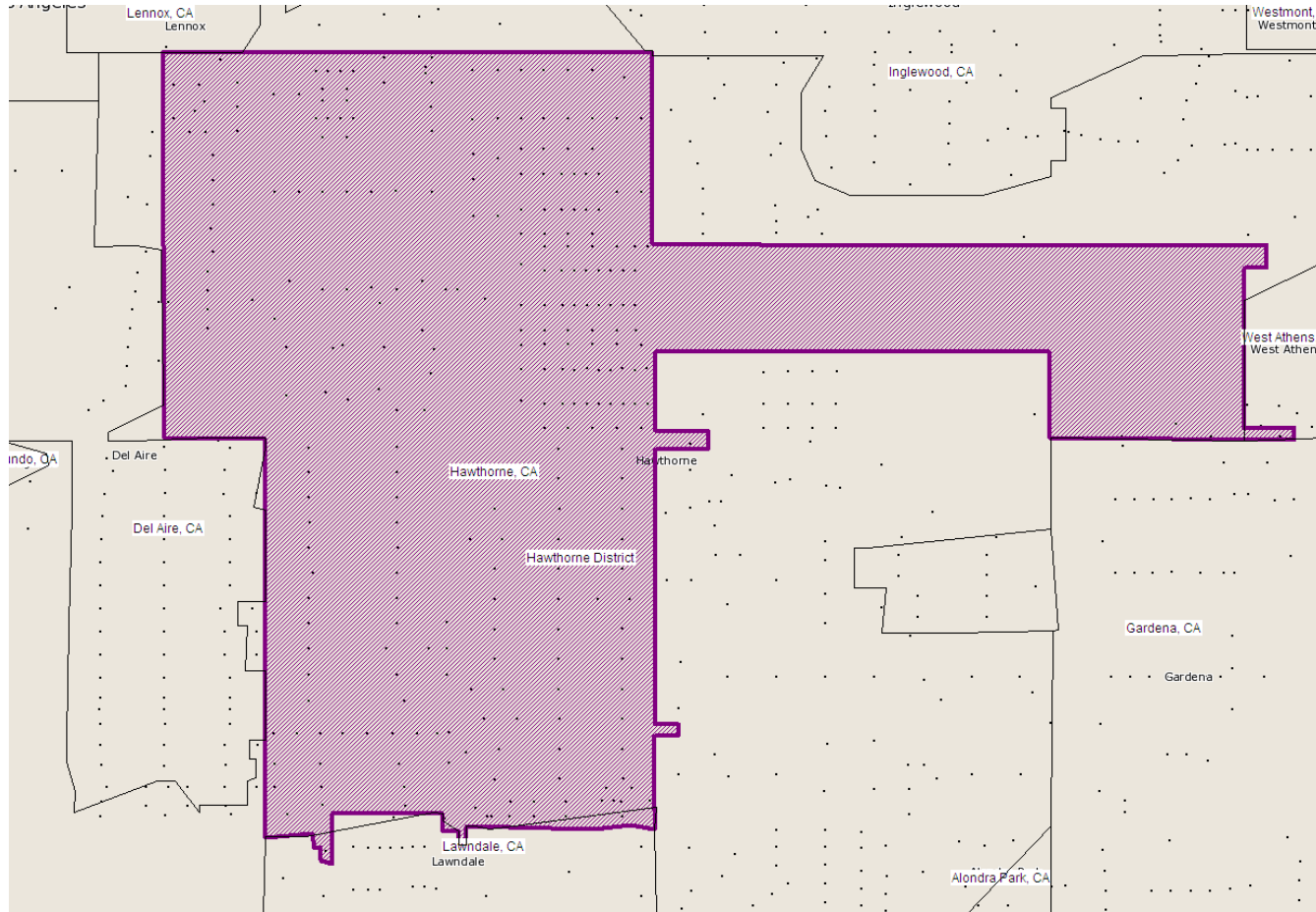


California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
Historical and Projected Average Day, Maximum Day, and Peak Demand

Worksheet 11

Year	Historical Annual Demand		Average Day Demand		Maximum Day Demand		MDD ADD Ratio	Estimated Peak Hour Demand		PHD MDD Ratio	PHD ADD Ratio	Measured Peak Hour Demand		PHD MDD Ratio
	(AFY)	(MGY)	(MGD)	(GPD)	(MGD)	(GPD)		(MGD)	(GPM)			(MGD)	(GPM)	
1990														
1991														
1992														
1993														
1994														
1995														
1996	4,116	1,341	3.67	623	7.20	1,221	1.96	10.80	1,832	1.50	2.94			
1997	4,976	1,622	4.44	757	6.71	1,143	1.51	10.06	1,714	1.50	2.26			
1998	4,799	1,564	4.28	729	6.68	1,136	1.56	10.01	1,703	1.50	2.34			
1999	4,842	1,578	4.32	734	7.44	1,263	1.72	11.16	1,895	1.50	2.58			
2000	4,980	1,623	4.45	752	6.80	1,150	1.53	10.19	1,725	1.50	2.29			
2001	4,897	1,596	4.37	740	7.00	1,185	1.60	10.50	1,777	1.50	2.40			
2002	4,995	1,628	4.46	755	6.00	1,016	1.35	9.00	1,524	1.50	2.02			
2003	4,817	1,570	4.30	730	6.10	1,035	1.42	9.15	1,553	1.50	2.13			
2004	5,000	1,629	4.46	753	6.88	1,161	1.54	10.32	1,741	1.50	2.31			
2005	4,915	1,601	4.39	737	6.62	1,112	1.51	9.92	1,667	1.50	2.26			
2006	4,665	1,520	4.16	699	6.13	1,029	1.47	9.19	1,544	1.50	2.21			
2007	4,743	1,546	4.23	709	6.00	1,005	1.42	9.00	1,507	1.50	2.13			
2008	4,582	1,493	4.09	686	6.10	1,022	1.49	9.15	1,534	1.50	2.24			
2009	4,287	1,397	3.83	643	6.88	1,157	1.80	10.32	1,735	1.50	2.70			
2010	4,146	1,351	3.70	620	6.62	1,109	1.79	9.92	1,663	1.50	2.68			
2011	4,117	1,342	3.68	614	5.14	859	1.40	7.71	1,288	1.50	2.10			
2012	4,344	1,415	3.88	646	6.20	1,032	1.60	9.30	1,548	1.50	2.40			
2013	4,360	1,421	3.89	645	6.12	1,015	1.57	9.18	1,522	1.50	2.36			
2014	4,630	1,509	4.13	676										
2015	4,064	1,324	3.63	586										
10 year Average (2006-2015)			3.92	707	6.43	1,083	1.54	9.65	1,597	1.50	2.39			
5 year Average (2011-2015)			3.84	672	6.34	1,064	1.59	9.52	1,625	1.50	2.31			

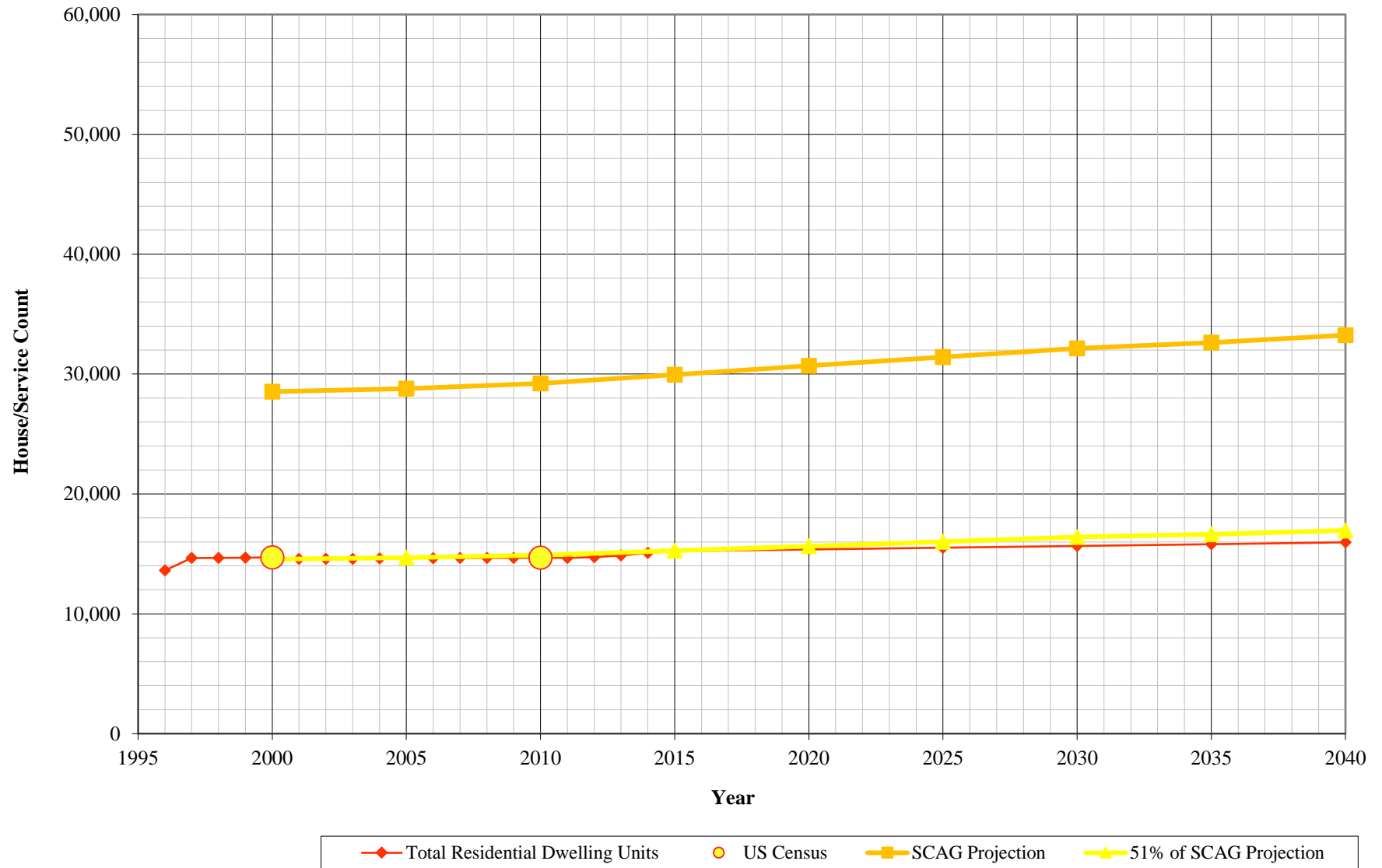
California Water Service Company - Hawthorne District
Water Supply and Demand Analysis and Projections
MarPlot Summary



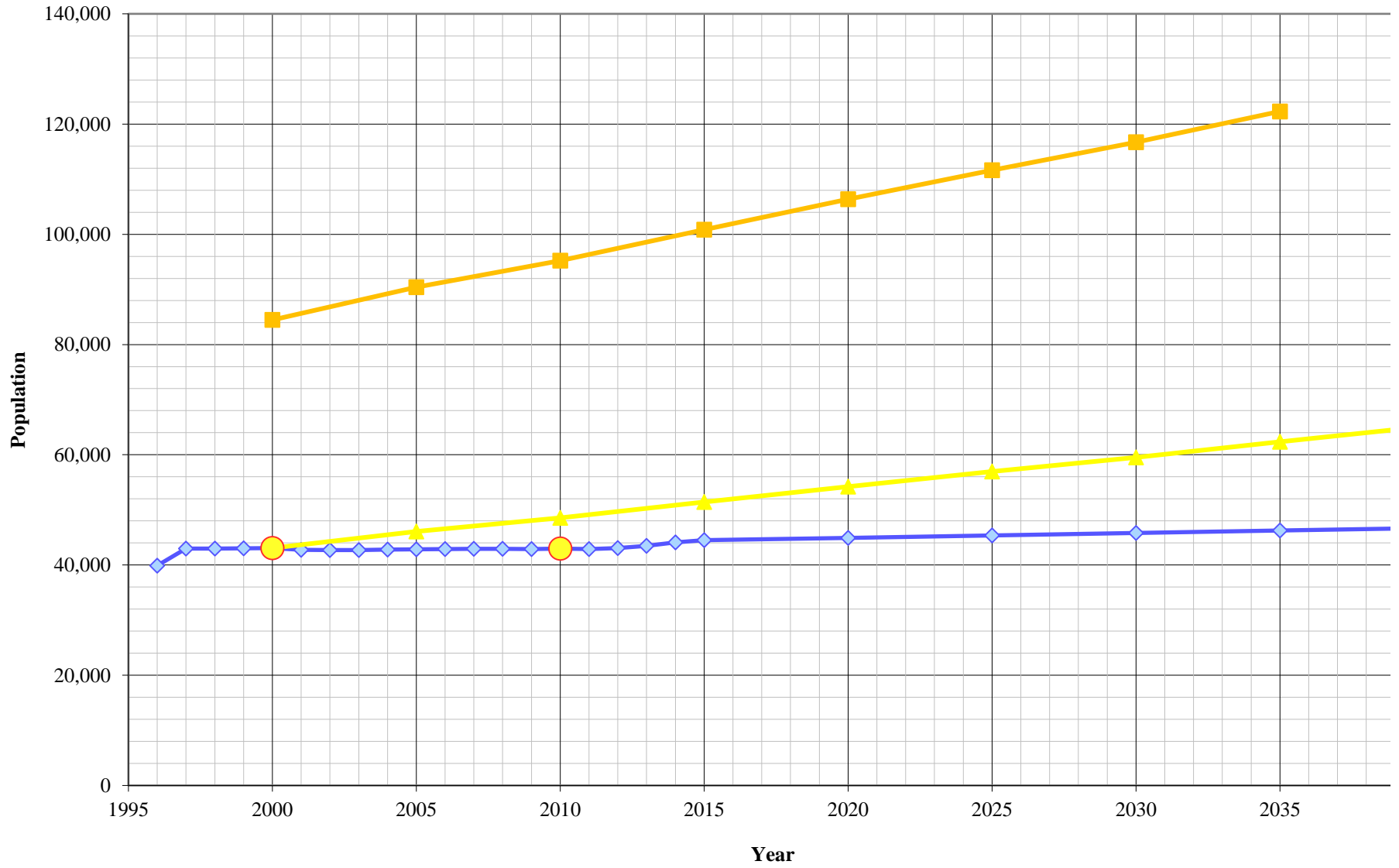
System	US Census 2000 Summary				US Census 2010 Summary				2000-2010 Change		
	Census Tract Blocks	Population	Housing Units (HU)	Density	Census Tract Blocks	Population	Housing Units (HU)	Density	Percentage Population Change	Percentage HU Change	Density Change
Hawthorne	206	43,088	14,707	2.93	290	42,964	14,689	2.92	-0.3%	-0.1%	-0.2%
	206	43,088	14,707	2.93	290	42,964	14,689	2.92	-0.3%	-0.1%	-0.2%

MARPLOT disclaimer: The population and housing number given above are only rough estimates. They are based on the US Census Blocks. Although Census Blocks are polygons, MARPLOT uses the centroid, or center point, rather than the entire polygon. If a Census Block centroid is within any of the MARPLOT selected objects, the population and housing numbers for that block are tallied, even if only part of the block is within the selected object. It is possible for a block not be counted if its centroid is not within selected objects, even though part of the block is within the selected objects.

Housing Projections



Population Projections



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

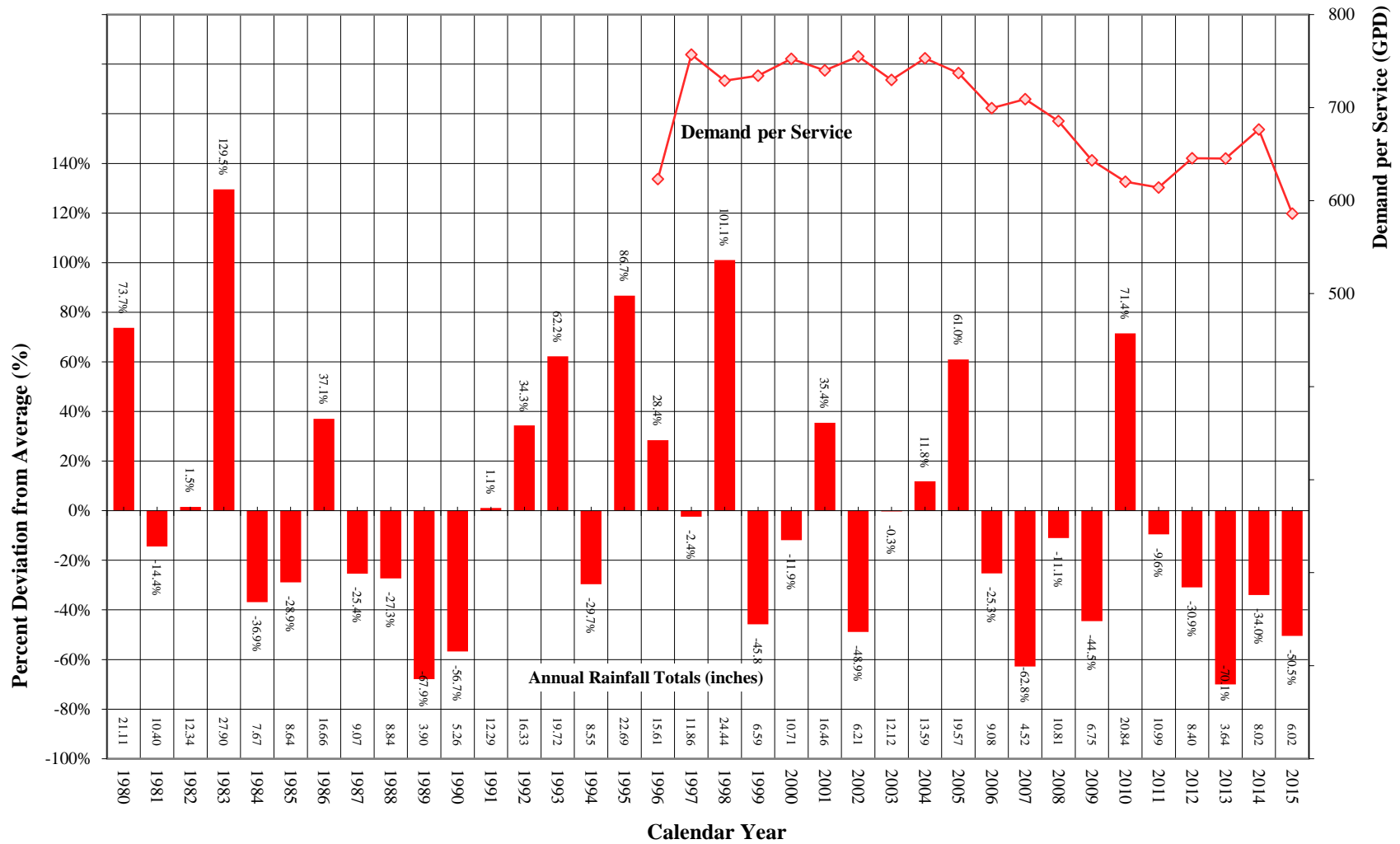
Year	US Census		Persons per Housing Unit	Single Family Residential	Multi Family Residential			Flat Rate Residential
	Population	Housing Units		Services (DU)	Services	Units (DU)	Unit Density	Services (DU)
2000	43,088	14,707	2.930	4,638	781	10,069	12.9	0
2010	42,964	14,689	2.925	4,540	780	10,149	13.0	0
	-0.3%	-0.1%	-0.2%	-2.1%	0.0%	0.8%	0.8%	0.0%

Year	Single Family Residential	Multi Family Residential			Flat Rate Residential Services (DU)	Total Residential Dwelling Units	Persons per Housing Unit	Estimated District Population	
	Services (DU)	Services	Residential Units (DU)	Unit Density					
1995									
1996	4,731	689	8,883	12.9	0	13,615	2.930	39,888	
1997	4,612	780	10,058	12.9	0	14,670	2.930	42,980	
1998	4,612	779	10,052	12.9	0	14,665	2.930	42,964	
1999	4,619	780	10,062	12.9	0	14,681	2.930	43,012	
2000	4,638	781	10,069	12.9	0	14,707	2.930	43,088	
2001	4,512	787	10,077	12.8	0	14,589	2.929	42,735	
2002	4,500	785	10,085	12.8	0	14,585	2.929	42,717	
2003	4,493	780	10,093	12.9	0	14,585	2.928	42,710	
2004	4,520	783	10,101	12.9	0	14,621	2.928	42,807	
2005	4,534	781	10,109	12.9	0	14,643	2.927	42,866	
2006	4,535	780	10,117	13.0	0	14,652	2.927	42,884	
2007	4,541	780	10,125	13.0	0	14,666	2.926	42,919	
2008	4,535	780	10,133	13.0	0	14,668	2.926	42,918	
2009	4,525	779	10,141	13.0	0	14,666	2.925	42,902	
2010	4,540	780	10,149	13.0	0	14,689	2.925	42,964	
2011	4,502	833	10,157	12.2	0	14,659	2.925	42,876	
2012	4,509	837	10,211	12.2	0	14,720	2.925	43,054	
2013	4,520	849	10,351	12.2	0	14,871	2.925	43,496	
2014	4,581	860	10,492	12.2	0	15,073	2.925	44,086	
2015	4,660	866	10,556	12.2	0	15,215	2.925	44,504	
2020	4,668	877	10,693	12.2	0	15,361	2.925	44,931	
2025	4,677	888	10,833	12.2	0	15,509	2.925	45,363	
2030	4,685	900	10,974	12.2	0	15,659	2.925	45,801	
2035	4,693	912	11,117	12.2	0	15,811	2.925	46,244	
2040	4,702	923	11,262	12.2	0	15,964	2.925	46,693	

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Comparison of Annual Rainfall to Historical Average



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

Temperature & Rainfall History

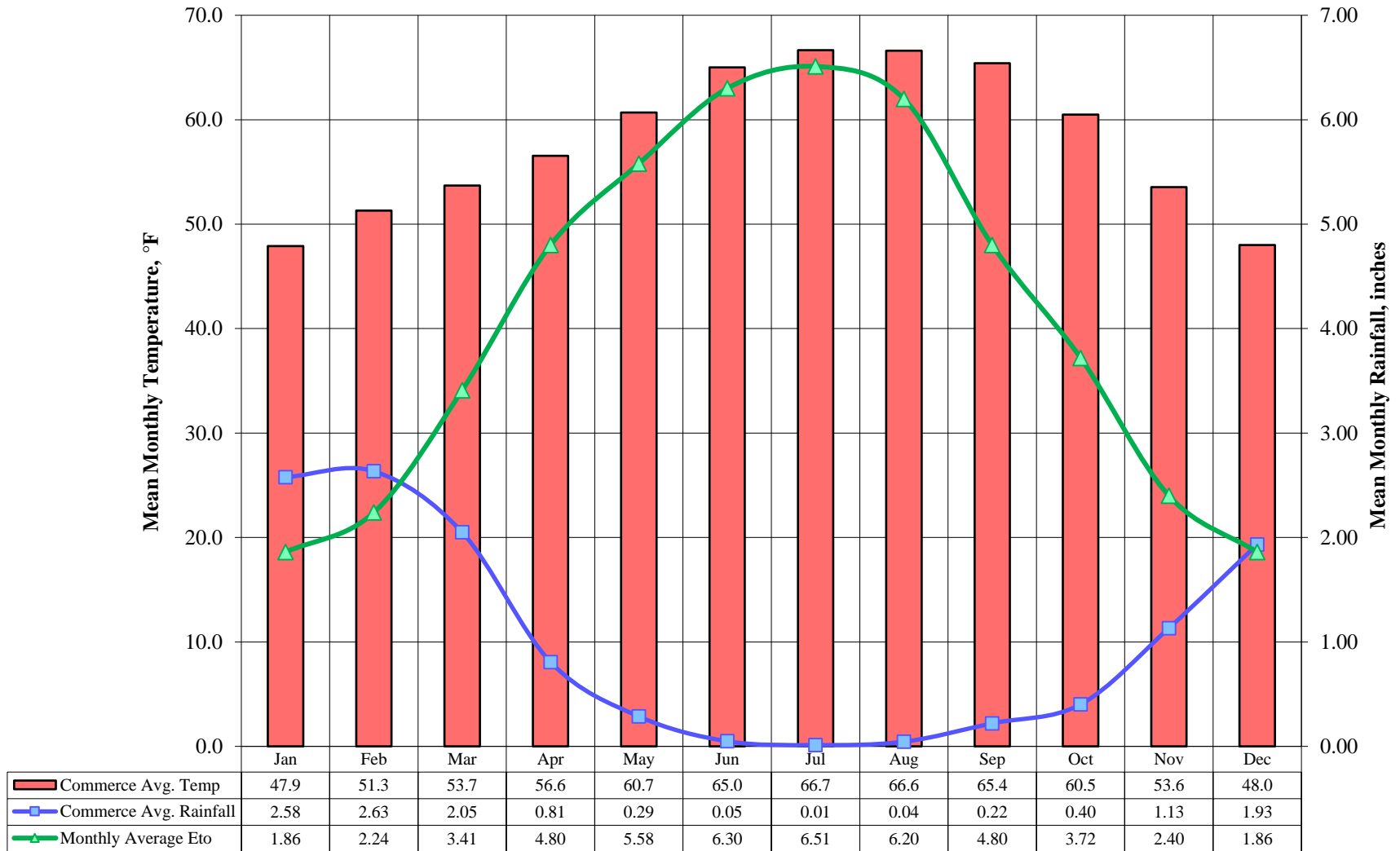
Year	Precipitation		Temperature			Demand per Service (gpd)	Percent of Average Demand
	Annual (in)	Percent Variation	Tmax (°F)	Tmin (°F)	Mean (°F)		
1980	21.11	73.7%	78.90	49.10	64.0		
1981	10.40	-14.4%	80.50	49.30	64.9		
1982	12.34	1.5%	79.40	45.90	62.7		
1983	27.90	129.5%	82.50	48.70	65.6		
1984	7.67	-36.9%	84.90	47.30	66.1		
1985	8.64	-28.9%	81.80	46.40	64.1		
1986	16.66	37.1%	77.70	47.80	62.8		
1987	9.07	-25.4%	77.40	45.10	61.3		
1988	8.84	-27.3%	76.30	46.30	61.3		
1989	3.90	-67.9%	77.90	44.20	61.1		
1990	5.26	-56.7%	80.20	45.00	62.6		
1991	12.29	1.1%	76.90	47.70	62.3		
1992	16.33	34.3%	81.10	46.30	63.7		
1993	19.72	62.2%	76.90	47.60	62.3		
1994	8.55	-29.7%	82.80	47.40	65.1		
1995	22.69	86.7%	79.20	49.50	64.4		
1996	15.61	28.4%	80.70	48.60	64.7	623	-9.9%
1997	11.86	-2.4%	82.60	47.80	65.2	757	9.4%
1998	24.44	101.1%	80.50	45.70	63.1	729	5.3%
1999	6.59	-45.8%	81.50	48.10	64.8	734	6.1%
2000	10.71	-11.9%	79.00	48.80	63.9	752	8.8%
2001	16.46	35.4%	75.40	45.00	60.2	740	7.0%
2002	6.21	-48.9%	76.70	47.10	61.9	755	9.1%
2003	12.12	-0.3%	79.30	48.10	63.7	730	5.5%
2004	13.59	11.8%	80.40	47.40	63.9	753	8.8%
2005	19.57	61.0%	76.90	49.90	63.4	737	6.6%
2006	9.08	-25.3%	83.00	46.80	64.9	699	1.1%
2007	4.52	-62.8%	79.90	44.80	62.4	709	2.5%
2008	10.81	-11.1%	80.70	47.50	64.1	686	-0.9%
2009	6.75	-44.5%	80.50	48.10	64.3	643	-7.0%
2010	20.84	71.4%	76.00	49.40	62.7	620	-10.3%
2011	10.99	-9.6%	75.90	45.10	60.5	614	-11.3%
2012	8.40	-30.9%	81.20	45.60	63.4	646	-6.7%
2013	3.64	-70.1%	79.20	47.80	63.5	645	-6.7%
2014	8.02	-34.0%	81.80	49.80	65.8	676	-2.2%
2015	6.02	-50.5%	83	47.7	65.6	586	-15.3%
2016							
2017							
2018							
2019							
2020							

Precipitation (1895 - present)						Monthly Average Eto
	Mean	High	Year	Low	Year	
	in.	in.	-	in.	-	
Jan	2.58	13.30	1995	0.00	1945	1.86
Feb	2.63	12.31	1998	0.00	1896	2.24
Mar	2.05	7.79	1983	0.00	1931	3.41
Apr	0.81	5.59	1965	0.00	1896	4.80
May	0.29	3.74	1921	0.00	1903	5.58
Jun	0.05	0.76	1993	0.00	1906	6.30
Jul	0.01	0.55	2015	0.00	1967	6.51
Aug	0.04	2.71	1977	0.00	1957	6.20
Sep	0.22	4.99	1939	0.00	1895	4.80
Oct	0.40	3.52	2004	0.00	1903	3.72
Nov	1.13	7.54	1965	0.00	1897	2.40
Dec	1.93	8.29	2010	0.00	1900	1.86
Annual	12.15	27.90	1983	3.26	1947	49.68

Temperature (1895 - present)			
	Tmax	Tmin	Mean
	°F	°F	°F
Jan	57.3	38.5	47.9
Feb	61.2	41.4	51.3
Mar	64.3	43.1	53.7
Apr	68.4	44.7	56.6
May	72.9	48.5	60.7
Jun	77.4	52.6	65.0
Jul	78.4	54.9	66.7
Aug	78.5	54.7	66.6
Sep	78.2	52.6	65.4
Oct	73.0	48.0	60.5
Nov	64.4	42.7	53.6
Dec	57.8	38.2	48.0
Annual	69.3	46.7	58.0

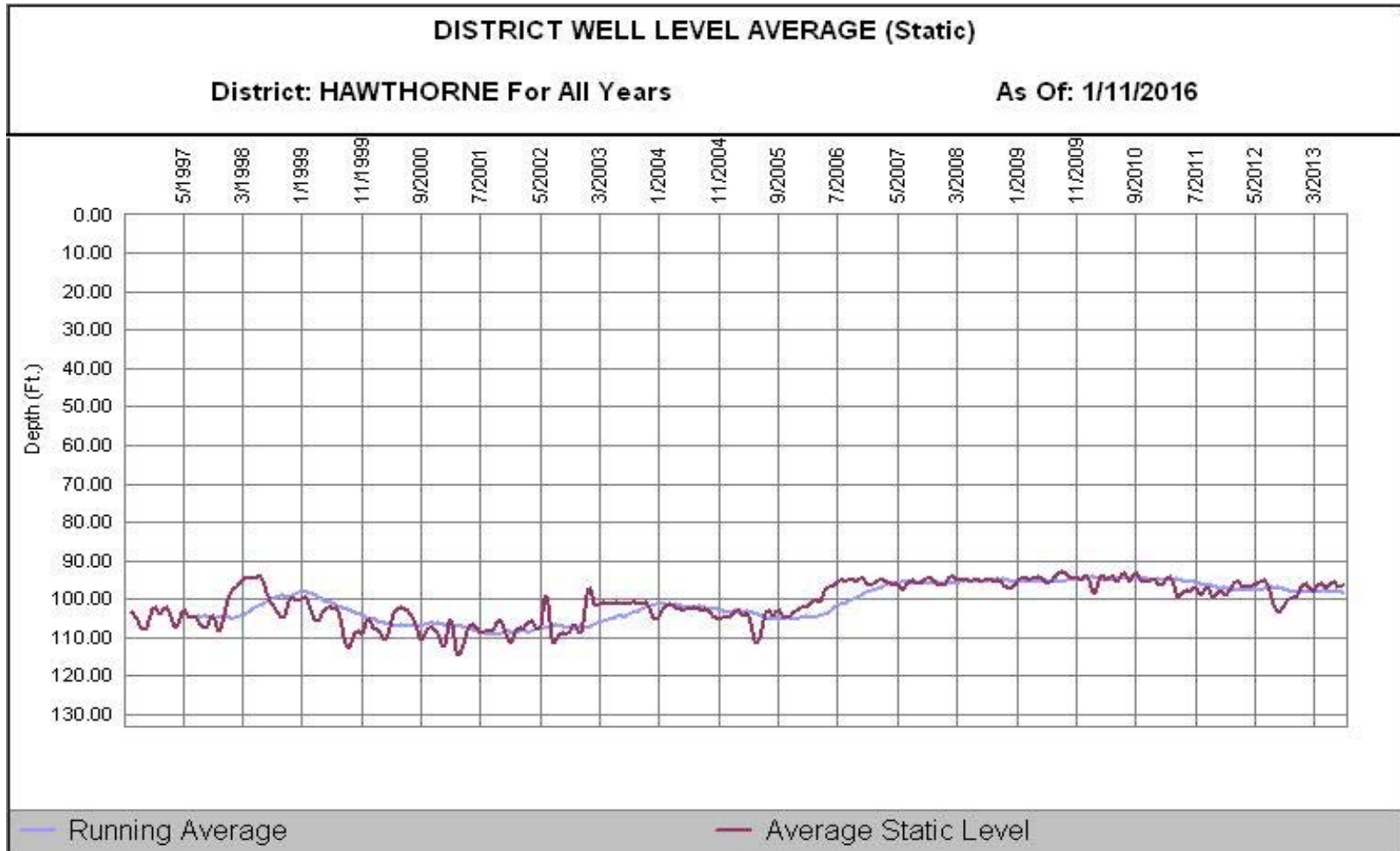
- 1) Eto values based on California Irrigation Management Information System (CIMIS), <http://www.cimis.water.ca.gov/cimis/welcome.jsp>, EvapoTranspiration (Eto) Zones Map, Zone 6
- 2) PPT, Tmax, Tmin obtained from PRISM where, PPT is total monthly rainfall, Tmax is average of maximum temperatures for given month, and Tmin is average of minimum temperatures for given month
- 3) Percent variation based on average of 1980 to present values

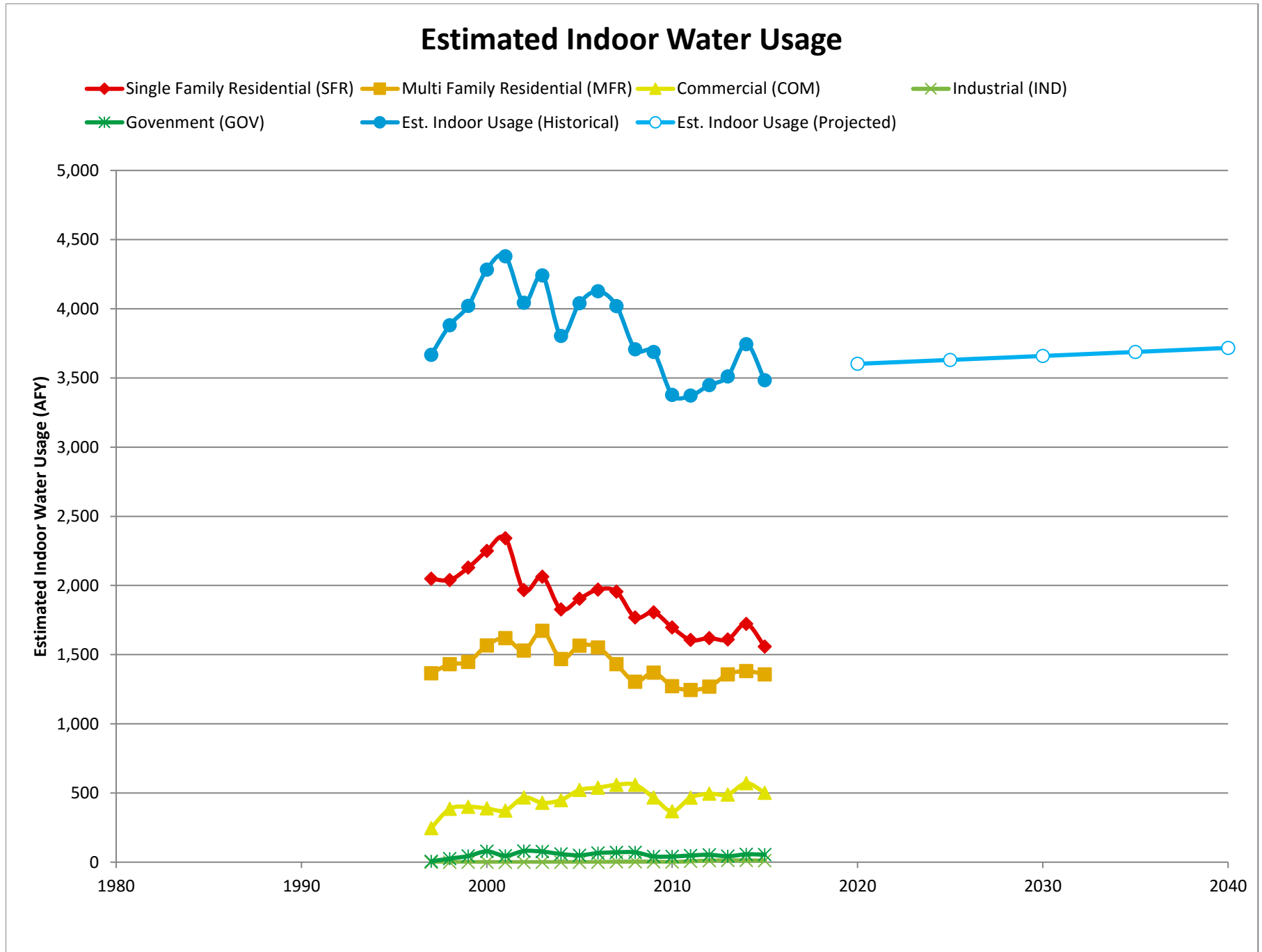
Average Monthly Temperature, Rainfall, and Monthly Eto



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

Groundwater Production Facilities





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

Estimated Indoor/Outdoor Water Usage

Year	Single Family Residential (SFR)							Multi Family Residential (MFR)				Commercial (COM)			
	SFR Jan Usage	Metered SFR Indoor Use (Annualized 90% of January Total)		Indoor Flat Rate Usage (AFY)	Total SFR Indoor Usage			MFR Jan Usage	MFR Indoor Use (Annualized 90% of January Total)			COM Jan Usage	COM Indoor Use (Annualized 90% of January Total)		
	JAN (CCF)	AFY	AF/Serv		AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%
1980															
1981															
1982															
1983															
1984															
1985															
1986															
1987															
1988															
1989															
1990															
1991															
1992															
1993															
1994															
1995															
1996															
1997	82,654	2,049	0.444	0	2,049	397	68%	55,086	1,366	1,564	86%	9,916	246	471	68%
1998	82,280	2,040	0.442	0	2,040	395	82%	57,701	1,431	1,639	90%	15,543	385	727	76%
1999	85,868	2,129	0.461	0	2,129	411	85%	58,384	1,448	1,657	89%	16,163	401	756	84%
2000	90,749	2,250	0.485	0	2,250	433	85%	63,204	1,567	1,792	92%	15,684	389	727	90%
2001	94,465	2,342	0.519	0	2,342	463	95%	65,291	1,619	1,837	91%	15,066	374	602	64%
2002	79,305	1,966	0.437	0	1,966	390	83%	61,661	1,529	1,738	89%	18,868	468	750	80%
2003	83,222	2,063	0.459	0	2,063	410	89%	67,460	1,673	1,915	99%	17,299	429	692	63%
2004	73,714	1,828	0.404	0	1,828	361	78%	59,249	1,469	1,676	88%	18,115	449	717	75%
2005	76,799	1,904	0.420	0	1,904	375	85%	63,125	1,565	1,789	96%	21,056	522	816	85%
2006	79,476	1,970	0.435	0	1,970	388	88%	62,591	1,552	1,775	97%	21,727	539	838	87%
2007	78,862	1,955	0.431	0	1,955	384	86%	57,699	1,431	1,638	93%	22,572	560	856	91%
2008	71,355	1,769	0.390	0	1,769	348	80%	52,581	1,304	1,493	87%	22,572	560	856	95%
2009	72,817	1,805	0.399	0	1,805	356	87%	55,259	1,370	1,569	97%	18,846	467	723	86%
2010	68,430	1,697	0.374	0	1,697	334	87%	51,304	1,272	1,456	95%	14,829	368	572	65%
2011	64,783	1,606	0.357	0	1,606	319	85%	50,206	1,245	1,334	89%	18,833	467	720	82%
2012	65,347	1,620	0.359	0	1,620	321	84%	51,190	1,269	1,353	89%	19,943	494	756	88%
2013	64,903	1,609	0.356	0	1,609	318	83%	54,723	1,357	1,427	95%	19,740	489	748	86%
2014	69,498	1,723	0.376	0	1,723	336	92%	55,742	1,382	1,434	97%	23,012	571	866	95%
2015	62,864	1,559	2.660	0	1,559	299	92%	54,719	1,357	1,399	96%	20,248	502	765	85%
2016					1,662	318			1,351	1,390			507	771	
2017					1,663	318			1,354	1,390			509	771	
2018					1,663	318			1,358	1,390			510	771	
2019					1,664	318			1,361	1,390			511	771	
2020					1,664	318			1,365	1,390			513	771	
2025					1,667	318			1,383	1,390			520	771	
2030					1,670	318			1,401	1,390			526	771	
2035					1,674	318			1,419	1,390			533	771	
2040					1,677	318			1,437	1,390			541	771	

Note: GPD/Service is estimated as the average of the last 5 years for given customer class.

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