

CHAPTER THREE WATER USES AND DEMANDS

C. Introduction

One of the prime objectives of this master plan is to project future water needs. In order to accomplish this objective population trends, land use, and water use characteristics have been analyzed. In this chapter, existing water use characteristics have been analyzed and evaluated so that the future water demands can be projected.

In any city, water use varies from month to month, as well as from hour to hour. The planning for a water system requires that the probable water use and its variations be estimated as accurately as possible. Three areas of primary concern for water system planning are source, storage, and distribution system capacities. State PDWRs require that source capacity be capable of meeting peak daily flow and average yearly flow requirements. Storage capacity must equal or exceed average peak day flow for indoor and outdoor use as well as fire suppression storage volume. The distribution system is required to carry peak day plus fire flow with a minimum of 20-psi pressure existing in the system at all points. Chapters 6, 7, and 8 detail the specifics of the source, storage, and distribution components of the Providence City water system.

D. Existing Water Use

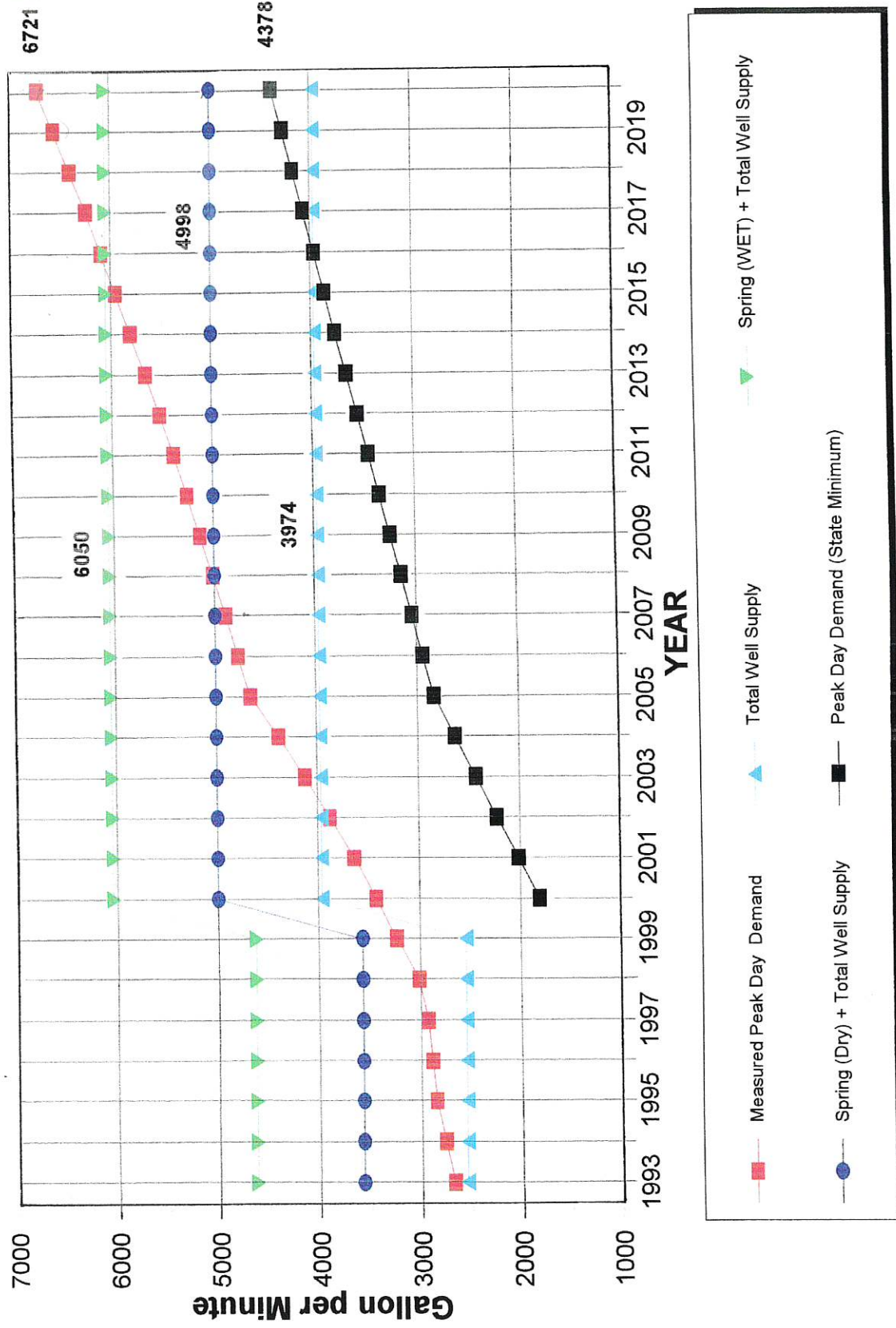
Existing water use data in Providence City were obtained through the City offices. Providence City reads water meters five times a year - in May, June, July, August, and September. Monthly water meter data from May, June, July, August, and September 1998 and 1999 and daily source water flows were used as a basis for analysis. The results of the analysis (Figure 3-1) show that there is a significant amount of water (about 2000 gpm) being pumped and/or flowing into the reservoirs that is never metered by the end user. This loss of water can be attributed to unmetered city uses such as parks, leaking lines within the distribution system and unmonitored overflows.

E. Water System Requirements

The State PDWRs quantify the requirements for community water systems. For indoor use these requirements are broken down into required source capacity, storage capacity, and distribution system capacity. State requirements for system capacities as presented in Section 5.1 of the PDWRs are as follows:

Source Capacity: Source (s) must be capable of providing 800 gallons per day (gpd) connection for indoor use. Sources must also be capable of providing a total of 146,000 gallons per connection per year for indoor use. The water supplier must also have a legal

Peak Day Demand/Supply Forecast **Total City (Zones 1, 2 & 3)**



right to use the required amount of water.

Storage Capacity: Finished water storage shall have a capacity of 400 gallons per residential connection for indoor use.

Distribution System: The distribution system shall be designed to insure that a minimum of 20 psi exists at all points within the system during peak instantaneous demand conditions. If the distribution system is equipped with fire hydrants, the system shall be designed to insure that a minimum of 20 psi exists at all points within the system when needed fire flows are imposed upon the peak day demand flows of the system.

Peak instantaneous flow for indoor use shall be assumed to equal:

$$Q = 10.8(N)^{0.64}$$

where

“N” = number of residential connections, and

“Q” = total flow in gallons per minute (gpm) delivered to these conditions.

Irrigation System: Since Providence City provides irrigation water through the culinary system, the irrigation demands are in addition to the indoor use demands. Section R309-203 of the PDWRs specifies the minimum irrigation requirements of a community water system. Using the PDWR requirements (table 203-3 zone 4) as minimum guidelines, peak day demands were developed for this study based upon 3.96 gpm/irrigated acre. It was assumed that each connection had 0.20 irrigated acres. Instantaneous peak demands were developed for this study based upon 7.92 gpm/irrigated acre (table 203-7 zone 4). It should be noted that the citizens of Providence use substantially more water than required by the PDWR minimum guidelines.

Fire Flow Requirements: The State PDWRs do not expressly require that community water systems provide fire protection. However, fire flow requirements are specified in the *Uniform Fire Code* (UFC). Essentially, fire flow requirements are based on a building's square footage, type of construction, and type of use. Zone 1 is comprised of a mixture of schools, churches, and residential developments and therefore has a fire flow requirement of 2500 gpm for two hours. The development of Zone 2 and Zone 3 is mainly residential, with a fire flow requirement of 2000 gpm for two hours for most homes and 2500 gpm for two hours for the larger homes located in both zones.

F. Existing Water System Requirements

Tables 3-1 through 3-4 show the existing requirements for the three zones which Providence City needs in order to comply with the State PDWRs. A summary of these

tables is included here:

		<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>	<u>Totals</u>
Peak Day Source Requirement (gpd)	=	1,502,356	1,045,608	62,080	2,610,044
Peak Day Source Requirement (gpm)	=	1,043	726	43	1,813
Storage Demand Requirement (gal)	=	1,051,178	822,804	331,040	2,656,200
Distribution System Requirement with Fire Flows (gpm)	=	3,543	3,226	2,543	9,312
Annual Water Right Requirement (ac-ft)	=	552	385	23	960

G. Projected Water System Requirements

Year 2020 water system demands were developed for Providence City with 2,500 gpm fire flows. In order to estimate projected water system requirements, an annual growth rate of 132 connections per year for the first 5 years and then a growth rate of 76 connections per year from 2005 to 2020 was assumed.

Tables 3-5 through 3-8 depict Providence City's future water demands in the year 2005 and Tables 3-9 through 3-12 depict future water demands in the year 2020. A summary of these tables is shown below:

		<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>	<u>Totals</u>
Peak Day Source Requirement (gpd)	=	3,370,800	2,192,122	741,054	6,303,976
Peak Day Source Requirement	=	2,341	1,522	515	4,378
Storage Demand Requirement (gal)	=	1,985,400	1,396,061	670,527	4,051,988

Distribution System Requirement with Fire Flows (gpm)	=	4,841	4,022	3,015	11,878
Annual Water Right Requirement (ac. ft.)	=	1,253	806	273	2,332

Figure 3-1 summarizes the City's peak day water demand/supply forecast. Two demand lines are shown. The red line is a measured demand forecast based on the source water being pumped and also the flow measured entering the Coombe Flat Tank from the Broad Hollow Spring. The black line is the demand required by the State PDWRs. As can be seen, the measured demand (red) line exceeds the existing dry year source capacity (blue line) by the year 2008. This indicates that additional source water must be on-line before then if the City is to have an adequate supply. The disparity between red line and the black line is caused by the following factors:

- A. The citizens of Providence use more water than the state average.
- B. There is a large amount of unmetered water being used throughout the City, such as at the parks and the cemetery.
- C. A substantial amount of water is being lost in leaky distribution lines.
- D. Some water may be overflowing at the tanks and pumps without being monitored.

In addition the city should consider the scenario that the Spring could be out of service and the demand (red line) needs to be met by the wells only (light blue line). The light blue line shows that the existing wells only have the water rights to meet the demand through the year 2002. However, the wells have the capacity to produce an additional 1175 gpm but require additional water rights appropriation. Although, this may require an upgrade of some of the pumps.

PROVIDENCE CITY

ALL ZONES - WATER REQUIREMENTS

EXISTING SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND						STORAGE DEMAND						DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND						ANNUAL WATER RIGHT DEMANDS			
				UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND	UNIT DEMAND	TOTAL DEMAND	CONSUMPTIVE VALUES
				(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(AC-FT)	(AC-FT)	(%)	(AC-FT)
		(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)				
	(FORMULAS)			CALCULATED	CALCULATED	(a)*1440	(b)*1440	(c)*1440	(d)*1440	(e)*1440	(f)*1440	(g)*1440	(h)*1440	(i)*1440	(j)*1440	(k)*1440	(l)*1440	(m)*1440	(n)*1440	(o)*1440	(p)*1440	(q)*1440	(r)*1440	(s)*1440	(t)*1440
1.	SINGLE FAMILY RESIDENCES	1245	S.F.	800	1,940	691.7	996,000	1,677.3	2,415,300	400	970	496,000	1,207,650					0.714	889.10	0.75	666.83				
	WITH 0.20 AC IRRIGATION																								
2.	APARTMENTS	25	EA	800	1,370	13.9	20,000	23.8	34,250	400	685	10,000	17,125					0.581	14.53	0.10	1.45				
	WITH 0.1 AC IRRIGATION																								
3.	CHURCHES	5	EA	5,000	13,554	17.4	25,000	47.1	67,770	2,500	6,777	12,500	33,885					4.797	23.98	0.10	2.40				
	WITH 1.5 AC IRRIGATION																								
4.	SCHOOLS	2	EA	12,500	41,012	17.4	25,000	57.0	82,024	6,250	20,506	12,500	41,012					13.655	27.31	0.10	2.73				
	WITH 5 ACRES IRRIGATION																								
5.	OFFICES/BUSIN	5	EA	1,000	2,140	3.5	5,000	7.4	10,700	500	1,070	2,500	5,350					0.826	4.13	0.10	0.41				
	WITH 0.2 ACRES IRRIGATION																								
DOMESTIC TOTALS						743.7	1,071,000	1,812.5	2,610,044	10,050	30,008	535,500	1,305,022					0	0	0	0	0	0	0	0
6.	Fire Flow	2	HR	2,500	2,500							300,000	300,000					20,574	959.06	1.15	673.82				
GRAND TOTALS						743.7	1,071,000	1,812.5	2,610,044	10,050	30,008	835,500	1,605,022					20,574	959.06	1.15	673.82				

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-1

PROVIDENCE CITY

ZONE 1 - WATER REQUIREMENTS

EXISTING SYSTEM DEMANDS

ITEM		PEAK DAY SOURCE DEMAND				STORAGE DEMAND				DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND						ANNUAL WATER RIGHT DEMANDS					
NO.	TYPE OF USE	UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND	TOTAL DEMAND	CONSUMPTIVE VALUES					
		WINTER		SUMMER		WINTER		SUMMER		WINTER		SUMMER		DEMAND	DEMAND	VALUES					
		(GPD)	(GPM)	(GPD)	(GPM)	(GPD)	(GPM)	(GAL)	(GAL)	(GPD)	(GPM)	(GPM)	(GPM)	(AC-FT)	(AC-FT)	(%)	(AC-FT)				
		(b)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)			
(FORMULAS)		CALCUSDWR		161103/1440		161103/1440		1171440mpd		161103/1440		1171440mpd		CALCUSDWR		(calc.)					
1.	SINGLE FAMILY RESIDENCES	800	1,940	382.2	550,400	926.9	1,334,720	400	970	275,200	667,360							0.714	491.33	0.75	368.50
WITH 0.20 AC IRRIGATION																					
2.	APARTMENTS	800	1,370	13.9	20,000	23.8	34,250	400	685	10,000	17,125							0.581	14.53	0.10	1.45
WITH 0.10 AC IRRIGATION																					
3.	CHURCHES	5,000	13,554	10.4	15,000	28.2	40,662	2,500	6,777	7,500	20,331							4.797	14.39	0.10	1.44
WITH 1.5 AC IRRIGATION																					
4.	SCHOOLS	12,500	41,012	17.4	25,000	57.0	82,024	6,250	20,506	12,500	41,012							13.655	27.31	0.10	2.73
WITH 5 ACRES IRRIGATION																					
5.	OFFICES/BUSIN	1,000	2,140	3.5	5,000	7.4	10,700	500	1,070	2,500	5,350							0.826	4.13	0.10	0.41
WITH 0.20 ACRES IRRIGATION																					
DOMESTIC TOTALS		723		427.4	615,400	1,043.3	1,502,356	10,050	30,008	307,700	751,178	0	0	0	0	20,574	551.69	1.15	374.53		
6. Fire Flow		2								300,000	300,000										
GRAND TOTALS				427.4	615,400	1,043.3	1,502,356	10,050	30,008	607,700	1,051,178	0	0	0	0	20,574	551.69	1.15	374.53		

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-2

PROVIDENCE CITY

ZONE 2 - WATER REQUIREMENTS

EXISTING SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND						STORAGE DEMAND				DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND				ANNUAL WATER RIGHT DEMANDS			
				UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND (AC-FT)	UNIT DEMAND (AC-FT)	CONSUMPTIVE VALUES	
				(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GAL)	(GAL)	(GPD)	(GPD)	(GAL)	(GAL)	(GPD)	(GPD)	(AC-FT)	(AC-FT)	(%)	(s)
	(a)			(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	(FORMULAS)			CALCULATED	CALCULATED	(f)*1440mpd	(e)	(f)*1440mpd	(g)*1440mpd	(h)*1440mpd	(i)*1440mpd	(j)*1440mpd	(k)*1440mpd	(l)*1440mpd	(m)*1440mpd	(n)*1440mpd	(o)*1440mpd	(p)*1440mpd	(q)*1440mpd	(r)*1440mpd	(s)*1440mpd
1.	SINGLE FAMILY RESIDENCES	525	S.F.	800	1,940	291.7	420,000	707.3	1,018,500	400	970	210,000	509,250	0.714	374.92	0.75	281.19				
	WITH 0.20 AC IRRIGATION																				
2.	APARTMENTS	0	EA	800	1,370	0.0	0	0.0	0	400	685	0	0	0.581	0.00	0.10	0.00				
	WITH 0.10 AC IRRIGATION																				
3.	CHURCHES	2	EA	5,000	13,554	6.9	10,000	18.8	27,108	2,500	6,777	5,000	13,554	4.797	9.59	0.10	0.96				
	WITH 1.5 AC IRRIGATION																				
4.	SCHOOLS	0	EA	12,500	41,012	0.0	0	0.0	0	6,250	20,506	0	0	13.655	0.00	0.10	0.00				
	WITH 5 ACRES IRRIGATION																				
5.	OFFICES/BUSIN	0	EA	1,000	2,140	0.0	0	0.0	0	500	1,070	0	0	0.826	0.00	0.10	0.00				
	WITH 0.20 ACRES IRRIGATION																				
DOMESTIC TOTALS						298.6	430,000	728.1	1,045,608	10,050	30,008	215,000	522,804	0	0	0	0	20,574	384.52	1.15	282.15
6.	Fire Flow	2	HR	2,500	2,500							300,000	300,000								
GRAND TOTALS						298.6	430,000	726.1	1,045,608	10,050	30,008	515,000	822,804	0	0	0	0	20,574	384.52	1.15	282.15

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.98 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-3

PROVIDENCE CITY

ZONE 3 - WATER REQUIREMENTS

EXISTING SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND										STORAGE DEMAND						DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND						ANNUAL WATER RIGHT DEMANDS			
				UNIT DEMAND		TOTAL DEMAND				UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND (AC-FT)	TOTAL DEMAND	CONSUMPTIVE VALUES					
				(GPD) (b)	(GPD) (c)	(GPM) (d)	(GPD) (e)	(GPM) (f)	(GPD) (g)	(GPD) (h)	(GPD) (i)	(GAL) (j)	(GAL) (k)	(GPM) (l)	(GPM) (m)	(GPM) (n)	(GPM) (o)	(AC-FT) (p)	(a)* (q)	(r)	(s)								
(FORMULAS)				CALCULATED	CALCULATED	(a)*1440	(d)*1440	(a)*1440	(f)*1440	(g)*1440	(h)*1440	(b)/2	(c)/2	(a)*(h)	(a)*(i)	calc/used	calc/used	(n)	(o)	(calc.)	(a)*(p)	(calc.)	(q)*(r)						
1. SINGLE FAMILY RESIDENCES				800	1,940	17.8	25,600	43.1	62,080	400	970	12,800	31,040											0.714	22.85	0.75	17.14		
WITH 0.20 AC IRRIGATION																													
2. APARTMENTS				800	1,370	0.0	0	0.0	0	400	685	0	0											0.581	0.00	0.10	0.00		
WITH 0.10 AC IRRIGATION																													
2. CHURCHES				5,000	13,554	0.0	0	0.0	0	2,500	6,777	0	0											4.797	0.00	0.10	0.00		
WITH 1.5 AC IRRIGATION																													
3. SCHOOLS				12,500	41,012	0.0	0	0.0	0	6,250	20,506	0	0											13.655	0.00	0.10	0.00		
WITH 5 ACRES IRRIGATION																													
4. OFFICES/BUSIN				1,000	2,140	0.0	0	0.0	0	500	1,070	0	0											0.826	0.00	0.10	0.00		
WITH 0.20 ACRES IRRIGATION																													
DOMESTIC TOTALS				32	S.F.	17.8	25,600	43.1	62,080	10,050	30,008	12,800	31,040	0	0	0	0	20,574	22.85	1.15	17.14								
4. Fire Flow				2	HR																								
GRAND TOTALS						17.8	25,600	43.1	62,080	10,050	30,008	312,800	331,040	0	0	0	0	20,574	22.85	1.15	17.14								

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-4

PROVIDENCE CITY

ALL ZONES - WATER REQUIREMENTS

YEAR 2005 SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND				STORAGE DEMAND				DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND				ANNUAL WATER RIGHT DEMANDS			
				UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND (AC-FT)	TOTAL DEMAND (AC-FT)	CONSUMPTIVE VALUES	
				(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GAL)	(GAL)	(GPM)	(GPM)	(GPM)	(GPM)			(%)	(s)
		(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
	(FORMULAS)			CALCULATED	CALCULATED	(a)*1440	(d)*1440	(f)*1440	(g)*1440	(b)/2	(c)/2	(a)*1440	(k)	(l)	calc/used	(n)	(o)	(p)	(q)*1440
1.	SINGLE FAMILY RESIDENCES	1904	S.F.	800	1,940	1,057.8	1,523,200	2,565.1	3,693,760	400	970	761,600	1,846,880					0.714	1359.72
	WITH 0.20 AC IRRIGATION																		
2.	APARTMENTS	150	EA	800	1,370	83.3	120,000	142.7	205,500	400	685	60,000	102,750					0.581	87.17
	WITH 0.10 AC IRRIGATION																		
3.	CHURCHES	6	EA	5,000	13,554	20.8	30,000	56.5	81,324	2,500	6,777	15,000	40,662					4.797	28.78
	WITH 1.5 AC IRRIGATION																		
4.	SCHOOLS	2	EA	12,500	41,012	17.4	25,000	57.0	82,024	6,250	20,506	12,500	41,012					13.655	27.31
	WITH 5 ACRES IRRIGATION																		
5.	OFFICES/BUSIN	10	EA	1,000	2,140	6.9	10,000	14.9	21,400	500	1,070	5,000	10,700					0.826	8.26
	WITH 0.20 ACRES IRRIGATION																		
DOMESTIC TOTALS						1,186.2	1,708,200	2,836.1	4,084,008	10,050	30,008	854,100	2,042,004	0	0	0	0	20,574	1511.24
6.	Fire Flow	2	HR	2,500	2,500							300,000	300,000						
GRAND TOTALS						1,186.2	1,708,200	2,836.1	4,084,008	10,050	30,008	1,154,100	2,342,004	0	0	0	0	20,574	1511.24

2630000 Period Storage all zones

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-5

PROVIDENCE CITY

ZONE 1 - WATER REQUIREMENTS

YEAR 2005 SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND										STORAGE DEMAND				DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND				ANNUAL WATER RIGHT DEMANDS			
				UNIT DEMAND		TOTAL DEMAND				UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND	TOTAL DEMAND	CONSUMPTIVE VALUES	
				WINTER	SUMMER	(GPM)	(GPD)	(GPM)	(GPD)	(GPM)	(GPD)	WINTER	SUMMER	(GPM)	(GPD)	(GPM)	(GPD)	(GPM)	(GPD)	(GPM)	(GPD)				
(a)				(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)		
(FORMULAS)				CALCULSDWR	CALCULSDWR	(a)*10/1440	(d)*1440mpd	(e)*1440mpd	(f)*1440	(g)*1440mpd	(b)/2	(c)/2	(a)*10	(a)*10	calcdusdwr	calcdusdwr	(calc.)	(calc.)	(a)*(p)	(a)*(p)	(calc.)	(q)*(r)			
1.	SINGLE FAMILY RESIDENCES	1167	S.F.	800	1,940	648.3	933,600	1,572.2	2,263,980	400	970	466,800	1,131,990					0.714	833.40	0.75	625.05				
WITH 0.20 AC IRRIGATION																									
2.	APARTMENTS	150	EA	800	1,370	83.3	120,000	142.7	205,500	400	685	60,000	102,750					0.581	87.17	0.10	8.72				
WITH 0.10 AC IRRIGATION																									
3.	CHURCHES	4	EA	5,000	13,554	13.9	20,000	37.7	54,216	2,500	6,777	10,000	27,108					4.797	19.19	0.10	1.92				
WITH 1.5 AC IRRIGATION																									
4.	SCHOOLS	2	EA	12,500	41,012	17.4	25,000	57.0	82,024	6,250	20,506	12,500	41,012					13.655	27.31	0.10	2.73				
WITH 5 ACRES IRRIGATION																									
5.	OFFICES/BUSIN	10	EA	1,000	2,140	6.9	10,000	14.9	21,400	500	1,070	5,000	10,700					0.826	8.26	0.10	0.83				
WITH 0.20 ACRES IRRIGATION																									
DOMESTIC TOTALS				1333	S.F.		769.9	1,108,600	1,824.4	2,627,120	10,050	30,008	554,300	1,313,560	0	0	0	0	20,574	975.33	1.15	639.24			
6. Fire Flow				2	HR								300,000	300,000											
GRAND TOTALS							769.9	1,108,600	1,824.4	2,627,120	10,050	30,008	854,300	1,613,560	0	0	0	0	20,574	975.33	1.15	639.24			

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-6

PROVIDENCE CITY

ZONE 2 - WATER REQUIREMENTS

YEAR 2005 SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND										STORAGE DEMAND						DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND						ANNUAL WATER RIGHT DEMANDS				
				UNIT DEMAND		TOTAL DEMAND				UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND (AC-FT)	TOTAL DEMAND (AC-FT)	CONSUMPTIVE VALUES		
				WINTER (GPD)	SUMMER (GPD)	GPM	(GPD)	(GPM)	(GPD)	WINTER (GPD)	SUMMER (GPD)	GAL	(GAL)	(GPM)	(GPD)	WINTER (GPM)	SUMMER (GPM)	calc/usedwtr	(calc.)	WINTER (GPM)	SUMMER (GPM)	(n)	(m)	(o)	(p)			(q)	(r)	(s)
				(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)	(w)			(x)	(y)	(z)
(FORMULAS)				CALCULATED	CALCULATED	(a)*(d)/1440	(d)*(1440)/gpd	(a)*(f)/1440	(f)*(1440)/gpd	(b)/2	(c)/2	(a)*(h)	(a)*(i)	calc/usedwtr	calc/usedwtr	calc.	calc.	calc.	calc.	calc.	calc.	calc.	calc.	calc.	calc.	calc.	calc.			
1.	SINGLE FAMILY RESIDENCES	675	S.F.	800	1,940	375.0	540,000	909.4	1,309,500	400	970	270,000	654,750																	
WITH 0.20 AC IRRIGATION																														
2.	APARTMENTS	0	EA	800	1,370	0.0	0	0.0	0	400	685	0	0																	
WITH 0.10 AC IRRIGATION																														
3.	CHURCHES	2	EA	5,000	13,554	6.9	10,000	18.8	27,108	2,500	6,777	5,000	13,554																	
WITH 1.5 AC IRRIGATION																														
4.	SCHOOLS	0	EA	12,500	41,012	0.0	0	0.0	0	6,250	20,506	0	0																	
WITH 5 ACRES IRRIGATION																														
5.	OFFICES/BUSIN	0	EA	1,000	2,140	0.0	0	0.0	0	500	1,070	0	0																	
WITH 0.20 ACRES IRRIGATION																														
DOMESTIC TOTALS				677		381.9	550,000	928.2	1,336,608	10,050	30,008	275,000	668,304	0	0	0	0	20,574	491.64	1.15	362.49									
6. Fire Flow				2	2,500							300,000	300,000																	
GRAND TOTALS						381.9	550,000	928.2	1,336,608	10,050	30,008	575,000	968,304	0	0	0	0	20,574	491.64	1.15	362.49									

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/RR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-7

PROVIDENCE CITY

ZONE 3 - WATER REQUIREMENTS

YEAR 2005 SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND						STORAGE DEMAND						DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND						ANNUAL WATER RIGHT DEMANDS			
				UNIT DEMAND		TOTAL DEMAND				UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND	TOTAL DEMAND	CONSUMPTIVE VALUES	
				WINTER	SUMMER	WINTER	GPD	GPM	(GPD)	WINTER	SUMMER	WINTER	GPD	WINTER	SUMMER	WINTER	GPM	WINTER	GPM	SUMMER	(AC-FT)	(p)	(q)	(%)	(AC-FT)
		(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)	(w)
	(FORMULAS)			CALCULATED	CALCULATED	(a)*1440mpd	(b)*1440mpd	(c)*1440mpd	(d)*1440mpd	(e)*1440mpd	(f)*1440mpd	(g)*1440mpd	(h)*1440mpd	(i)*1440mpd	(j)*1440mpd	(k)*1440mpd	(l)*1440mpd	(m)*1440mpd	(n)*1440mpd	(o)*1440mpd	(p)*1440mpd	(q)*1440mpd	(r)*1440mpd	(s)*1440mpd	(t)*1440mpd
1.	SINGLE FAMILY RESIDENCES	62	S.F.	800	1,940	34.4	49,600	83.5	120,280	400	970	24,800	60,140												
	WITH 0.20 AC IRRIGATION																								
2.	APARTMENTS	0	EA	800	1,370	0.0	0	0.0	0	400	685	0	0												
	WITH 0.10 AC IRRIGATION																								
3.	CHURCHES	0	EA	5,000	13,554	0.0	0	0.0	0	2,500	6,777	0	0												
	WITH 1.5 AC IRRIGATION																								
4.	SCHOOLS	0	EA	12,500	41,012	0.0	0	0.0	0	6,250	20,506	0	0												
	WITH 5 ACRES IRRIGATION																								
5.	OFFICES/BUSIN	0	EA	1,000	2,140	0.0	0	0.0	0	500	1,070	0	0												
	WITH 0.20 ACRES IRRIGATION																								
DOMESTIC TOTALS						34.4	49,600	83.5	120,280	10,050	30,008	24,800	60,140	0	0	0	0					20,574	44.28	1.15	33.21
6.	Fire Flow	2	HR	2,500	2,500							300,000	300,000												
GRAND TOTALS						34.4	49,600	83.5	120,280	10,050	30,008	324,800	360,140	0	0	0	0					20,574	44.28	1.15	33.21

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-8

PROVIDENCE CITY

ALL ZONES - WATER REQUIREMENTS

YEAR 2020 SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND										STORAGE DEMAND						DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND						ANNUAL WATER RIGHT DEMANDS					
				UNIT DEMAND		TOTAL DEMAND						UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND (AC-FT)	TOTAL DEMAND (AC-FT)	CONSUMPTIVE VALUES					
				WINTER (GPD)	SUMMER (GPD)	WINTER (GPM)	SUMMER (GPM)	WINTER (GPD)	SUMMER (GPD)	WINTER (GPM)	SUMMER (GPM)	WINTER (GPD)	SUMMER (GPD)	WINTER (GPM)	SUMMER (GPM)	WINTER (GPD)	SUMMER (GPD)	WINTER (GPM)	SUMMER (GPM)	WINTER (GPD)	SUMMER (GPD)	WINTER (GPM)	SUMMER (GPM)			(%)	(AC-FT)				
																												(b)	(c)	(d)	(e)
(FORMULAS)				CALCULSDWR	CALCUSDWR	(b)*1440	(d)*1440mpd	(e)*1440mpd	(f)*1440	(g)*1440mpd	(h)*1440mpd	(i)*1440mpd	(j)*1440	(k)*1440	(l)*1440mpd	(m)*1440mpd	(n)*1440mpd	(o)*1440mpd	(p)*1440	(q)*1440	(r)*1440	(s)*1440	(t)*1440	(u)*1440							
1.	SINGLE FAMILY RESIDENCES	2988	S.F.	800	1,940	1,660.0	2,390,400	4,025.5	5,796,720	400	970	1,195,200	2,898,360																		
2.	APARTMENTS	200	EA	800	1,370	111.1	160,000	190.3	274,000	400	685	80,000	137,000																		
3.	CHURCHES	8	EA	5,000	13,554	27.8	40,000	75.3	108,432	2,500	6,777	20,000	54,216																		
4.	SCHOOLS	2	EA	12,500	41,012	17.4	25,000	57.0	82,024	6,250	20,506	12,500	41,012																		
5.	OFFICES/BUSIN	20	EA	1,000	2,140	13.9	20,000	29.7	42,800	500	1,070	10,000	21,400																		
WITH 0.20 ACRES IRRIGATION																															
DOMESTIC TOTALS				3218	S.F.	1,830.1	2,635,400	4,377.8	6,303,976	10,050	30,008	1,317,700	3,151,988																		
6. Fire Flow				2	HR	2,500	2,500					300,000	300,000																		
GRAND TOTALS						1,830.1	2,635,400	4,377.8	6,303,976	10,050	30,008	1,617,700	3,451,988																		

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.98 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-9

PROVIDENCE CITY

ZONE 1 - WATER REQUIREMENTS

YEAR 2020 SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND						STORAGE DEMAND				DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND						ANNUAL WATER RIGHT DEMANDS					
				UNIT DEMAND		WINTER		SUMMER		UNIT DEMAND		WINTER		SUMMER		UNIT DEMAND		WINTER		SUMMER		UNIT DEMAND (AC-FT)	TOTAL DEMAND (AC-FT)	CONSUMPTIVE VALUES	
				(GPD)	(GPD)	(GPM)	(GPD)	(GPM)	(GPD)	(GPD)	(GPD)	(GPD)	(GAL)	(GAL)	(GPM)	(GPM)	(GPM)	(GPM)	(GPM)	(GPM)	(p)			(q)	(%)
(a)				(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)				
(FORMULAS)				CALCULATED	CALCULATED	(a)*1440	(b)*1440	(c)*1440	(d)*1440	(e)*1440	(f)*1440	(g)*1440	(h)*1440	(i)*1440	calc/used	calc/used	(calc.)	(calc.)	(a)*(p)	(calc.)	(q)*(r)				
1.	SINGLE FAMILY RESIDENCES	1504	S.F.	800	1,940	835.6	1,203,200	2,026.2	2,917,760	400	970	601,600	1,458,880					0.714	1074.07	0.75	805.55				
2.	APARTMENTS	200	EA	800	1,370	111.1	160,000	190.3	274,000	400	685	80,000	137,000					0.581	116.22	0.10	11.62				
3.	CHURCHES	4	EA	5,000	13,554	13.9	20,000	37.7	54,216	2,500	6,777	10,000	27,108					4.797	19.19	0.10	1.92				
4.	SCHOOLS	2	EA	12,500	41,012	17.4	25,000	57.0	82,024	6,250	20,506	12,500	41,012					13.655	27.31	0.10	2.73				
5.	OFFICES/BUSIN	20	EA	1,000	2,140	13.9	20,000	29.7	42,800	500	1,070	10,000	21,400					0.826	16.52	0.10	1.65				
WITH 0.20 ACRES IRRIGATION																									
DOMESTIC TOTALS				1730		S.F.		991.8	1,428,200	2,340.8	3,370,800	10,050	30,008	714,100	1,685,400	0	0	0	0	20,574	1253.31	1.15	823.47		
6. Fire Flow				2		HR								300,000	300,000										
GRAND TOTAL S								991.8	1,428,200	2,340.8	3,370,800	10,050	30,008	1,014,100	1,985,400	0	0	0	0	20,574	1253.31	1.15	823.47		

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.5)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-10

PROVIDENCE CITY

ZONE 2 - WATER REQUIREMENTS

YEAR 2020 SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND						STORAGE DEMAND				DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND						ANNUAL WATER RIGHT DEMANDS			
				UNIT DEMAND		TOTAL DEMAND		WINTER		SUMMER		UNIT DEMAND		TOTAL DEMAND		WINTER		SUMMER		UNIT DEMAND	TOTAL DEMAND	CONSUMPTIVE VALUES	
				(GPD)	(GPD)	(GPM)	(GPD)	(GPD)	(GPM)	(GPD)	(GPD)	(GPM)	(GPM)	(GAL)	(GAL)	(GPM)	(GPM)	(GPM)	(GPM)				
																							(b)
(FORMULAS)				CALCULATED	CALCULATED	(a)*(b)/1440	(d)*(1440)/1440	(e)*(f)/1440	(h)*(1440)/1440	(b)/2	(c)/2	(a)*(h)	(a)*(l)	calculusdw	calculusdw	(calc.)	(calc.)	(calc.)	(a)*(p)	(q)	(r)	(s)	(q)*(r)
1.	SINGLE FAMILY RESIDENCES	1109	S.F.	800	1,940	616.1	887,200	1,494.1	2,151,460	400	970	443,500	1,075,730					0.714	791.98		0.75	593.99	
2.	WITH 0.20 AC IRRIGATION																						
3.	APARTMENTS	0	EA	800	1,370	0.0	0	0.0	0	400	685	0	0					0.581	0.00		0.10	0.00	
4.	WITH 0.10 AC IRRIGATION																						
5.	CHURCHES	3	EA	5,000	13,554	10.4	15,000	28.2	40,662	2,500	6,777	7,500	20,331					4.797	14.39		0.10	1.44	
6.	WITH 1.5 AC IRRIGATION																						
7.	SCHOOLS	0	EA	12,500	41,012	0.0	0	0.0	0	6,250	20,506	0	0					13.655	0.00		0.10	0.00	
8.	WITH 5 ACRES IRRIGATION																						
9.	OFFICES/BUSIN	0	EA	1,000	2,140	0.0	0	0.0	0	500	1,070	0	0					0.826	0.00		0.10	0.00	
10.	WITH 0.20 ACRES IRRIGATION																						
DOMESTIC TOTALS						626.5	902,200	1,522.3	2,192,122	10,050	30,008	451,100	1,096,061	0	0	0	0	20,574	806.37		1.15	595.43	
6. Fire Flow				2								300,000	300,000										
GRAND TOTALS						626.5	902,200	1,522.3	2,192,122	10,050	30,008	751,100	1,396,061	0	0	0	0	20,574	806.37		1.15	595.43	

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION PEAK DAY DEMAND DETERMINED BASED UPON 3.96 GPM/IRR. ACRE (ZONE 4 TABLE 203-3 STATE RULES)
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.6)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-11

PROVIDENCE CITY

ZONE 3 - WATER REQUIREMENTS

YEAR 2020 SYSTEM DEMANDS

ITEM NO.	TYPE OF USE	TOTAL	UNIT	PEAK DAY SOURCE DEMAND						STORAGE DEMAND				DISTRIBUTION SYSTEM PEAK INSTANTANEOUS DEMAND				ANNUAL WATER RIGHT DEMANDS					
				UNIT DEMAND		TOTAL DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND		TOTAL DEMAND		UNIT DEMAND	TOTAL DEMAND	CONSUMPTIVE VALUES			
				WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	SUMMER			(AC-FT)	(AC-FT)	(%)	(AC-FT)
				(GPD)	(GPD)	(GPM)	(GPD)	(GPD)	(GPM)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(GPD)	(p)	(q)
(FORMULAS)				CALCUSDWR	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	
				CALCUSDWR	(a)*10 ³ /1440	(d)*1440req	(e)*1440req	(f)*1440	(g)*1440req	(b)/2	(c)/2	(a)*(h)	(a)*(i)	calc/usdwr	calc.	(a)*(p)	(q)*(r)	0.75	200.85				
1. SINGLE FAMILY RESIDENCES				800	1,940	208.3	300,000	505.2	727,500	400	970	150,000	363,750										
WITH 0.20 AC IRRIGATION																							
2. APARTMENTS				800	1,370	0.0	0	0.0	0	400	685	0	0							0.581	0.00	0.10	0.00
WITH 0.10 AC IRRIGATION																							
3. CHURCHES				5,000	13,554	3.5	5,000	9.4	13,554	2,500	6,777	2,500	6,777							4.797	4.80	0.10	0.48
WITH 1.5 AC IRRIGATION																							
4. SCHOOLS				12,500	41,012	0.0	0	0.0	0	6,250	20,506	0	0							13.655	0.00	0.10	0.00
WITH 5 ACRES IRRIGATION																							
5. OFFICES/BUSIN				1,000	2,140	0.0	0	0.0	0	500	1,070	0	0							0.826	0.00	0.10	0.00
WITH 0.20 ACRES IRRIGATION																							
DOMESTIC TOTALS						211.8	305,000	514.6	741,054	10,050	30,008	152,500	370,527	0	0	0	0	20,574	272.60	1.15	201.33		
6. Fire Flow				2,500	2,500							300,000	300,000										
GRAND TOTALS						211.8	305,000	514.6	741,054	10,050	30,008	452,500	670,527	0	0	0	0	20,574	272.60	1.15	201.33		

NOTES:

1. UNIT INDOOR DEMANDS DERIVED FROM UTAH STATE DRINKING WATER REGULATION - 1997
2. FIRE STORAGE EQUALS 2500 GPM FOR 2 HOURS
3. UNIT IRRIGATION DEMAND DETERMINED BASED UPON EWP RECOMMENDATIONS FROM 1995 MASTERPLAN
4. ANNUAL DEMAND IS GENERALLY CALCULATED AS (0.3)*PEAKDAY*365 FOR DOMESTIC USES. SEASONAL USES ARE ADJUSTED AS REQUIRED
5. S.F. = SINGLE FAMILY

Table 3-12