Attachment A

Central Utah Project Completion Program

Attachment A

October 2004

UTAH RECLAMATION
MITIGATION
AND CONSERVATION
COMMISSION

FINAL SHEET
22 AUG 02

2050 Utah County
Planning Population Projections

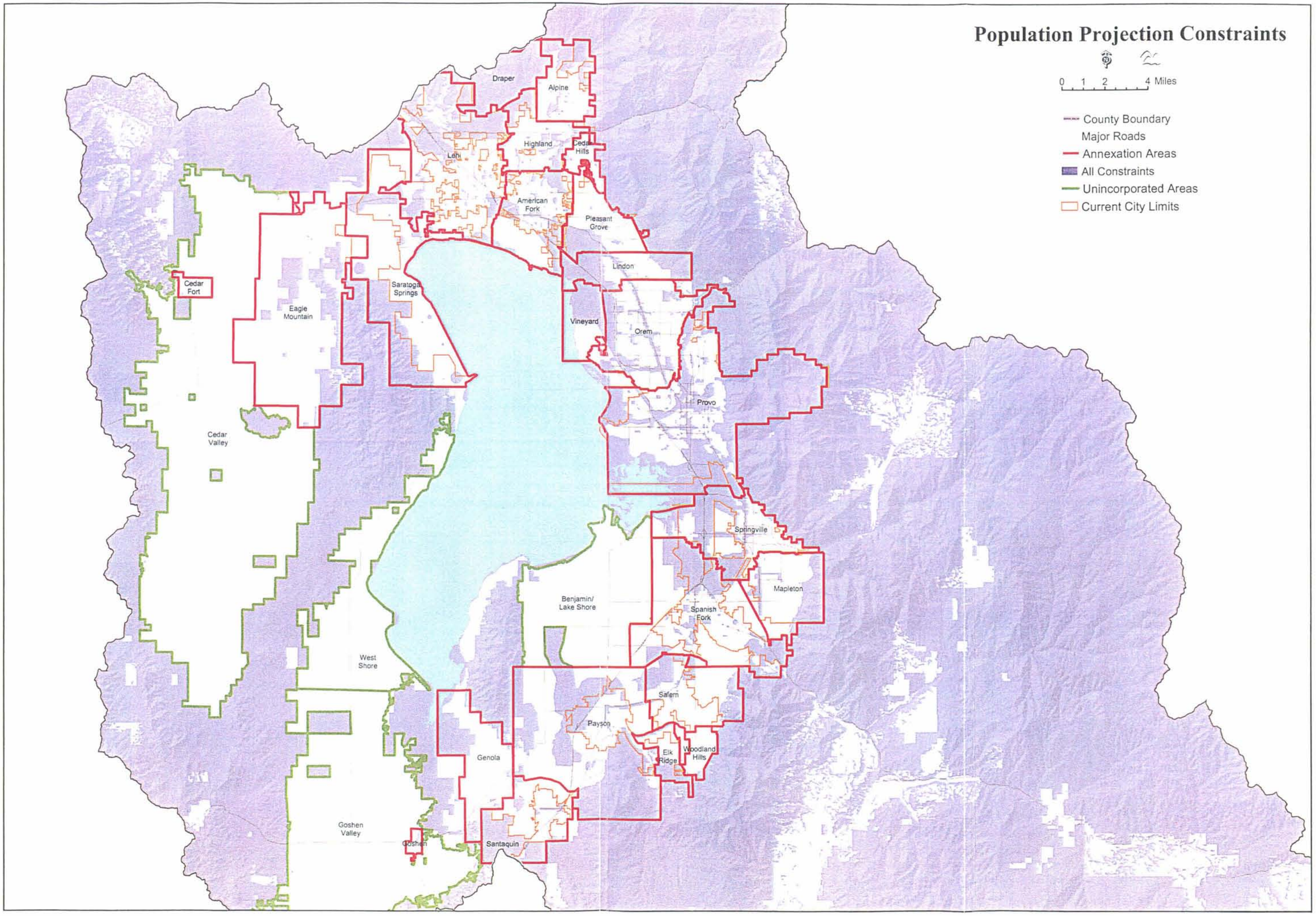
Mountainland

	Census	Official Projections						Planning Projections				
Municipality	**2000**	**00's AARC**	**2010**	**10's AARC**	**2020**	**20's AARC**	**2030**	**30's AARC**	**2040**	**40's AARC**	**2050**	**50 Year AARC**
Alpine	7,146	3.3%	9,874	1.8%	11,752	2.9%	15,675	1.9%	18,900	0.0%	18,900	2.0%
American Fork	21,941	2.4%	27,787	1.6%	32,573	0.9%	35,583	2.6%	46,008	2.1%	56,433	1.9%
Cedar Fort	341	3.9%	500	2.4%	632	1.6%	738	2.4%	932	1.9%	1,127	2.4%
Cedar Hills	3,094	8.2%	6,807	3.6%	9,663	0.5%	10,132	2.0%	12,300	0.0%	12,300	2.8%
Draper	0	na	4,758	5.1%	7,833	2.9%	10,448	3.0%	14,000	0.0%	14,000	5.1%
Eagle Mountain	2,157	16.3%	9,758	5.6%	16,756	3.1%	22,770	5.3%	38,207	3.5%	53,644	6.6%
Elk Ridge	1,838	5.3%	3,093	3.6%	4,391	1.4%	5,024	1.8%	6,000	0.0%	6,000	2.4%
Genola	965	5.0%	1,565	4.3%	2,392	7.1%	4,744	9.2%	11,467	4.7%	18,191	6.0%
Goshen	874	3.6%	1,249	3.0%	1,682	1.6%	1,970	2.9%	2,611	2.2%	3,251	2.7%
Highland	8,172	6.2%	14,940	3.0%	20,120	1.6%	23,564	1.8%	28,163	0.0%	28,163	2.5%
Lehi	19,028	5.1%	31,302	3.6%	44,437	1.0%	48,975	3.5%	69,036	2.6%	89,098	3.1%
Lindon	8,363	2.5%	10,711	1.1%	11,919	0.9%	13,020	4.9%	21,000	0.0%	21,000	1.9%
Mapleton	5,809	4.9%	9,403	4.7%	14,928	3.5%	20,990	2.7%	27,507	2.1%	34,024	3.6%
Orem	84,324	1.3%	96,039	0.4%	100,020	0.3%	103,000	0.4%	107,000	0.0%	107,000	0.5%
Payson	12,716	4.9%	20,606	3.0%	27,750	1.0%	30,583	6.2%	55,673	3.8%	80,763	3.8%
Pleasant Grove	23,468	1.5%	27,334	1.1%	30,415	0.9%	33,226	2.0%	40,700	0.0%	40,700	1.1%
Provo	105,166	1.2%	118,607	1.0%	130,814	0.3%	134,687	0.8%	145,906	0.7%	157,125	0.8%
Salem	4,372	5.3%	7,351	5.1%	12,101	3.5%	17,016	3.6%	24,212	2.6%	31,409	4.0%
Santaquin	4,834	7.3%	9,822	5.6%	16,865	3.7%	24,263	6.0%	43,442	3.7%	62,621	5.3%
Saratoga Springs	1,003	24.5%	8,993	7.2%	18,005	2.7%	23,450	5.1%	38,606	3.4%	53,762	8.3%
Spanish Fork	20,246	3.2%	27,693	1.7%	32,745	0.9%	35,771	3.6%	50,900	2.6%	66,028	2.4%
Springville	20,424	3.5%	28,866	1.7%	34,132	0.9%	37,286	4.8%	59,658	0.0%	59,658	2.2%
Utah County	11,164	7.6%	23,121	1.3%	26,253	0.1%	26,469	8.1%	57,467	6.8%	111,177	4.7%
Goshen Valley Area	*415*	-	*4,129*	-	*4,278*	-	*4,787*	-	*17,581*	-	*48,114*	-
Cedar Valley Area	*510*	-	*5,075*	-	*5,258*	-	*5,884*	-	*21,609*	-	*33,666*	-
West Mountain Area	*2,026*	-	*5,065*	-	*7,598*	-	*8,357*	-	*10,865*	-	*14,525*	-
West Shore Area	*44*	-	*438*	-	*454*	-	*508*	-	*1,866*	-	*13,061*	-
Other Unincorporated Areas	*8,169*	-	*8,414*	-	*8,665*	-	*6,933*	-	*5,546*	-	*1,811*	-
Vineyard	150	20.5%	968	15.4%	4,056	3.5%	5,703	3.4%	8,000	0.0%	8,000	8.3%
Woodland Hills	941	7.2%	1,891	5.6%	3,247	2.1%	4,014	1.8%	4,793	0.0%	4,793	3.3%
North County	99,483	5.0%	162,643	2.8%	215,321	1.5%	248,891	3.5%	352,405	2.9%	436,627	3.0%
Central County	189,640	1.3%	215,614	0.9%	234,889	0.4%	243,389	0.7%	260,906	0.6%	272,125	0.7%
South County	79,413	4.6%	124,782	2.8%	165,269	1.8%	196,821	5.0%	319,177	4.0%	430,415	3.4%
GOPB County Control Total	368,536	3.2%	503,039	2.0%	615,480	1.1%	689,102	3.1%	932,488	2.5%	1,139,167	2.3%

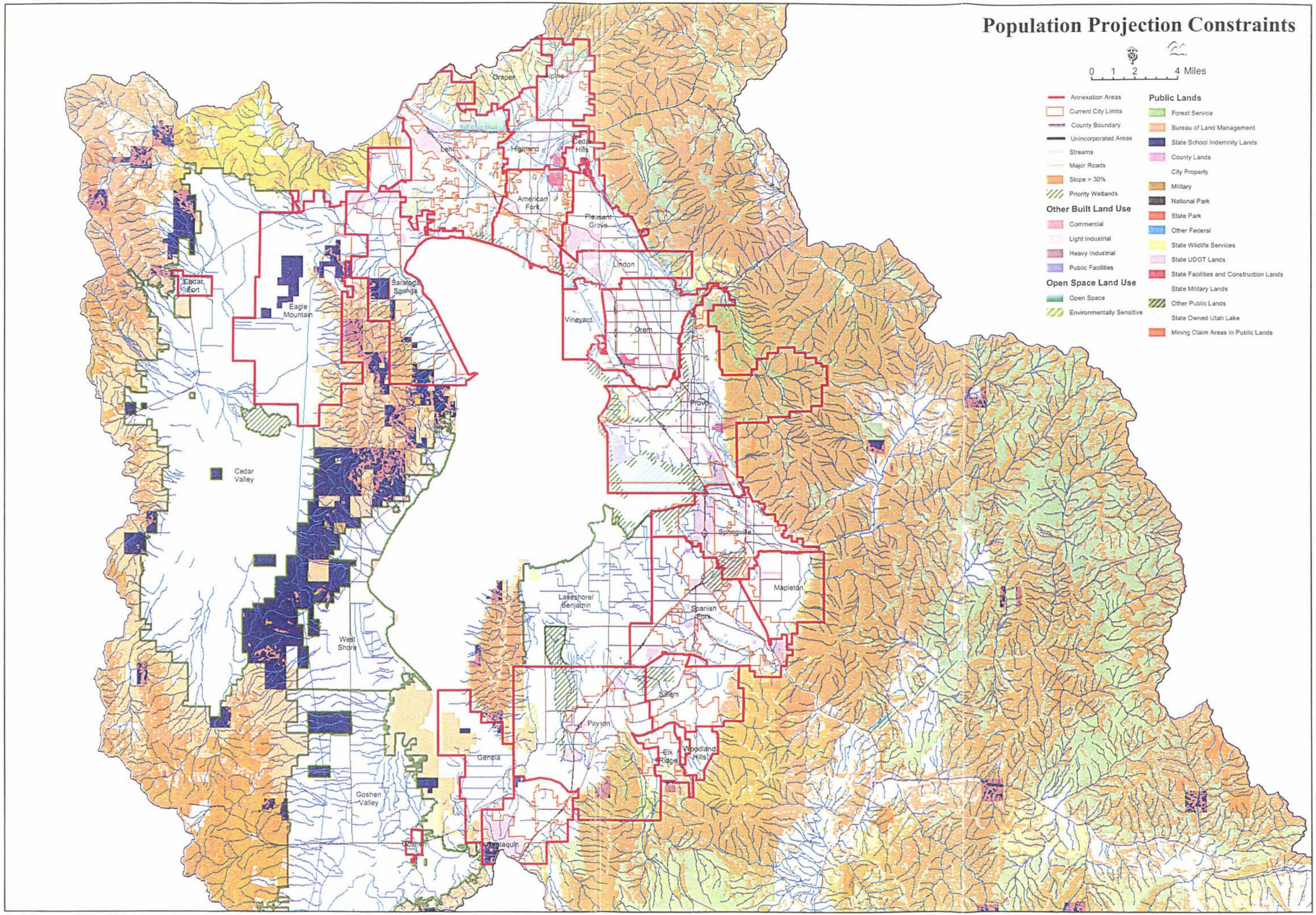
Notes:

1. GOPB County Control Totals for 2010 - 2030: produced by the Governor's Office of Planning and Budget and is official data.
2. GOPB County Control Total for 2040: a range between 710,000 and 1,025,398 was used. GOPB produced the range for planning only.
3. GOPB County Control Totals for 2050: a range between 820,000 and 1,276,351 was used. GOPB produced the range for planning only.
4. AARC = Annual Average Rate of Change
5. Unincorporated Utah County data for 2040 - 2050 is divided between North County (43%) and South County (58%).
6. Build-out Population 40,709
7. Final - 22 August 2002

Prepared by Shawn Eliot - 801/229-3841 - seliot@mountainland.org


Population Projection Constraints
0 1 2 4 Miles
County Boundary
Major Roads
Annexation Areas
All Constraints
Unincorporated Areas
Current City Limits
Draper
Alpine
Highland
Cedar Hills
Lehi
American Fork
Pleasant Grove
Lindon
Cedar Fort
Eagle Mountain
Saratoga Springs
Vineyard
Orem
Provo
Cedar Valley
Springville
Mapleton
Benjamin/ Lake Shore
Spanish Fork
West Shore
Salem
Payson
Genola
Elk Ridge
Woodland Hills
Goshen Valley
Goshen
Santaquin

Population Projection Constraints



Central Utah Project Completion Program

Attachment B

October 2004

UTAH RECLAMATION
MITIGATION
AND CONSERVATION
COMMISSION

Attachment B

Appendix ~~A~~ B
Summary of Utah Lake Water Rights

UNAP Unapproved
APP Approved
NC No Change
NOF No change on File

Original Water Right Number	Segregated Water Right Number	Owner of Record	Original Water Right Amount ac-ft	Segregated Amount	Reduction in Original Right	Change Application Number	Change Application Status	Original Right Reduced	Volume Diverted Upstream	Volume Diverted Downstream
~~59-3500~~		~~South Jordan Canal Company~~	~~29,634.85~~							
	51-7534	Woodland Hills		1.09	1.09	a25517	APP	Y	1.09	0
	51-7331	Spanish Fork City		44.46	44.46	a23773	APP	Y	44.46	0
	51-7271	Elk Ridge Town		103.74	103.74	a23014	APP	Y	103.74	0
	51-7204	Woodland Hills		16.20	16.20	a22429	APP	Y	16.2	0
	51-7198	Payson City		224.77	0.00	NOF	NC*	N	0	0
	51-7182	Southern Utah Valley Municipal Assoc.		133.80	133.80	a21820	APP	Y	133.8	0
	51-7045	Santaquin City		224.77	224.77	a20673	APP	Y	224.77	0
	51-6786	South Jordan Canal Company		479.18	479.18	a18786	APP	Y	479.18	0
	51-6794	South Jordan Canal Company		148.20	148.20	a18829	APP	Y	148.2	0
	51-6793	South Jordan Canal Company		138.32	138.32	a18828	APP	Y	138.32	0
	53-1356	South Jordan Canal Company		464.36	464.36	a22231	APP	Y	464.36	0
	54-1021	South Jordan Canal Company		1.95	1.95	a22750	APP	Y	1.95	0
	54-1020	South Jordan Canal Company		1.95	1.95	a22749	APP	Y	1.95	0
	54-1018	South Jordan Canal Company		3.55	3.55	a22688	APP	Y	3.55	0
	55-9708	South Jordan Canal Company		728.65	0.00	a27167	UNAP	N	0	0
	55-9509	Cedar Hills Town		44.46	44.46	a24320	APP	Y	44.46	0
	55-9109	South Jordan Canal Company		74.10	74.10	a20022	APP	Y	74.1	0
	55-9108	South Jordan Canal Company		98.80	98.80	a20021	APP	Y	98.8	0
	55-9107	South Jordan Canal Company		148.20	148.20	a20020	APP	Y	148.2	0
	55-9101	South Jordan Canal Company		523.64	523.64	a19988	APP	Y	523.64	0
	55-9054	South Jordan Canal Company		19.76	19.76	a19813	APP	Y	19.76	0
	59-5380	South Jordan Canal Company		74.10	0.00	a16881	LAP	N	0	0
	59-5659	Jordan Valley Water Conservancy District		1,205.35	1,205.35	a23622	APP	Y	0	1205.35
	53-1031	High Country Limited Partnership		789.00	0.00	a13634	LAP	N	0	0
	53-1032	High Country Limited Partnership		331.38	0.00	a13635	LAP	N	0	0
	59-5270	South Jordan Canal Company		5,384.60	5,384.60	a15004	APP	Y	0	5384.6
	55-8873	South Jordan Canal Company		526.11	526.11	a19096	APP	Y	526.11	0
	55-8925	South Jordan Canal Company		18.89	18.89	a18896	APP	Y	18.887	0
	55-9055	South Jordan Canal Company		14.82	0.00	NOF	NC*	N	0	0
	55-9067	South Jordan Canal Company		24.70	24.70	a20078	APP	Y	24.7	0
	55-9113	South Jordan Canal Company		4.94	4.94	a20049	APP	Y	4.94	0
	51-7052	South Jordan Canal Company		29.64	29.64	a20788	APP	Y	29.64	0
	51-7082	South Jordan Canal Company		0.45	0.45	a20899	APP	Y	0.45	0
	51-7083	South Jordan Canal Company		4.49	4.49	a20901	APP	Y	4.49	0
	53-1406	South Jordan Canal Company		2,642.90	2,642.90	a23104	APP	Y	2642.9	0
	53-1414	South Jordan Irrigation Co,		9.88	9.88	a22276	APP	Y	9.88	0
	51-7244	Payson City		4.94	4.94	a22723	APP	Y	4.94	0
	51-7251	Payson City		51.87	51.87	a22766	APP	Y	51.87	0
	51-7250	Payson City		103.74	103.74	a22765	APP	Y	103.74	0
	51-7254	Alice Zellhuber		9.88	9.88	a22798	APP	Y	9.88	0
	54-1076	John Harr & E. Johnson		9.88	0.00	a22797	WD	N	0	0
	53-1447	South Jordan Irrigation Co,		9.88	9.88	a23015	APP	Y	9.88	0
	55-9500	Cedar Hills Town		69.16	69.16	a24196	APP	Y	69.16	0
	51-7405	South Shore Farms		83.98	83.98	a24305	APP	Y	83.98	0
	55-9707	South Jordan Canal Company & Highland Water Company		303.81	0.00	a27166	UNAP	N	0	0
		Original Right Reduced By:		**12,855.93**						
		Water Right Remaining w/Parent		**16,778.92**					0	16778.923

Original Water Right Number	Segregated Water Right Number	Owner of Record	Original Water Right Amount ac-ft	Segregated Amount	Reduction in Original Right	Change Application Number	Change Application Status	Original Right Reduced	Volume Diverted Upstream	Volume Diverted Downstream
59-3517		Kennecott Utah Copper Corporation	13,750.00							
	55-9653	Kennecott Utah Copper Corporation		10.00	0.00	a26233	UNAP	N	0	0
	59-5513	JVWCD		5,000.00	5,000.00	a23590	APP	Y	0	5000
		Original Right Reduced By:		**5,000.00**						
		Water Right Remaining w/Parent		**8,750.00**						
57-7637		East Jordan Irrigation Company	48,400.00							
	51-7580	Payson City and East Jordan Irrigation Co.		4.84	4.84	a25513	APP	Y	4.84	0
	51-7551	Payson City		212.96	212.96	a25118	APP	Y	212.96	0
	51-7461	Spanish Fork City		193.60	193.60	a24500	APP	Y	193.6	0
	51-7336	Payson City		203.28	203.28	a23774	APP	Y	203.28	0
	51-7332	Spanish Fork City		60.50	60.50	a23772	APP	Y	60.5	0
	51-7315	East Jordan Irrigation Company		203.28	203.28	a23464	APP	Y	203.28	0
	51-7314	Payson City		53.24	53.24	a23441	APP	Y	53.24	0
	51-7303	Payson City		9.68	9.68	a23349	APP	Y	9.68	0
	51-7294	Payson City		9.68	9.68	a23259	APP	Y	9.68	0
	51-7268	Payson City		4.84	4.84	a23129	APP	Y	4.84	0
	51-7247	Patterson Construction Company		72.60	72.60	a22725	APP	Y	72.6	0
	51-7197	Payson City		163.35	0.00	NOF	NC*	N	0	0
	51-7192	Payson City		135.52	135.52	a21935	APP	Y	135.52	0
	51-7169	Elk Ridge Town		31.46	0.00	NOF	NC*	N	0	0
	51-7160	Salem City		140.00	140.00	a21662	APP	Y	140	0
	51-7123	R.E. Development		2.42	2.42	a21168	APP	Y	2.42	0
	51-7122	R.E. Development		2.42	2.42	a21167	APP	Y	2.42	0
	51-7121	R.E. Development		2.42	2.42	a21166	APP	Y	2.42	0
						a21165				
	51-7120	R.E. Development		2.42	2.42	a21622	APP	Y	2.42	0
	51-7119	R.E. Development		2.42	2.42	a21164	APP	Y	2.42	0
	51-7118	R.E. Development		2.42	2.42	a21163	APP	Y	2.42	0
	51-7114	Payson City		101.64	101.64	a21053	APP	Y	101.64	0
	51-7113	Payson City		186.34	186.34	a21052	APP	Y	186.34	0
	51-7131	R.E. Development		9.68	9.68	a21336	APP	Y	9.68	0
	53-1460	South Shore Farms		508.20	508.20	a24499	APP	Y	508.2	0
	53-1375	East Jordan Irrigation Company		1,011.56	1,011.56	a19561	APP	Y	1011.56	0
	54-1023	Luis & Donna Ault		42.35	42.35	a22865	APP	Y	42.35	0
	54-1001	Claudia Ruttrell		24.20	24.20	a21159	APP	Y	24.2	0
	55-9581	Lehi City		314.60	314.60	a25446	APP	Y	314.6	0
	55-9511	Lehi City		217.80	217.80	a24340	APP	Y	217.8	0
	55-9508	Cedar Hills Town		43.56	43.56	a24319	APP	Y	43.56	0
	55-9490	Lake Hills Development Co. Llc		48.40	48.40	a24096	APP	Y	48.4	0
	55-9473	Lehi City		79.86	79.86	a23899	APP	Y	79.86	0
	55-9442	East Jordan Irrigation Company		101.64	101.64	a23618	APP	Y	101.64	0
	55-9404	Lehi City		101.64	101.64	a23154	APP	Y	101.64	0
	55-9270	Lehi City		4.84	0.00	NOF	NC*	N	0	0
	55-9263	Lehi City		121.00	121.00	a21611	APP	Y	121	0
	55-9243	Lehi City		333.96	333.96	a21453	APP	Y	333.96	0
	55-9233	Lehi City		50.82	50.82	a21327	APP	Y	50.82	0
	55-9224	Lehi City		503.36	503.36	a21188	APP	Y	503.36	0
	55-9213	Lehi City		101.64	0.00	NOF	NC*	N	0	0
	55-9490	Lake Hills Development Co. Llc		48.40	48.40	a24096	APP	Y	48.4	0
	57-10261	Salt Lake City		200.08	0.00	NOF	NC*	N	0	0
	57-10187	Sandy City Corporation		2,330.46	0.00	NOF	NC*	N	0	0
	57-10186	Salt Lake City Corporation		11,953.59	0.00	a24006	UNAP	N	0	0
	59-5644	East Jordan Irrigation Company		435.60	435.60	a16037	APP	Y	0	435.6
	59-5395	East Jordan Irrigation Company		726.00	726.00		APP	Y	0	726
	59-5268	East Jordan Irrigation Company		7,935.18	7,935.18	a15002	APP	Y	0	7935.18
	53-1378	East Jordan Irrigation Company		58.08	58.08	a19664	APP	Y	58.08	0
	53-1391	East Jordan Irrigation Company		425.92	425.92	a20795	APP	Y	425.92	0
	51-7170	Southern Utah Valley Municipal Assoc.		226.20	226.20	a21684	APP	Y	226.2	0
	55-9284	Alpine Valley Llc.		450.12	450.12	a21958	APP	Y	450.12	0
	55-9285	Lehi City		14.52	14.52	a22214	APP	Y	14.52	0
	55-9319	Lehi City		309.76	309.76	a22101	APP	Y	309.76	0
	51-7203	Payson City and East Jordan Irrigation Co.		48.40	48.40	a22131	APP	Y	48.4	0
	55-9341	East Jordan Irrigation Company		121.00	121.00	a22460	APP	Y	121	0
	55-9344	East Jordan Irrigation Company		111.32	0.00	NOF	NC*	N	0	0
	55-9343	East Jordan Irrigation Company		401.72	401.72	a22549	APP	Y	401.72	0
	51-7224	Payson City		48.40	48.40	a22496	APP	Y	48.4	0
	53-1425	Evan Johnson		87.12	87.12	a22505	APP	Y	87.12	0
	55-9356	Pleasant Grove City		101.64	101.64	a22615	APP	Y	101.64	0
	51-7237	Preston Peterson		116.16	116.16	a22674	APP	Y	116.16	0
	51-7241	Payson City		48.40	48.40	a22703	APP	Y	48.4	0
	51-7242	Springville City		48.40	48.40	a22702	APP	Y	48.4	0
	55-9390	East Jordan Irrigation Company		208.12	208.12	a23027	APP	Y	208.12	0
	53-1440	East Jordan Irrigation Company		1,294.70	1,294.70	a23105	APP	Y	1294.7	0
	51-7278	Mountain View Ranches Llc.		401.74	401.74	a23095	APP	Y	401.74	0
	55-9396	Lehi City		341.22	341.22	a23106	APP	Y	341.22	0
	55-9426	Patterson Construction Company		89.54	89.54	23,642.00	APP	Y	89.54	0
	51-7317	East Jordan Irrigation Company		101.64	101.64	a23485	APP	Y	101.64	0
	54-1045	Evan Johnson		130.68	130.68	a24306	APP	Y	130.68	0
	55-9499	Cedar Hills Town		372.68	372.68	a24195	APP	Y	372.68	0

55-9504	East Jordan Irrigation Company	62.92	0.00	NOF	NC*	N	0	0
51-7403	East Jordan Irrigation Company	48.40	48.40	a24258	APP	Y	48.4	0
55-9503	East Jordan Irrigation Company	62.92	0.00	NOF	NC*	N	0	0
51-7412	East Jordan Irrigation Company	217.80	217.80	a24339	APP	Y	217.8	0
55-9578	East Jordan Irrigation Company	9.68	9.68	a25347	APP	Y	9.68	0
55-9610	Pleasant Grove City	212.96	212.96	a25852	APP	Y	212.96	0
51-7614	Payson City	24.20	24.20	a25944	APP	Y	24.2	0
55-9633	Alpine City	67.76	67.76	a26110	APP	Y	67.76	0
54-1088	East Jordan Irrigation Company	19.36	0.00		UNAP	N	0	0
51-7665	Neil Holbrook	4.84	0.00		UNAP	N	0	0
57-10298	Kent & Marsha Johnson	2.42	0.00		UNAP	N	0	0
	Original Right Reduced By:	**20,291.29**						
	Water Right Remaining w/Parent	**28,108.71**						

Original Water Right Number	Segregated Water Right Number	Owner of Record	Original Water Right Amount ac-ft	Segregated Amount	Reduction in Original Right	Change Application Number	Change Application Status	Original Right Reduced	Volume Diverted Upstream	Volume Diverted Downstream
59-3499		Utah and Salt Lake Canal Company	45,673.30							
	51-7191	Payson City		41.31	0.00	NOF*	NC*	N	0	0
	54-1086	Utah and Salt Lake Canal Company		201.96	201.96	a26292	APP	Y	201.96	0
	54-1085	Utah and Salt Lake Canal Company		270.81	270.81	a29293	APP	Y	270.81	0
	59-5269	Utah and Salt Lake Canal Company		10,355.04	10,355.04	a15003	APP	Y	0	10355.04
	54-624	Waldo Company		399.33	0.00	a15836	LAP	N	0	0
	59-5385	West Valley City		748.17	748.17	a17201	APP	Y	0	748.17
	53-1377	Utah and Salt Lake Canal Company		454.41	454.41	a19623	APP	Y	454.41	0
	54-982	Ronald & Marsha Paskett		9.23	9.23	a20646	APP	Y	9.23	0
	54-981	Ronald & Marsha Paskett		9.23	9.23	a20645	APP	Y	9.23	0
	54-980	Ronald & Marsha Paskett		7.50	7.50	a20694	APP	Y	7.5	0
	54-979	Ronald & Marsha Paskett		19.94	19.94	a20643	APP	Y	19.94	0
	53-1439	Utah and Salt Lake Canal Company		1,840.59	1,840.59	t23189 a24879	APP	Y	1840.59	0
	59-5601	City of Riverton		757.35	757.35	a23048	APP	Y	0	757.35
	59-5619	Utah and Salt Lake Canal Company		2,882.52	2,882.52	t26617 a23711	APP	Y	0	2882.52
		Original Right Reduced By:		**17,556.75**						
		Water Right Remaining w/Parent		**28,116.55**						

Original Water Right Number	Segregated Water Right Number	Owner of Record	Original Water Right Amount ac-ft	Segregated Amount	Reduction in Original Right	Change Application Number	Change Application Status	Original Right Reduced	Volume Diverted Upstream	Volume Diverted Downstream
59-13*		Utah Lake Distributing Company	43,165.90							
	54-1024	Louis & Donna Ault		91.98	0.00	a22867	UNAP	N	0	0
	54-1015	Utah Lake Distributing Co.		1.95	1.95	a22680	APP	Y	1.95	0
	54-716	Utah Lake Distributing Co.		10.22	0.00	NOF	NC*	N	0	0
	59-5257	Utah Boys Ranch/Child &Youth Svc.		27.16	0.00	a14669	LAP	N	0	0
	59-5271	Utah Lake Distributing Co.		3,439.03	3,439.03	a15005	APP	Y	0	3439.03
	59-5603	City of Riverton		457.86	457.86	a23047	APP	Y	0	457.86
	55-9655	Utah Lake Distributing Co.		20.44	0.00	NOF	NC*	N	0	0
	55-9572	Utah Lake Distributing Co.		633.64	633.64	a25275	APP	Y	633.64	0
	53-1496	E. Johnson		807.38	807.38	a25719	APP	Y	807.38	0
	55-9629	Pleasant Grove City		235.06	235.06	a26032	APP	Y	235.06	0
	54-1090	E. Johnson		495.67	495.67	a26402	APP	Y	495.67	0
	53-1510	JLC		153.30	153.30	a26638	APP	Y	153.3	0
	51-7680	NL Topham		20.44	20.44	a26872	APP	Y	20.44	0
	55-9693	Mountain View Ranches		919.80	919.80	a26962	APP	Y	919.8	0
	51-7705	Robert Goodrow		15.33	0.00	a27057	UNAP	N	0	0
		Original Right Reduced By:		**7,164.13**						
		Water Right Remaining w/Parent		**36,001.77**						
		* See Technical Memorandum for explanation								

Original Water Right Number	Segregated Water Right Number	Owner of Record	Original Water Right Amount ac-ft	Segregated Amount	Reduction in Original Right	Change Application Number	Change Application Status	Original Right Reduced	Volume Diverted Upstream	Volume Diverted Downstream
57-23*		Sandy & Draper Irrigation Company	12,500.00							
	54-1044	Draper Irrigation Company		2,882.75	0.00	a23069	Cert	N	0	0
	55-9661	Highland City & Pleasant Grove City		6,004.40	0.00	a26382	APP	N	0	0
	57-10191	Draper Irrigation Company		4,674.28	0.00	a16627	APP	N	0	0
	59-5273	Draper Irrigation Company & Sandy Canal Co.		2,000.00	2,000.00	a15007	APP	Y	0	2000
		Original Right Reduced By:		**2,000.00**						
		Water Right Remaining w/Parent		**10,500.00**						
		* See Technical Memorandum for explanation								

Original Water Right Number	Segregated Water Right Number	Owner of Record	Original Water Right Amount ac-ft	Segregated Amount	Reduction in Original Right	Change Application Number	Change Application Status	Original Right Reduced	Volume Diverted Upstream	Volume Diverted Downstream
59-3496		North Jordan Irrigation Company	15,848.00							
	59-5379			498.60	498.60	a15015	APP	Y	498.6	0
	59-5272			10,000.00	10,000.00	a15006	APP	Y	10000	0
		Original Right Reduced By:		**10,498.60**						
		Water Right Remaining w/Parent		**5349.40**						

Original Water Right Number	Segregated Water Right Number	Owner of Record	Original Water Right Amount ac-ft	Segregated Amount	Reduction in Original Right	Change Application Number	Change Application Status	Original Right Reduced	Volume Diverted Upstream	Volume Diverted Downstream
59-14		CUWCD	43,739.00						0	0
59-15		CUWCD	10,984.00						0	0
59-20		CUWCD	2,350.00						0	0
		Water Right Remaining w/Parents	**57,073.00**							57073
57-7624		Salt Lake City	39,600.00							
	57-9327	Central Utah Water Conservancy Dist.		25,000.00	25,000.00	E3101	APP	Y	0	25000
		Original Right Reduced By:		**25,000.00**						
		Water Right Remaining w/Parent		**14,600.00**						
		Total Primary Storage Rights		**192,906.15**						
		Total Secondary Storage Rights		**112,738.90**						
		Total All Storage Rights		**305,645.05**						
		Total Rights Segregated from Original (Secondary and Primary)		**100,366.70**						
		Total Rights Remaining w/Parent		**205,278.35**						
		Total Delivery Diverted Upstream		**34,040.00**						
		Total Delivery Diverted Downstream		**271,605.05**						
				Upstream	**Downstream**					
		Primary Deliveries		**30,772.76**	**162,133.39**					
		Secondary Deliveries		**3,267.24**	**109,471.66**					

Central Utah Project Completion Program

Attachment C

October 2004

UTAH RECLAMATION
MITIGATION
AND CONSERVATION
COMMISSION

Attachment C

TO: Files (ULS)

NOT FOR PUBLIC RELEASE

FROM: Mark A. Breitenbach, P.E.
Project Manager

DATE: March 20, 2000

SUBJECT: Updated Demands Model For Period 1950-1998

The purpose of this memorandum is to document changes made in the demands model of the Spanish Fork-Nephi Irrigation (SFN) system to update it from the hydrologic period 1930-1973 to the period 1950-1998 that will be used in the Utah Lake Drainage Basin Water Delivery System (ULS). This model is a spreadsheet format. As information becomes available for 1999, it will be incorporated into the model.

Project Lands

The amount of Project lands remains unchanged from the SFN system plan. Attachment 1 is Table 3-8 from the Draft Water Supply Appendix that shows a total of 75,570 acres of Project lands served, including 10, 835 acres of dryland farmed area and 64,735 of irrigated area. The amount shown for the Spanish Fork Area (45,688 acres, rounded to 45,690) included 515 acres of land in the Southshore area. This area was not included in the water supply allocation of the SFN system. The updated model does not include the Southshore area, reducing the Spanish Fork Area acreage to 45,173 acres and the total Project acreage from 75,570 to 75,053 acres.

Consumptive Use and Diversion Requirements

Consumptive use, irrigation cropping pattern, water conveyance and application efficiency, and overall unit irrigation diversion requirement is the same as developed for the SFN system (See Attachement 1). A technical committee comprised of various local, county, state and federal agencies developed the water use values used for the SFN system planning. Attachment 2 is Tables 3-9 and 5-5 and Figure 5-3 from the Draft Water Supply Appendix which show the distribution of CUP water under the SFN system for the hydrologic period 1930-1973. Information on the development of irrigation diversion requirements can be found in an unpublished report entitled "Preliminary Water Requirements Report and Appendices, South Utah and East Juab Counties, I&D System, May 1994"

Surface Water Diversions

Historical surface water diversion data was obtained from the State database. It included Spanish Fork River Commissioner data for the Spanish Fork River and USGS gaging records for local streams.

Spanish Fork River Diversions - The river commissioner data was continuous for the period from 1950 through 1998. In the last decade, historical diversions have included interim CUP water deliveries. The historical diversion data was reduced by the amount of reported CUP deliveries. Some discrepancies occur between the River Commissioner Report records and the State database, particularly rounding discrepancies. The State database data was used for the entire period 1950-1998. The river commissioner reports the diversions from the Spanish Fork River under direct diversion rights and the diversions of Strawberry Valley Project (SVP) water. The SVP water is mostly supplied from storage in Strawberry Reservoir under a credit system. The SVP supply is an average of 61,500 acre-feet per year. The historical supply for the period 1950-1998 averaged _____ acre-feet per year. All values were therefore increased by ___ percent so that the average used in the ULS demands model matched 61,500 acre-feet.

Local Streams - USGS gaging records exist for the following streams:

- Salt Creek at Nephi, 1951-1980, 1994-present
- Salt Creek below Nephi Powerplant Div., near Nephi, 1994, 1996-present
- Summit Creek Near Santaquin, 1955-1966
- Hobble Creek Above Diversions, Near Springville, 1945-1974
- Currant Creek near Goshen, 1954-1960
- Currant Creek near Mona, 1979-present

The water supply for the period 1950-1998 for each of the SFN subareas that divert local supplies was determined as discussed following

Nephi- Historical flows in Salt Creek were used. The Salt Creek record was extended in the same manner as under the SFN system by correlation with the Chicken Creek record.

Mona - Local water supply was determined by using 17.2 percent of the Nephi supply, the same procedure as used in the SFN system reports.

Peteetneet - The historical flows of Summit Creek for the period 1955-1966 were used. A correlation by month was made with the extended Salt Creek supply to fill in the missing years:

January	48.73 percent	May	59.75 percent	September	63.24 percent
February	48.07 percent	June	48.35 percent	October	65.72 percent
March	40.92 percent	July	45.98 percent	November	54.98 percent
April	42.35 percent	August	55.70 percent	December	50.75 percent

Highline Canal - The USBR estimates of the flow of Peteetneet Creek and other local water supplies was use for the period 1950-1973. The record was extended by monthly correlation with the extended Salt Creek record to fill in the missing years:

January	--- percent	May	76.70 percent	September	77.99 percent
February	--- percent	June	42.44 percent	October	20.56 percent
March	--- percent	July	59.87 percent	November	--- percent
April	46.26 percent	August	77.17 percent	December	--- percent

Mapleton - The recorded flow of Hobble Creek was used for the period 1950-1974. The record was extended by monthly correlation with the extended Salt Creek record to fill in the missing

years:

January	--- percent	May	32.34 percent	September	42.84 percent
February	--- percent	June	28.72 percent	October	42.81 percent
March	--- percent	July	27.11 percent	November	--- percent
April	17.42 percent	August	37.18 percent	December	--- percent

Elberta - (incomplete)

Groundwater Supply - Records on groundwater pumping are not readily available because most wells are privately owned and operated. The Nephi Irrigation Company operates 5 wells. Power records were collected for those wells during the planning of the East Juab Water Efficiency Project. The Highline Canal company also operates two large wells. According to the USGS, the first irrigation well in Juab County was drilled in 1947. Further irrigation well drilling in that county did not occur until after the extremely dry year of 1961. In south Utah County, well development was not fully developed until the early 1980's. Historical well pumping is therefore not a good indication of present day pumping capability or practice.

The USGS prepared two reports for the CUWCD. The first, UDNR Technical Publication No. 111, entitled "Hydrology and simulation of groundwater flow in southern Utah and Goshen Valley, Utah" reported the historical groundwater pumping for south Utah County for the period 1930-1991. The second report, UDNR Technical Publication No. 114, entitled "Hydrology and simulation of ground-water flow in Juab Valley, Juab County, Utah" reported the historical groundwater pumping for Juab County for the period 1930-1993. The USGS collected power records of wells that were operated for irrigation and other uses. The monthly power records were used to compute annual groundwater pumped by each well. The annual values for each well were entered into 40 acre model cells. In some areas, the USGS used stress periods of several years rather than a single year. In these areas, the pumpage in the model represents the average pumping for the entire stress period.

The boundaries of the irrigation canal companies that would be served by the ULS were overlayed on the USGS groundwater model and the annual pumping for each area was extracted. The results are shown in Attachment 3. Attachment 3 shows the SFN model groundwater pumping (developed by the USBR), the USGS reported historical pumping (power records) and the amount of potential pumping to attempt to meet computed remaining demand in the ULS model assuming the maximum pumping capacity identified by the USBR for each canal company.

TABLE 3-8
SUMMARY OF ANNUAL IRRIGATION DIVERSION REQUIREMENTS BY SFN SYSTEM AREA

Item	Spanish Fork Area	Peteetneet Area	Elberta Area	Mona Subarea	Nephi Subarea	West Mona Subarea	TOTAL
Irrigable Acres							
Irrigated Lands (Supplemental Water)	45,690	4,630	1,890[a]	4,675	7,850	0	64,735
Non-irrigated Lands	0	0	0	2,655	6,260	1,920	10,835
SUBTRACT 515 AC. SOUTH SHORE *TOTAL*	*45,690*	*4,630*	*1,890*	*7,330*	*14,110*	*1,920*	*75,570*
Annual Requirement (acre-feet/acre)							
Consumptive Use Required for Irrigation	2.41	2.42	2.42	2.37	2.37	2.37	
Effective Precipitation	0.54	0.54	0.55	0.37	0.37	0.37	
Usable Groundwater in Root Zone	0.26	0.00	0.00	0.00	0.00	0.00	
Unadjusted Net Crop Water Requirement	1.61	1.88	1.87	2.00	2.00	2.00	
Net Irrigation Requirement (95% of above)	1.53	1.77	1.74	1.90	1.90	1.90	
On-Farm Losses	1.11	1.21	1.13	1.08	1.16	1.12	
Farm Delivery Requirement	2.64	2.98	2.87	2.98	3.06	3.02	
Conveyance Loss	0.22	0.15	0.32	0.16	0.16	0.15	
Diversion Requirement	2.86	3.13	3.19	3.14	3.22	3.17	
Total Annual Requirement (acre-feet)							
Diversion Requirement in SFN System Area							
For Irrigated Lands	130,700[b]	14,500	6,000	14,700	25,300	0	191,200
For Non-irrigated Lands	0	0	0	8,300	20,200	6,100	34,600
TOTAL	*130,700*	*14,500*	*6,000*	*23,000*	*45,500*	*6,100*	*225,800*
Useable Existing Supply	101,200[b]	7,400	2,300[c]	8,100	20,700	0	139,700
Remaining Demand for Bonneville Unit Water							
For Irrigated Lands	29,500	7,100	3,700	6,600	4,600	0	51,500
For Non-irrigated Lands	0	0	0	8,300	20,200	6,100	34,600
TOTAL	*29,500*	*7,100*	*3,700*	*14,900*	*24,800*	*6,100*	*86,100*

[a] In the Elberta area, 6,270 acres have historically been irrigated with an inadequate water supply. The supply of Bonneville Unit water available to the Elberta area is insufficient to provide a full supply for all these acres. The 1,890 acres shown on this table represents the acreage that could be provided with a water supply on par with the acreage in the other agricultural areas of the SFN System.

[b] These amounts are reduced from those estimated for the total irrigated lands shown in the irrigation demand model (140,400 acre-feet shown in Table 3-15) because these amounts are the amounts required for acreage served by the SFN System and exclude acreage served exclusively from other sources.

[c] Amount shown is a pro rata share of the existing Elberta area water supply.

ATTACHMENT 1

TABLE 3-9
AVERAGE ANNUAL IRRIGATION WATER DEMAND, SUPPLY, AND RESULTING SHORTAGES

Area	Modeled Acreage[a] (acres)	Total Demand (acre-feet)	Existing Supply[b] (acre-feet)	SFN System Remaining Demand (acre-feet)	Bonneville Unit Supply (acre-feet)	Supply Shortage (acre-feet)	Shortage as Percentage of Total Demand
Southern Utah County							
Spanish Fork	45,690	130,700	101,200	29,500	21,700	7,800	6.0
Peteetneet[c]	4,630	14,500	7,400	7,100	6,000	1,100	7.6
Elberta	1,890[c]	6,000	2,300	3,700	3,400[e]	300	5.0
Subtotal	*52,210*	*151,200*	*110,900*	*40,300*	*31,100*	*9,200*	*6.1*
Eastern Juab County							
Mona	7,330	23,000	8,100	14,900	13,700	1,200	5.2
Nephi	14,110	45,500	20,700	24,800	22,600	2,200	4.8
West Mona Area	1,920	6,100	0	6,100	5,700[f]	400	6.6
Subtotal	*23,360*	*74,600*	*28,800*	*45,800*	*42,000*	*3,800*	*5.1*
TOTAL	**75,570**	**225,800**	**139,700**	**86,100**	**73,100**	**13,000**	**5.8**

[a] Based on 75,570 acres used in the water supply analysis.
[b] The existing water supply is based on the amounts presently used to meet demands on lands to be served by the SFN System.
[c] This area consists of the Santaquin area served with water from Summit Creek, and the Goosenest area along the High Line Canal near Payson.
[d] In the Elberta area, 6,370 acres would be irrigated with Bonneville Unit water. The 1,890 acres was used in modeling to account for limited Bonneville Unit water supplies that could be diverted to the area.
[e] Provided by return flow collected in Mona Reservoir.
[f] Provided by return flows collected in Mona Reservoir and 4,400 acre-feet of water from Strawberry Reservoir released to Mona Reservoir.

ATTACHMENT 2 1 of 3

TABLE 5-5
COMBINED BONNEVILLE UNIT AND SVP WATER DELIVERIES FROM THE SFN SYSTEM

Purpose	Water from Strawberry Reservoir			Bonneville Unit Return Flows (4)	Total (5)
	In Main Conveyance Aqueduct (1)[a]	In Diamond Fork Creek and Spanish Fork River (2)	Subtotal (3)		
IRRIGATION WATER					
Southern Utah County					
Mapleton to Santaquin	21,600	6,100	27,700	0	27,700
SVP Delivery	50,900	10,600	61,500	0	61,500
Elberta	0	0	0	3,400	3,400
Eastern Juab County					
Mona	13,700	0	13,700	0	13,700
Nephi	22,600	0	22,600	0	22,600
West Mona Area	4,400	0	4,400	1,300	5,700
Irrigation Subtotal	*113,200*	*16,700*	*129,900*	*4,700*	*134,600*
(SVP Water)	*(50,900)*	*(10,600)*	*(61,500)*	*(0)*	*(61,500)*
(Bonneville Unit Water)	*(62,300)*	*(6,100)*	*(68,400)*	*(4,700)*	*(73,100)*
UTAH LAKE, from:					
Spanish Fork River	11,100[b]	22,400[c]	33,500	0	33,500
Southern Utah County	0	0	0	13,800	13,800
Eastern Juab County	0	0	0	7,000	7,000
Utah Lake Subtotal	*11,100*	*22,400*	*33,500*	*20,800*	*54,300*
TOTALS	**124,300**	**39,100**	**163,400**	**25,500**	**188,900**
(SVP Water)	**(50,900)**	**(10,600)**	**(61,500)**	**(0)**	**(61,500)**
(Bonneville Unit Water)	**(73,400)**	**(28,500)**	**(101,900)**	**(25,500)**	**(127,400)**

[a] The amounts shown in Column (1) for the Main Conveyance Aqueduct do not include 4,000 acre-feet of river water conveyed in the aqueduct to the High Line Canal water users by exchange. With the river water the total amount carried in the aqueduct is 128,300 acre-feet.
[b] Includes 8,000 acre-feet exchanged for groundwater pumped for M&I use in southern Utah County.
[c] Includes 3,200 acre-feet exchanged for groundwater pumped for M&I use in southern Utah County.

The 101,900 acre-feet of deliverable Bonneville Unit water from Strawberry Reservoir will be divided between the Main Conveyance Aqueduct (73,400 acre-feet) and Spanish Fork River (28,500 acre-feet). These totals are shown at the bottom of Table 5-5 in columns one and two of the row labelled "(Bonneville Unit Water)."

The 25,500 acre-feet shown at the bottom of column four is the total return flow to Utah Lake estimated from the use of SFN System Bonneville Unit water on Table 4-1. This return flow is also part of the Bonneville Unit water supply. The 25,500 acre-feet consist of 11,700 acre-feet of return flow to Mona Reservoir and 13,800 acre-feet of return flow to Utah Lake from irrigation and M&I deliveries in southern Utah County. Part of the return flow to Mona Reservoir is used for irrigation in the Elberta and west Mona areas and the balance

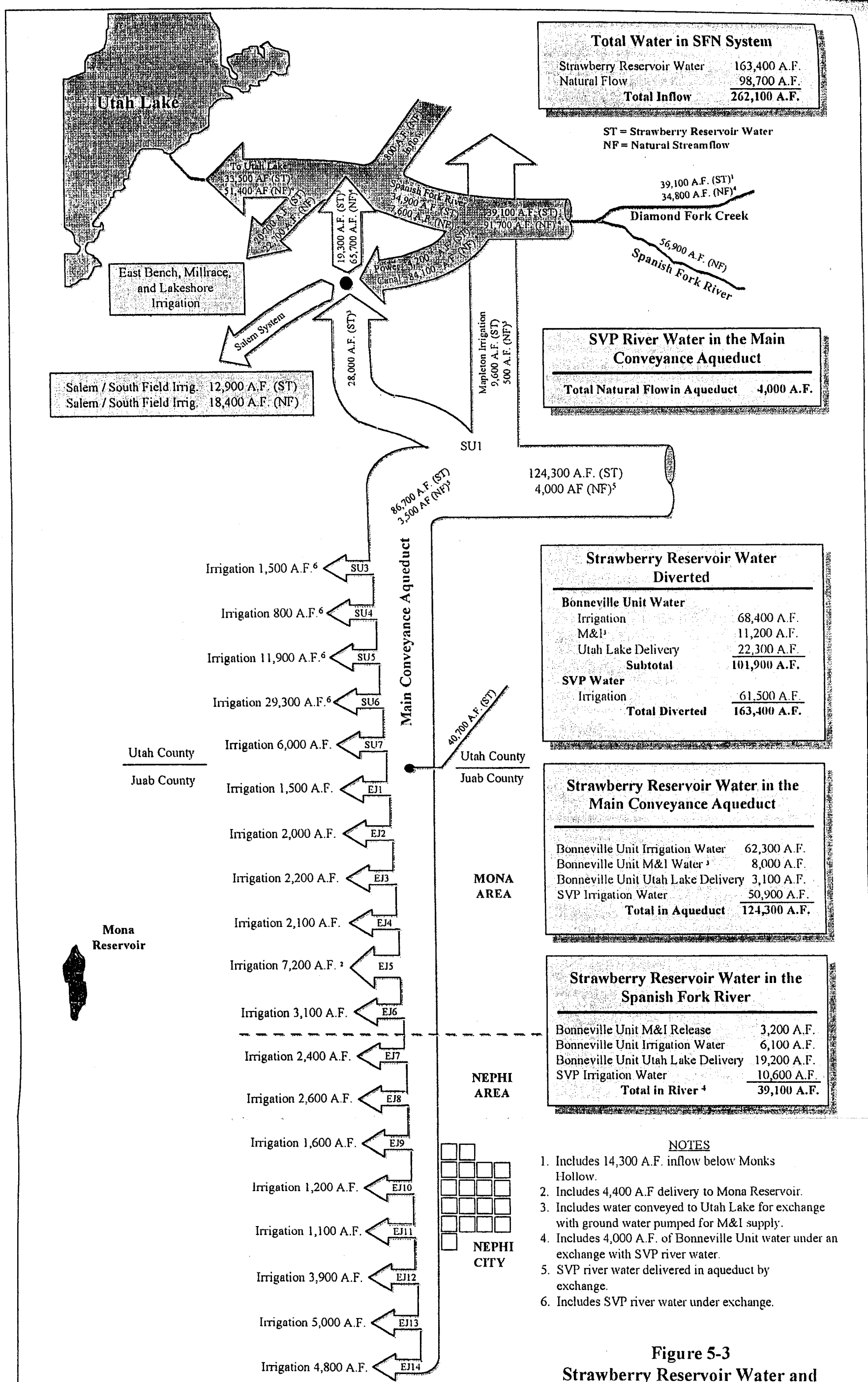


Figure 5-3
Strawberry Reservoir Water and Natural Flow in the SFN System

February 1998

BASED ON SFN PEAK MONTH CAPACITY

ATTACHMENT 3 1 OF 6

Summary Sheets

Maximum Pumping Capacity

YEARS	Nephi Demands Model acre-feet	Nephi USGS Model acre-feet	Nephi Pumping Capacity 4480 acre-feet	Mona Demands Model acre-feet	Mona USGS Model acre-feet	Mona Pumping Capacity 2630 acre-feet
1950	9130	628	13080	5360	517	11192
1951	9770	628	14439	5740	517	11636
1952	5910	628	4761	3470	517	8105
1953	8470	628	12170	4980	517	11463
1954	11340	628	16837	6660	517	11792
1955	13230	4352	15865	7770	676	11907
1956	10100	4352	15002	5930	676	11664
1957	8070	4352	9140	4740	676	10523
1958	7590	4352	11272	4460	676	10224
1959	13230	4352	18144	7770	676	12179
1960	13230	4352	15491	7770	676	11747
1961	14460	7818	19767	8490	4442	12385
1962	8150	7818	11628	4790	4442	10805
1963	9850	7818	13913	5780	4442	11644
1964	9850	7818	13540	5780	4442	11549
1965	8470	7818	10516	4980	4442	11055
1966	10440	7818	16539	6130	4442	11744
1967	9500	7818	12988	5580	4442	11728
1968	8530	7818	10523	5010	4442	10997
1969	7240	8230	11254	4250	5293	10194
1970	8400	8230	10845	4930	5293	11311
1971	9450	13260	11222	5550	5867	11030
1972	13230	13260	17261	7770	5867	12035
1973	7470	13260	9774	4390	5867	9730
1974		13260	8520		5867	10716
1975		13260	15838		5867	11811
1976		13260	19901		5867	12422
1977		13260	9487		5867	10095
1978		13260	12913		5867	10989
1979		8787	6587		4501	8708
1980		8787	17858		4501	11944
1981		8787	11797		4501	10090
1982		8787	2225		4501	6002
1983		8787	3707		4501	7080
1984		3657	10329		909	9908
1985		3657	10901		909	9624
1986		3657	19465		909	12322
1987		3657	18908		909	12237
1988		13325	19114		3903	12188
1989		13325	20141		3903	12449
1990		13325	16407		3903	11882
1991		13325	20308		3903	12478
1992		13325	14214		3903	11166
1993		13325	18999		3903	12268
1994			8872			10947
1995			13475			11333
1996			12930			10835
1997			9376			10118
1998			9376			10118
Total	235110	352849	647623	138080	149257	538368
Average	9796	10231	13217	5753	4322	10987
Time Period	1950-1973	1971-1990	1950-1998	1950-1973	1961-1993	1950-1998

Summary Sheets

Pumping Set to average 1969-1993 USGS Model

YEARS	Nephi Demands Model acre-feet	Nephi USGS Model acre-feet	Nephi Pumping Capacity 2950 acre-feet	Mona Demands Model acre-feet	Mona USGS Model acre-feet	Mona Pumping Capacity 830 acre-feet
1950	9130	628	11050	5360	517	4282
1951	9770	628	11723	5740	517	4517
1952	5910	628	4761	3470	517	3320
1953	8470	628	10001	4980	517	4487
1954	11340	628	12573	6660	517	4516
1955	13230	4352	12484	7770	676	4646
1956	10100	4352	11896	5930	676	4504
1957	8070	4352	7675	4740	676	4459
1958	7590	4352	9047	4460	676	4202
1959	13230	4352	13978	7770	676	4680
1960	13230	4352	12278	7770	676	4521
1961	14460	7818	14906	8490	4442	4779
1962	8150	7818	9164	4790	4442	4150
1963	9850	7818	10980	5780	4442	4642
1964	9850	7818	10787	5780	4442	4691
1965	8470	7818	8951	4980	4442	4370
1966	10440	7818	12328	6130	4442	4510
1967	9500	7818	10396	5580	4442	4629
1968	8530	7818	8656	5010	4442	4467
1969	7240	8230	9132	4250	5293	4150
1970	8400	8230	8807	4930	5293	4618
1971	9450	13260	8955	5550	5867	4236
1972	13230	13260	13325	7770	5867	4629
1973	7470	13260	7859	4390	5867	4064
1974		13260	7830		5867	4679
1975		13260	12117		5867	4614
1976		13260	14910		5867	4770
1977		13260	7710		5867	4150
1978		13260	10419		5867	4292
1979		8787	6587		4501	3551
1980		8787	13520		4501	4505
1981		8787	9524		4501	4126
1982		8787	2225		4501	2490
1983		8787	3707		4501	3320
1984		3657	7924		909	4150
1985		3657	8965		909	3792
1986		3657	14474		909	4650
1987		3657	14318		909	4707
1988		13325	14524		3903	4584
1989		13325	14794		3903	4722
1990		13325	12254		3903	4719
1991		13325	14863		3903	4725
1992		13325	11204		3903	4415
1993		13325	14498		3903	4735
1994			7769			4635
1995			10788			4413
1996			10241			4226
1997			7855			4180
1998			7855			4180
Total	235110	352849	512587	138080	149257	213398
Average	9796	10231	10297	5753	4322	4352
Time Period	1950-1973	1971-1990	1971-1990	1950-1973	1961-1993	1961-1993

Summary Sheets

Pumping Set to average 1950-1973 Demands Model

YEARS	Nephi Demands Model acre-feet	Nephi USGS Model acre-feet	Nephi Pumping Capacity 2670 acre-feet	Mona Demands Model acre-feet	Mona USGS Model acre-feet	Mona Pumping Capacity 1105 acre-feet
1950	9130	628	10210	5360	517	5657
1951	9770	628	10921	5740	517	5892
1952	5910	628	4761	3470	517	4420
1953	8470	628	9441	4980	517	5862
1954	11340	628	11733	6660	517	5891
1955	13230	4352	11644	7770	676	6021
1956	10100	4352	11056	5930	676	5879
1957	8070	4352	7115	4740	676	5834
1958	7590	4352	8487	4460	676	5450
1959	13230	4352	13138	7770	676	6055
1960	13230	4352	11438	7770	676	5896
1961	14460	7818	13786	8490	4442	6154
1962	8150	7818	8604	4790	4442	5525
1963	9850	7818	10140	5780	4442	6017
1964	9850	7818	10227	5780	4442	6066
1965	8470	7818	8391	4980	4442	5745
1966	10440	7818	11488	6130	4442	5885
1967	9500	7818	9836	5580	4442	6004
1968	8530	7818	8096	5010	4442	5842
1969	7240	8230	8572	4250	5293	5418
1970	8400	8230	8247	4930	5293	5993
1971	9450	13260	8395	5550	5867	5611
1972	13230	13260	12485	7770	5867	6004
1973	7470	13260	7299	4390	5867	5164
1974		13260	7439		5867	6054
1975		13260	11277		5867	5989
1976		13260	13790		5867	6145
1977		13260	7150		5867	5525
1978		13260	9859		5867	5667
1979		8787	6430		4501	4651
1980		8787	12622		4501	5880
1981		8787	8964		4501	5226
1982		8787	2225		4501	3315
1983		8787	3707		4501	4296
1984		3657	7364		909	5318
1985		3657	8405		909	4892
1986		3657	13350		909	6025
1987		3657	13408		909	6082
1988		13325	13397		3903	5959
1989		13325	13674		3903	6097
1990		13325	11414		3903	6094
1991		13325	13721		3903	6100
1992		13325	10364		3903	5790
1993		13325	13478		3903	6110
1994			7285			6010
1995			10098			5788
1996			9681			5601
1997			7295			5555
1998			7295			5555
Total	235110	352849	479202	138080	149257	278009
Average	9796	10231	9813	5753	4322	5762
Time Period	1950-1973	1971-1990	1950-1973	1950-1973	1961-1993	1950-1973

Summary Sheets

Pumping set to Average 1950-1973 Demands Model

YEARS	South Canal Demands Model acre-feet	South Canal USGS Model acre-feet	South Canal Pumping Capacity 783 acre-feet	Highline Demands Model acre-feet	Highline USGS Model acre-feet	Highline Pumping Capacity 1021 acre-feet	Mapleton Demands Model acre-feet	Mapleton USGS Model acre-feet	Mapleton Pumping Capacity 111 acre-feet	Lakeshore Demands Model acre-feet	Lakeshore USGS Model acre-feet	Lakeshore Pumping Capacity 439 acre-feet	Eastbench Demands Model acre-feet	Eastbench USGS Model acre-feet	Eastbench Pumping Capacity 150 acre-feet	Salem Demands Model acre-feet	Salem USGS Model acre-feet	Salem Pumping Capacity 900 acre-feet	Sp.Fk. Southeast Demands Model acre-feet	Sp.Fk. Southeast USGS Model acre-feet	Sp.Fk. Southeast Pumping Capacity 55 acre-feet	Sp.Fk. Westfield Demands Model acre-feet	Sp.Fk. Westfield USGS Model acre-feet	Sp.Fk. Westfield Pumping Capacity 446 acre-feet	
1950	1900	4	1566	1900	0	3163	0	100	222	2000	0	1815	500	0	151	500	0	405	150		110	1050	0	446	1950
1951	2100	4	2059	3000	0	4184	200	100	251	2200	0	2195	500	0	300	700	0	438	175		110	1225	0	892	1951
1952	1700	4	1553	1100	0	2406	0	100	222	1700	0	2217	500	0	386	500	0	341	150		220	1050	0	892	1952
1953	2200	4	1892	3200	0	2931	200	100	111	2200	0	2219	500	0	600	700	0	293	175		165	1225	0	1526	1953
1954	2700	4	2412	6200	39	4446	600	100	222	2700	0	2744	600	0	600	1100	0	1243	200		165	1400	0	1172	1954
1955	2300	4	2485	3800	39	4184	300	100	259	2300	0	2135	500	0	586	800	0	670	188		227	1312	0	757	1955
1956	2600	4	2272	5700	39	4265	400	100	333	2700	0	2166	600	0	450	1000	0	375	200		167	1400	0	1015	1956
1957	1500	4	1579	1100	39	5173	0	100	222	1500	0	2213	500	0	591	500	0	321	138		165	962	0	1338	1957
1958	2500	4	1792	5100	39	4051	400	100	210	2500	0	2368	500	0	453	900	30	356	188		139	1312	0	892	1958
1959	2700	4	2864	6300	39	4184	600	100	457	2700	0	2622	600	0	828	1200	30	1464	200		275	1400	0	1586	1959
1960	2700	4	2367	7200	39	4487	700	100	333	3000	0	2634	700	0	600	1200	30	758	213		161	1487	0	896	1960
1961	3300	4	3644	10000	39	5105	1000	49	655	3400	0	2634	900	0	773	1700	376	2400	225		275	1575	125	2076	1961
1962	2700	4	2629	7200	39	5205	700	169	333	3000	0	2195	700	513	869	1200	376	1013	213		220	1487	265	1567	1962
1963	3100	0	2740	8800	143	4926	800	696	537	3300	0	2583	700	644	750	1500	340	1175	225		212	1575	260	1411	1963
1964	2100	6	3091	3700	65	4110	300	273	274	2100	0	2741	500	343	623	800	342	926	175		172	1225	255	1784	1964
1965	2200	8	2357	3400	0	5025	200	178	333	2300	0	2195	500	355	750	700	286	445	175		175	1225	367	1576	1965
1966	2700	9	2646	6200	253	4219	600	614	288	2700	0	2552	600	547	617	1100	891	645	200		137	1400	357	1413	1966
1967	1700	7	2066	1100	60	2706	0	176	222	1700	0	2013	500	264	365	500	696	713	150		178	1050	347	1116	1967
1968	1700	3	3211	1200	52	4284	0	235	445	1700	0	2798	500	384	600	500	523	1330	150		220	1050	387	2084	1968
1969	1700	5	1566	1200	57	3617	0	263	333	1700	0	2251	500	449	600	500	542	451	150		110	1050	378	961	1969
1970	1900	216	1625	1800	0	3815	0	380	333	2000	0	2141	500	528	750	500	531	291	150		190	1050	368	949	1970
1971	2200	218	2085	3500	44	4260	200	230	222	2300	0	2274	500	1235	300	700	670	160	175		220	1225	359	1336	1971
1972	2500	228	2241	5200	15	5205	400	670	444	2600	0	2224	600	1289	600	1000	981	477	188		110	1312	349	1230	1972
1973	1900	233	1866	2000	14	3947	0	630	322	2000	0	2395	500	920	367	500	786	300	150		220	1050	339	1312	1973
1974	0	215	1691	0	26	4943	0	719	573	0	0	2834	0	1061	354	0	1041	507	0		113	0	329	1022	1974
1975	0	215	2430	0	4	4382	0	642	666	0	0	2672	0	683	505	0	230	1497	0		165	0	320	915	1975
1976	0	218	1566	0	0	4228	0	999	666	0	0	2294	0	1465	300	0	744	724	0		165	0	310	962	1976
1977	0	219	3561	0	81	6226	0	1067	501	0	0	2634	0	1231	750	0	919	2841	0		204	0	301	2019	1977
1978	0	243	3139	0	44	4715	0	1120	666	0	0	2809	0	945	696	0	305	160	0		220	0	291	1139	1978
1979	0	249	2385	0	23	4825	0	801	573	0	0	2834	0	1129	450	0	941	180	0		110	0	233	997	1979
1980	0	245	2231	0	2	4907	0	619	666	0	0	2422	0	804	450	0	187	294	0		165	0	228	1115	1980
1981	0	237	2818	0	0	4892	0	567	666	0	0	2587	0	507	300	0	204	864	0		220	0	50	1497	1981
1982	0	215	1911	0	0	4288	0	594	555	0	1	2387	0	505	329	0	185	117	0		220	0	50	1382	1982
1983	0	200	2649	0	0	6274	0	523	777	0	1	2593	0	505	600	0	278	1100	0		275	0	50	2084	1983
1984	0	205	2720	0	1	6127	0	564	666	0	1	2395	0	551	450	0	255	890	0		165	0	50	1638	1984
1985	0	205	1866	0	0	6226	0	523	666	0	1	2263	0	72	450	0	385	789	0		220	0	50	1192	1985
1986	0	218	2516	0	4	6426	0	523	576	0	1	2460	0	459	450	0	389	572	0		167	0	50	1376	1986
1987	0	231	2913	0	4	5605	0	523	359	0	1	2634	0	459	450	0	568	1095	0		220	0	50	1203	1987
1988	0	205	2515	0	4	5555	0	741	327	0	1	2571	0	459	504	0	599	701	0		239	0	51	1282	1988
1989	0	209	2921	0	4	4714	0	778	666	0	1	2595	0	459	600	0	954	815	0		220	0	51	1499	1989
1990	0	208	2388	0	208	5732	0	911	555	0	1	2634	0	436	736	0	859	1258	0		216	0	51	1196	1990
1991	0		3344	0		5658	0		525	0		2708	0		600	0		1362	0		220	0		2084	1991
1992	0		3996	0		6226	0		555	0		2634	0		900	0		2153	0		198	0		2084	1992
1993	0		2981	0		4551	0		666	0		2834	0		450	0		738	0		183	0		1706	1993
1994	0		3352	0		5405	0		666	0		2634	0		600	0		1713	0		220	0		1985	1994
1995	0		2649	0		5736	0		715	0		2612	0		750	0		2030	0		202	0		1638	1995
1996	0		2389	0		3842	0		666	0		2727	0		450	0		740	0		220	0		1796	1996
1997	0		2173	0		5139	0		777	0		2834	0		600	0		461	0		220	0		1340	1997
1998	0		2368	0		4384	0		777	0		1579	0		450	0		699	0		220	0		1192	1998
Total	54600	4722	120081	99900	1459	230904	7600	17883	23053	56300	9	120502	13500	19202	26685	20300	16471	41294	4301	0	9332	30099	6671	66567	
Average	2275	221	2275	4163	40	4162	317	559	316	2346	0	2347	563	662	563	846	546	708	179	0	181	1254	222	1259	
Time Period	1950-1973	1970-1990	1950-1973	1950-1973	1963-1990	1950-1973	1950-1973	1961-1990	1950-1973	1950-1973	1968-1990	1950-1973	1950-1973	1962-1990	1950-1973	1950-1973	1961-1990	1950-1973	1950-1973		1950-1973	1950-1973	1961-1990	1950-1973	

Summary Sheets

Pumping set to Average USGS Model

YEARS	South Canal Demands Model acre-feet	South Canal USGS Model acre-feet	South Canal Pumping Capacity 53 acre-feet	Highline Demands Model acre-feet	Highline USGS Model acre-feet	Highline Pumping Capacity 7 acre-feet	Mapleton Demands Model acre-feet	Mapleton USGS Model acre-feet	Mapleton Pumping Capacity 126 acre-feet	Lakeshore Demands Model acre-feet	Lakeshore USGS Model acre-feet	Lakeshore Pumping Capacity 0 acre-feet
1950	1900	4	106	1900	0	28	0	100	252	2000	0	0
1951	2100	4	212	3000	0	35	200	100	266	2200	0	0
1952	1700	4	106	1100	0	28	0	100	252	1700	0	0
1953	2200	4	159	3200	0	35	200	100	126	2200	0	0
1954	2700	4	212	6200	39	42	600	100	252	2700	0	0
1955	2300	4	251	3800	39	35	300	100	274	2300	0	0
1956	2600	4	191	5700	39	42	400	100	378	2700	0	0
1957	1500	4	119	1100	39	42	0	100	252	1500	0	0
1958	2500	4	159	5100	39	35	400	100	225	2500	0	0
1959	2700	4	265	6300	39	35	600	100	517	2700	0	0
1960	2700	4	233	7200	39	42	700	100	378	3000	0	0
1961	3300	4	265	10000	39	35	1000	49	730	3400	0	0
1962	2700	4	212	7200	39	42	700	169	378	3000	0	0
1963	3100	0	265	8800	143	35	800	696	597	3300	0	0
1964	2100	6	265	3700	65	42	300	273	304	2100	0	0
1965	2200	8	265	3400	0	42	200	178	378	2300	0	0
1966	2700	9	265	6200	253	42	600	614	318	2700	0	0
1967	1700	7	265	1100	60	28	0	176	252	1700	0	0
1968	1700	3	265	1200	52	42	0	235	505	1700	0	0
1969	1700	5	106	1200	57	35	0	263	378	1700	0	0
1970	1900	216	159	1800	0	35	0	380	378	2000	0	0
1971	2200	218	212	3500	44	42	200	230	252	2300	0	0
1972	2500	228	265	5200	15	42	400	670	504	2600	0	0
1973	1900	233	159	2000	14	42	0	630	352	2000	0	0
1974	0	215	184	0	26	42	0	719	648	0	0	0
1975	0	215	212	0	4	42	0	642	756	0	0	0
1976	0	218	106	0	0	42	0	999	756	0	0	0
1977	0	219	318	0	81	49	0	1067	561	0	0	0
1978	0	243	305	0	44	42	0	1120	756	0	0	0
1979	0	249	235	0	23	42	0	801	648	0	0	0
1980	0	245	265	0	2	42	0	619	756	0	0	0
1981	0	237	265	0	0	42	0	567	754	0	0	0
1982	0	215	159	0	0	49	0	594	630	0	1	0
1983	0	200	212	0	0	56	0	523	882	0	1	0
1984	0	205	265	0	1	56	0	564	756	0	1	0
1985	0	205	159	0	0	49	0	523	756	0	1	0
1986	0	218	212	0	4	56	0	523	651	0	1	0
1987	0	231	265	0	4	49	0	523	404	0	1	0
1988	0	205	265	0	4	56	0	741	357	0	1	0
1989	0	209	212	0	4	42	0	778	756	0	1	0
1990	0	208	265	0	208	56	0	911	630	0	1	0
1991	0		265	0		56	0		585	0		0
1992	0		318	0		49	0		625	0		0
1993	0		265	0		49	0		756	0		0
1994	0		318	0		49	0		756	0		0
1995	0		212	0		56	0		805	0		0
1996	0		265	0		49	0		756	0		0
1997	0		212	0		56	0		882	0		0
1998	0		212	0		42	0		882	0		0
Total	54600	4722	10953	99900	1459	2121	7600	17883	26001	56300	9	0
Average	2275	221	224	4163	40	44	317	559	559	2346	0	0
Time Period	1950-1973	1970-1990	1970-1990	1950-1973	1963-1990	1963-1990	1950-1973	1961-1990	1961-1990	1950-1973	1968-1990	1968-1990

YEARS	Eastbench Demands Model acre-feet	Eastbench USGS Model acre-feet	Eastbench Pumping Capacity 190 acre-feet	Salem Demands Model acre-feet	Salem USGS Model acre-feet	Salem Pumping Capacity 260 acre-feet	Sp.Fk. Southeast Demands Model acre-feet	Sp.Fk. Southeast USGS Model acre-feet	Sp.Fk. Southeast Pumping Capacity 0 acre-feet	Sp.Fk. Westfield Demands Model acre-feet	Sp.Fk. Westfield USGS Model acre-feet	Sp.Fk. Westfield Pumping Capacity 58 acre-feet	YEARS
1950	500	0	191	500	0	260	150		0	1050	0	58	1950
1951	500	0	380	700	0	361	175		0	1225	0	116	1951
1952	500	0	466	500	0	341	150		0	1050	0	116	1952
1953	500	0	760	700	0	293	175		0	1225	0	232	1953
1954	600	0	760	1100	0	598	200		0	1400	0	174	1954
1955	500	0	706	800	0	519	188		0	1312	0	116	1955
1956	600	0	570	1000	0	260	200		0	1400	0	174	1956
1957	500	0	711	500	0	321	138		0	962	0	174	1957
1958	500	0	533	900	30	356	188		0	1312	0	116	1958
1959	600	0	1007	1200	30	781	200		0	1400	0	232	1959
1960	700	0	760	1200	30	478	213		0	1487	0	120	1960
1961	900	0	966	1700	376	907	225		0	1575	125	290	1961
1962	700	513	1069	1200	376	645	213		0	1487	265	232	1962
1963	700	644	950	1500	340	589	225		0	1575	260	232	1963
1964	500	343	783	800	342	836	175		0	1225	255	232	1964
1965	500	355	930	700	286	445	175		0	1225	367	232	1965
1966	600	547	743	1100	891	398	200		0	1400	357	263	1966
1967	500	264	445	500	696	613	150		0	1050	347	231	1967
1968	500	384	760	500	523	819	150		0	1050	387	290	1968
1969	500	449	729	500	542	451	150		0	1050	378	174	1969
1970	500	528	950	500	531	291	150		0	1050	368	173	1970
1971	500	1235	380	700	670	160	175		0	1225	359	290	1971
1972	600	1289	760	1000	981	449	188		0	1312	349	232	1972
1973	500	920	447	500	786	300	150		0	1050	339	232	1973
1974	0	1061	434	0	1041	456	0		0	0	329	174	1974
1975	0	683	626	0	230	820	0		0	0	320	139	1975
1976	0	1465	380	0	744	658	0		0	0	310	174	1976
1977	0	1231	950	0	919	1297	0		0	0	301	290	1977
1978	0	945	856	0	305	160	0		0	0	291	232	1978
1979	0	1129	570	0	941	180	0		0	0	233	174	1979
1980	0	804	570	0	187	294	0		0	0	228	216	1980
1981	0	507	380	0	204	537	0		0	0	50	232	1981
1982	0	505	409	0	185	117	0		0	0	50	218	1982
1983	0	505	760	0	278	560	0		0	0	50	290	1983
1984	0	551	570	0	255	652	0		0	0	50	232	1984
1985	0	72	570	0	385	620	0		0	0	50	174	1985
1986	0	459	570	0	389	554	0		0	0	50	232	1986
1987	0	459	570	0	568	720	0		0	0	50	185	1987
1988	0	459	624	0	599	558	0		0	0	51	232	1988
1989	0	459	760	0	954	602	0		0	0	51	304	1989
1990	0	436	896	0	859	720	0		0	0	51	178	1990
1991	0		760	0		862	0		0	0		290	1991
1992	0		1140	0		928	0		0	0		290	1992
1993	0		570	0		709	0		0	0		290	1993
1994	0		760	0		929	0		0	0		322	1994
1995	0		950	0		1080	0		0	0		232	1995
1996	0		570	0		624	0		0	0		290	1996
1997	0		760	0		461	0		0	0		232	1997
1998	0		570	0		560	0		0	0		174	1998
Total	13500	19202	33333	20300	16471	27130	4301	0	0	30099	6671	10528	
Average	563	662	670	846	546	547	179	0	0	1254	222	226	
Time Period	1950-1973	1962-1990	1962-1990	1950-1973	1961-1990	1961-1990	1950-1973		1950-1973	1950-1973	1961-1990	1961-1990	

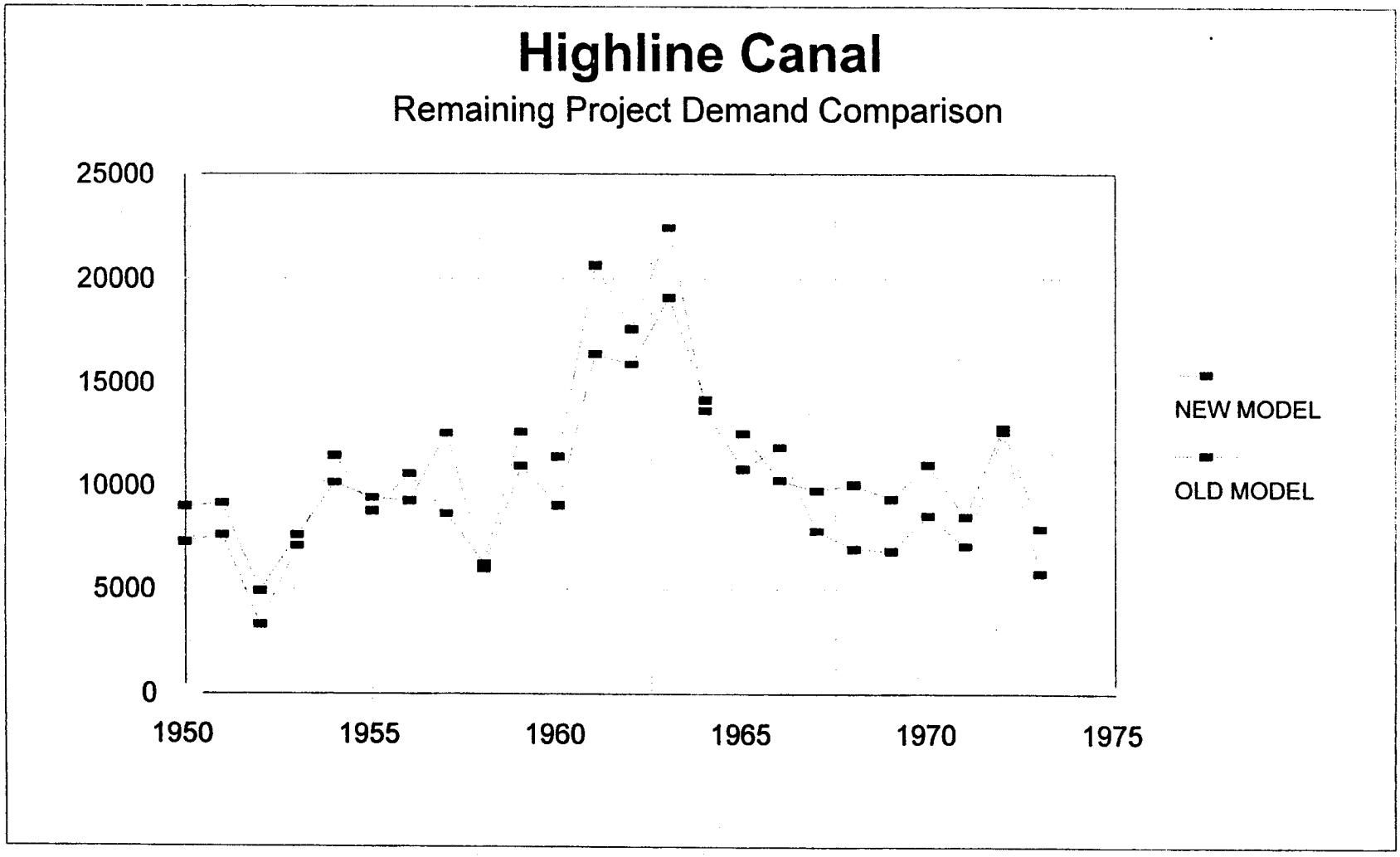
Summary Sheets

YEARS	South Canal Demands Model acre-feet	South Canal USGS Model acre-feet	South Canal Pumping Capacity 1000 acre-feet	Highline Demands Model acre-feet	Highline USGS Model acre-feet	Highline Pumping Capacity 5800 acre-feet	Mapleton Demands Model acre-feet	Mapleton USGS Model acre-feet	Mapleton Pumping Capacity 600 acre-feet	Lakeshore Demands Model acre-feet	Lakeshore USGS Model acre-feet	Lakeshore Pumping Capacity 1400 acre-feet	Eastbench Demands Model acre-feet	Eastbench USGS Model acre-feet	Eastbench Pumping Capacity 600 acre-feet	Salem Demands Model acre-feet	Salem USGS Model acre-feet	Salem Pumping Capacity 900 acre-feet	Sp.Fk. Southeast Demands Model acre-feet	Sp.Fk. Southeast USGS Model acre-feet	Sp.Fk. Southeast Pumping Capacity 70 acre-feet	Sp.Fk. Westfield Demands Model acre-feet	Sp.Fk. Westfield USGS Model acre-feet	Sp.Fk. Westfield Pumping Capacity 525 acre-feet	
1950	1900	4	1903	1900	0	8670	0	100	653	2000	0	3311	500	0	599	500	0	405	150		140	1050	0	525	1950
1951	2100	4	2493	3000	0	12391	200	100	480	2200	0	4970	500	0	414	700	0	438	175		140	1225	0	995	1951
1952	1700	4	1770	1100	0	5970	0	100	845	1700	0	3767	500	0	886	500	0	341	150		280	1050	0	1050	1952
1953	2200	4	2159	3200	0	10539	200	100	200	2200	0	4399	500	0	2081	700	0	293	175		210	1225	0	1763	1953
1954	2700	4	2846	6200	39	14053	600	100	1047	2700	0	6020	600	0	1794	1100	0	1243	200		210	1400	0	1330	1954
1955	2300	4	2919	3800	39	13661	300	100	407	2300	0	5207	500	0	1138	800	0	670	188		287	1312	0	836	1955
1956	2600	4	2706	5700	39	13299	400	100	741	2700	0	4789	600	0	1337	1000	0	375	200		212	1400	0	1173	1956
1957	1500	4	2013	1100	39	14503	0	100	800	1500	0	4057	500	0	966	500	0	321	138		210	962	0	1575	1957
1958	2500	4	2009	5100	39	10062	400	100	529	2500	0	4758	500	0	953	900	30	356	188		169	1312	0	1050	1958
1959	2700	4	3515	6300	39	14966	600	100	1481	2700	0	6624	600	0	2335	1200	30	1464	200		338	1400	0	1823	1959
1960	2700	4	2801	7200	39	14528	700	100	1281	3000	0	6125	700	0	1909	1200	30	758	213		188	1487	0	1054	1960
1961	3300	4	4461	10000	39	21913	1000	49	2498	3400	0	6976	900	0	2606	1700	376	2400	225		350	1575	125	2392	1961
1962	2700	4	3063	7200	39	19462	700	169	1600	3000	0	5537	700	513	2623	1200	376	1013	213		270	1487	265	1725	1962
1963	3100	0	3391	8800	143	21257	800	696	2070	3300	0	6052	700	644	2435	1500	340	1175	225		242	1575	260	1569	1963
1964	2100	6	3742	3700	65	14814	300	273	1192	2100	0	6135	500	343	1493	800	342	926	175		217	1225	255	2100	1964
1965	2200	8	2791	3400	0	14788	200	178	927	2300	0	5151	500	355	1610	700	286	445	175		208	1225	367	1734	1965
1966	2700	9	3080	6200	253	13657	600	614	1067	2700	0	5951	600	547	1720	1100	891	645	200		167	1400	357	1571	1966
1967	1700	7	2500	1100	60	9921	0	176	735	1700	0	4712	500	264	1096	500	696	713	150		208	1050	347	1274	1967
1968	1700	3	3860	1200	52	11758	0	235	921	1700	0	5529	500	384	1366	500	523	1330	150		280	1050	387	2400	1968
1969	1700	5	2000	1200	57	10861	0	263	1144	1700	0	4582	500	449	1288	500	542	451	150		140	1050	378	1119	1969
1970	1900	216	2059	1800	0	13068	0	380	801	2000	0	5032	500	528	1650	500	531	291	150		235	1050	368	1107	1970
1971	2200	218	2519	3500	44	11866	200	230	954	2300	0	4616	500	1235	873	700	670	160	175		280	1225	359	1494	1971
1972	2500	228	2675	5200	15	16882	400	670	1411	2600	0	5194	600	1289	2222	1000	981	477	188		140	1312	349	1388	1972
1973	1900	233	2300	2000	14	10113	0	630	1013	2000	0	5363	500	920	767	500	786	300	150		280	1050	339	1470	1973
1974	0	215	2125	0	26	14086	0	719	1962	0	0	7476	0	1061	989	0	1041	507	0		143	0	329	1180	1974
1975	0	215	3081	0	4	14365	0	642	2700	0	0	5934	0	683	1071	0	230	1497	0		210	0	320	1073	1975
1976	0	218	2000	0	0	14044	0	999	2717	0	0	4689	0	1465	800	0	744	724	0		210	0	310	1120	1976
1977	0	219	4212	0	81	19947	0	1067	2185	0	0	6957	0	1231	2738	0	919	2841	0		249	0	301	2335	1977
1978	0	243	3614	0	44	11356	0	1120	2593	0	0	6316	0	945	1471	0	305	160	0		280	0	291	1297	1978
1979	0	249	2819	0	23	11842	0	801	2222	0	0	5643	0	1129	1010	0	941	180	0		140	0	233	1155	1979
1980	0	245	2448	0	2	11039	0	619	2955	0	0	4324	0	804	846	0	187	294	0		210	0	228	1273	1980
1981	0	237	3469	0	0	17190	0	567	2577	0	0	6929	0	507	1200	0	204	864	0		280	0	50	1734	1981
1982	0	215	2186	0	0	13426	0	594	2299	0	1	4295	0	505	605	0	185	117	0		280	0	50	1619	1982
1983	0	200	3300	0	0	23728	0	523	3449	0	1	5653	0	505	1711	0	278	1100	0		350	0	50	2400	1983
1984	0	205	3154	0	1	23788	0	564	2788	0	1	5071	0	551	1107	0	255	890	0		207	0	50	1875	1984
1985	0	205	2300	0	0	15828	0	523	2216	0	1	3544	0	72	1022	0	385	789	0		280	0	50	1350	1985
1986	0	218	2950	0	4	18083	0	523	2208	0	1	5285	0	459	764	0	389	572	0		212	0	50	1534	1986
1987	0	231	3347	0	4	16464	0	523	1644	0	1	6600	0	459	1298	0	568	1095	0		268	0	50	1361	1987
1988	0	205	2949	0	4	15197	0	741	793	0	1	6031	0	459	1575	0	599	701	0		296	0	51	1440	1988
1989	0	209	3572	0	4	17782	0	778	2101	0	1	6699	0	459	2041	0	954	815	0		277	0	51	1657	1989
1990	0	208	2822	0	208	18657	0	911	2335	0	1	6847	0	436	2330	0	859	1258	0		261	0	51	1354	1990
1991	0		3792	0		20273	0		1981	0		6898	0		2030	0		1362	0		280	0		2400	1991
1992	0		4521	0		18678	0		2114	0		6640	0		3500	0		2153	0		243	0		2400	1992
1993	0		3613	0		16189	0		2664	0		6271	0		1700	0		738	0		213	0		1864	1993
1994	0		4003	0		19286	0		2354	0		6035	0		2300	0		1713	0		280	0		2143	1994
1995	0		3300	0		20882	0		2963	0		5633	0		2411	0		2030	0		247	0		1875	1995
1996	0		2823	0		13979	0		2892	0		4734	0		1700	0		740	0		271	0		2033	1996
1997	0		2607	0		16604	0		3700	0		4890	0		1900	0		461	0		280	0		1498	1997
1998	0		2802	0		16498	0		3247	0		3314	0		1300	0		699	0		280	0		1350	1998
Total	54600	4722	143386	99900	1459	742216	7600	17883	86456	56300	9	267566	13500	19202	75581	20300	16471	41294	4301	0	11650	30099	6671	75834	
Average	2275	221	2926	4163	40	15147	317	559	1764	2346	0	5461	563	662	1542	846	546	843	179	0	238	1254	222	1548	
Time Period	1950-1973	1970-1990	1950-1998	1950-1973	1963-1990	1950-1998	1950-1973	1961-1990	1950-1998	1950-1973	1968-1990	1950-1998	1950-1973	1962-1990	1950-1998	1950-1973	1961-1990	1950-1998	1950-1973		1950-1998	1950-1973	1961-1990	1950-1998	

Water Delivery Comparisons

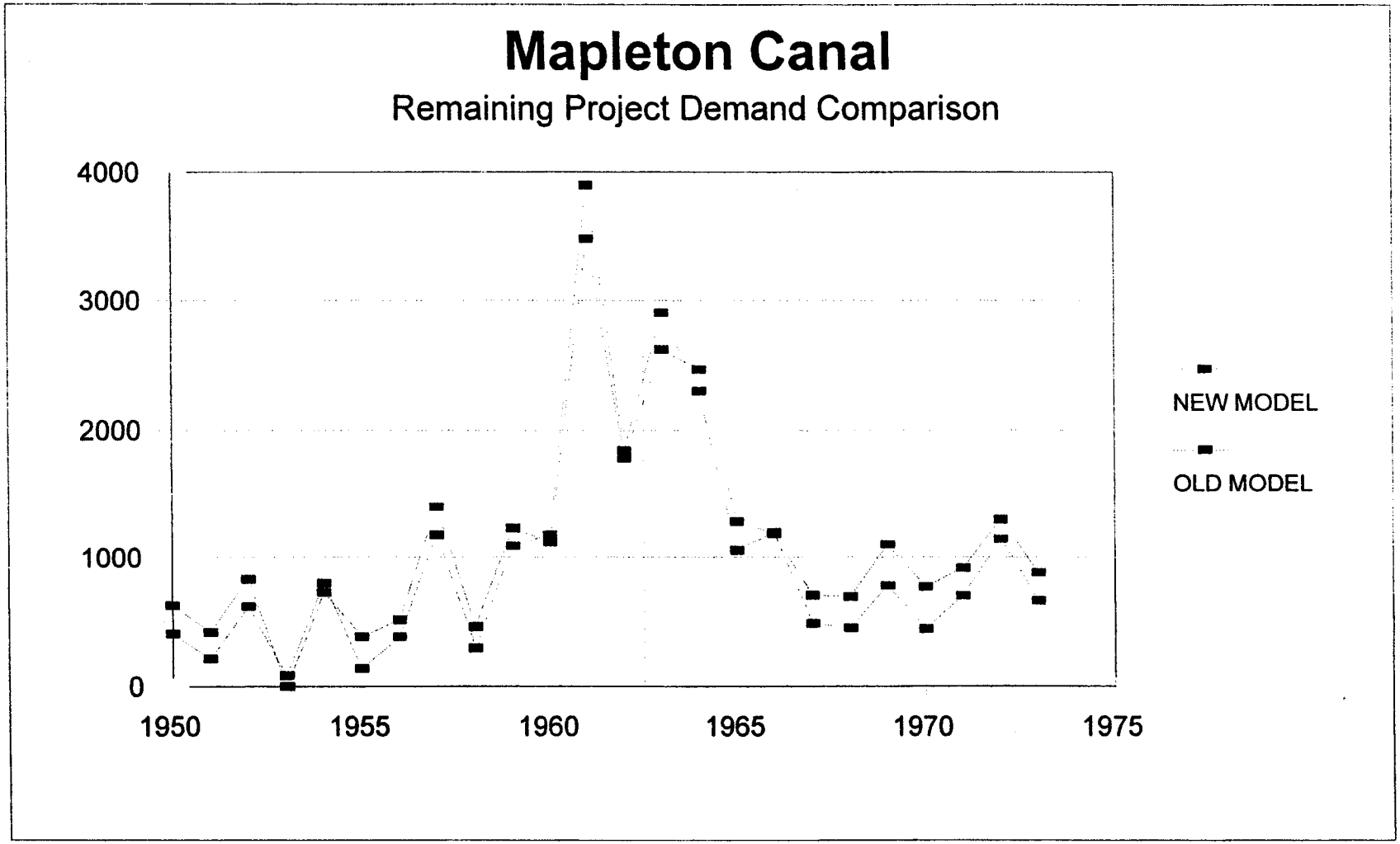
old model

	HIGHLINE CANAL									
	STRAWBERRY VALLEY PROJECT WATER	DELIVERY FROM SPANISH FORK RIVER RIGHTS	TOTAL SVP & RIVER DELIVERY	TOTAL DELIVERY	DEMAND MET BY LOCAL SURFACE SUPPLIES	DEMAND MET BY WELLS AVERAGE/MO 1,022	DEMAND MET BY WELLS	HEAD OF CANAL DIV. REQ. TOTAL ACRES 19,940	REMAINING DEMAND: PROJ. LANDS ACREAGE = 18,514	REMAINING DEMAND:
1950	40,839	8,234	49,073	48,925	9,200	3,166	1,900	57,700	7,266	8,998
1951	35,936	10,380	46,316	46,464	6,100	4,188	3,000	57,700	7,173	9,138
1952	35,121	11,682	46,803	46,824	14,500	2,408	1,100	57,700	3,308	4,892
1953	43,251	3,428	46,679	46,680	7,400	2,933	3,200	57,700	7,063	7,604
1954	40,229	233	40,462	40,461	5,700	4,450	6,200	57,700	11,472	10,160
1955	37,103	1,547	38,651	38,652	8,500	4,188	3,800	57,700	8,796	9,433
1956	39,618	1,679	41,297	41,478	5,700	4,268	5,700	57,700	10,572	9,261
1957	28,994	6,055	35,049	35,142	9,000	5,177	1,100	57,700	8,215	12,545
1958	35,977	8,405	44,382	44,382	10,400	4,054	5,100	57,700	6,212	5,994
1959	39,020	307	39,326	39,328	4,000	4,188	6,300	57,700	12,629	10,945
1960	40,765	0	40,765	40,764	5,900	4,491	7,200	57,700	11,402	9,072
1961	27,477	952	28,429	28,727	3,100	5,110	10,000	57,700	20,213	16,395
1962	21,414	12,462	33,876	33,937	8,500	5,210	7,200	57,700	17,080	15,898
1963	22,859	2,374	25,233	25,234	5,700	4,930	8,800	57,700	22,434	19,118
1964	29,331	4,623	33,954	33,953	5,800	4,113	3,700	57,700	13,664	14,177
1965	24,882	17,661	42,543	42,542	10,300	5,029	3,400	57,700	10,829	12,527
1966	37,480	1,357	38,837	38,837	7,300	4,223	6,200	57,700	11,858	10,267
1967	33,022	13,729	46,750	46,752	7,600	2,708	1,100	57,700	7,815	9,771
1968	30,922	11,333	42,255	42,256	8,300	4,288	1,200	57,700	6,492	10,857
1969	35,372	13,450	48,822	48,822	12,500	3,620	1,200	57,700	6,834	10,081
1970	32,573	9,330	41,903	41,903	8,100	3,818	1,800	57,700	8,588	11,867
1971	34,237	9,299	43,536	43,536	8,900	4,263	3,500	57,700	7,059	8,525
1972	36,047	1,848	37,895	37,894	7,400	5,210	5,200	57,700	12,226	12,828
1973	32,725	8,486	41,212	41,211	9,500	3,950	2,000	57,700	5,185	7,914
1974	36,888	8,392	45,280		12,300	3,605		57,700	5,774	
1975	33,084	11,851	44,935		5,300	3,985		57,700	5,738	
1976	41,030	2,273	43,302		2,400	4,188		57,700	9,537	
1977	35,962	0	35,962		14,100	5,210		57,700	7,802	
1978	34,662	12,262	46,924		9,900	3,010		57,700	4,250	
1979	37,695	11,441	49,135		21,900	2,301		57,700	2,689	
1980	34,231	15,154	49,385		4,500	4,131		57,700	4,092	
1981	38,844	934	39,778		15,100	3,166		57,700	7,439	
1982	31,011	12,971	43,982		51,700	2,440		57,700	1,696	
1983	14,208	15,905	30,113		73,000	4,188		57,700	3,073	
1984	21,720	8,995	30,714		15,500	4,310		57,700	10,309	
1985	33,209	7,186	40,395		19,500	4,230		57,700	6,390	
1986	31,707	5,980	37,686		1,900	6,232		57,700	11,311	
1987	38,190	64	38,253		2,300	5,499		57,700	11,220	
1988	41,722	0	41,722		2,200	5,259		57,700	8,373	
1989	40,587	261	40,848		1,400	4,718		57,700	12,593	
1990	36,556	0	36,556		4,900	4,552		57,700	10,598	
1991	29,518	2,481	31,999		1,000	5,363		57,700	17,511	
1992	36,605	0	36,605		8,400	5,210		57,700	11,431	
1993	29,928	8,155	38,082		2,700	4,188		57,700	12,651	
1994	37,696	156	37,852		11,300	4,188		57,700	5,892	
1995	24,526	2,954	27,480		7,900	4,839		57,700	16,966	
1996	31,474	8,384	39,858		10,000	3,166		57,700	10,741	
1997	29,375	9,595	38,970		13,900	4,188		57,700	7,251	
1998	32,528	10,610	43,138		13,900	3,166		57,700	4,989	
Averages	33,636	6,426	40,061	40,613	10,539	4,190	4,163	57,700	9,284	10,761


Highline Canal
Remaining Project Demand Comparison
25000
20000
15000
10000
5000
0
1950
1955
1960
1965
1970
1975
NEW MODEL
OLD MODEL

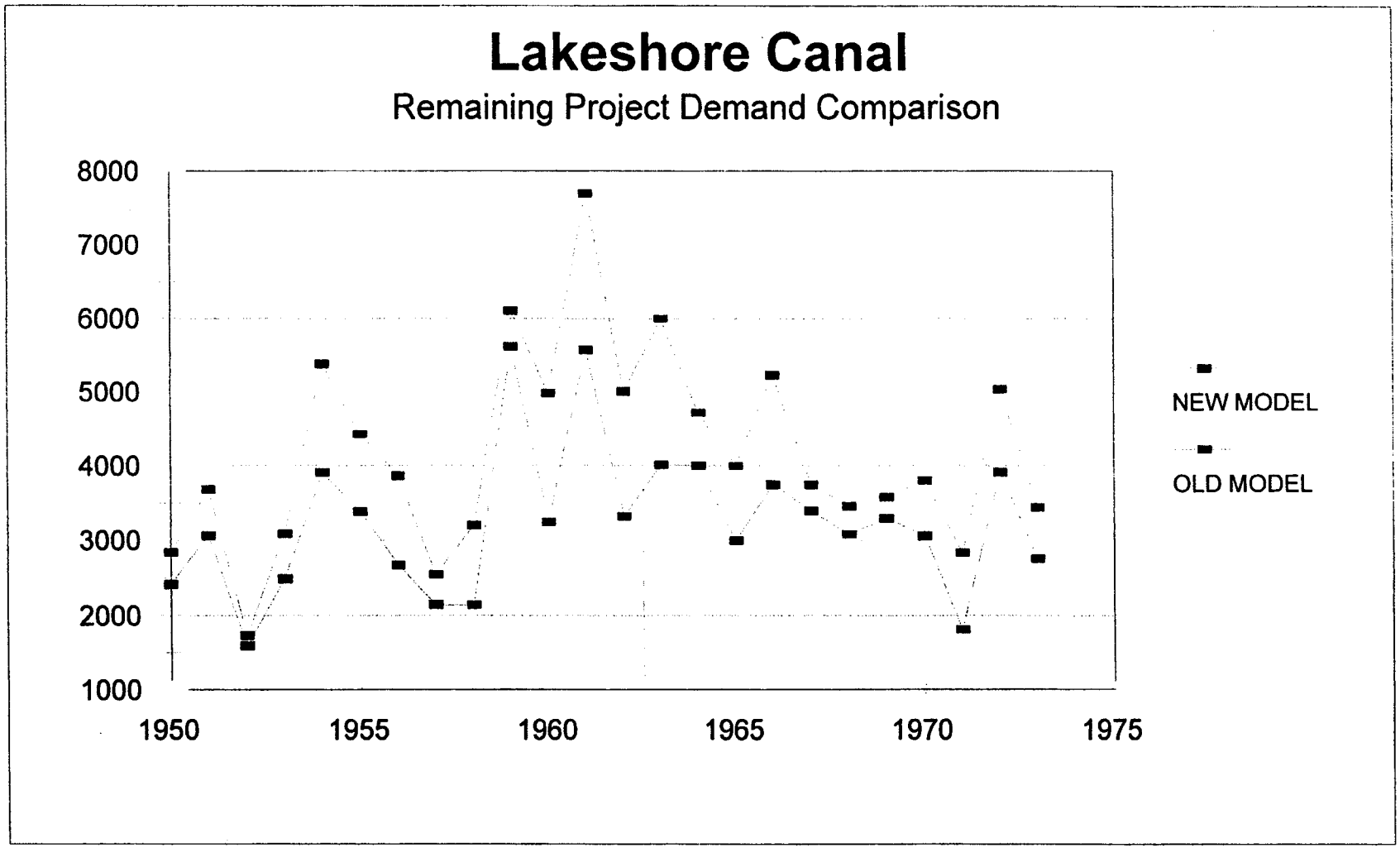
MAPLETON CANAL

	STRAWBERRY VALLEY PROJECT WATER	DELIVERY FROM SPANISH FORK RIVER RIGHTS	TOTAL SVP & RIVER DELIVERY	TOTAL DELIVERY	DEMAND MET BY LOCAL SURFACE SUPPLIES	DEMAND MET BY WELLS AVERAGE/MO 112	DEMAND MET BY WELLS	HEAD OF CANAL DIV. REQ. TOTAL ACRES 3,825	REMAINING DEMAND: PROJ. LANDS ACREAGE = 3,673	REMAINING DEMAND:
1950	10,389	425	10,814	10,815	4,600	224	0	12,800	136	627
1951	9,389	771	10,160	10,161	4,700	252	200	12,800	218	422
1952	4,565	1,519	6,083	6,084	8,400	224	0	12,800	488	830
1953	10,885	127	11,011	11,012	4,800	112	200	12,800	0	0
1954	11,260	0	11,260	11,240	2,800	224	600	12,800	799	726
1955	10,471	0	10,471	10,474	3,300	260	300	12,800	142	391
1956	10,583	151	10,734	10,735	4,200	336	400	12,800	358	519
1957	8,767	280	9,047	9,044	5,200	224	0	12,800	1,099	1,398
1958	9,084	684	9,768	9,769	5,300	211	400	12,800	305	464
1959	9,669	0	9,669	9,668	1,900	461	600	12,800	1,042	1,234
1960	10,277	0	10,277	10,278	2,100	336	700	12,800	1,109	1,121
1961	7,290	0	7,290	7,289	1,000	660	1,000	12,800	3,725	3,485
1962	6,684	979	7,662	7,662	4,100	336	700	12,800	1,569	1,784
1963	5,632	52	5,684	5,683	4,100	541	800	12,800	2,844	2,626
1964	7,516	759	8,275	8,275	3,000	276	300	12,800	2,303	2,472
1965	4,757	2,128	6,885	6,885	6,300	336	200	12,800	973	1,285
1966	9,864	87	9,951	9,951	3,300	290	600	12,800	1,198	1,188
1967	8,254	1,904	10,158	10,158	4,300	224	0	12,800	443	707
1968	7,405	1,138	8,543	8,542	4,500	449	0	12,800	285	0
1969	8,404	2,877	11,281	11,280	6,200	336	0	12,800	735	0
1970	8,492	1,041	9,533	9,573	4,300	336	0	12,800	114	0
1971	9,143	2,115	11,258	11,258	4,000	224	200	12,800	447	916
1972	10,005	104	10,109	10,095	3,100	448	400	12,800	881	1,300
1973	7,880	2,958	10,838	10,838	4,500	324	0	12,800	289	877
1974	9,323	2,476	11,799		6,200	336		12,800	171	
1975	6,308	1,132	7,440		2,900	436		12,800	2,640	
1976	10,447	0	10,447		1,300	660		12,800	1,098	
1977	9,766	0	9,766		6,800	258		12,800	127	
1978	8,706	1,508	10,214		4,900	180		12,800	242	
1979	9,695	1,536	11,231		10,400	50		12,800	0	
1980	7,045	2,136	9,181		2,400	491		12,800	1,750	
1981	10,739	129	10,868		6,900	165		12,800	10	
1982	6,758	1,866	8,624		25,400	112		12,800	121	
1983	2,572	2,994	5,566		33,100	0		12,800	0	
1984	5,440	2,459	7,899		7,600	112		12,800	370	
1985	7,865	1,652	9,516		8,900	212		12,800	1,340	
1986	8,486	1,590	10,075		1,300	374		12,800	1,696	
1987	12,038	0	12,038		1,200	224		12,800	379	
1988	12,697	0	12,697		1,100	112		12,800	0	
1989	10,295	756	11,051		700	578		12,800	700	
1990	10,194	0	10,194		2,400	436		12,800	1,113	
1991	8,198	508	8,706		500	517		12,800	3,741	
1992	10,127	0	10,127		3,700	336		12,800	1,454	
1993	6,836	1,414	8,249		1,400	548		12,800	2,808	
1994	10,194	0	10,194		5,700	170		12,800	0	
1995	4,454	754	5,208		3,900	560		12,800	3,356	
1996	6,894	1,075	7,969		4,800	428		12,800	1,140	
1997	5,080	1,271	6,351		6,800	448		12,800	1,120	
1998	4,760	1,582	6,342		6,800	448		12,800	1,055	
Averages	8,400	958	9,357	9,449	5,247	323	317	12,800	978	1,015


Mapleton Canal
Remaining Project Demand Comparison
4000
3000
2000
1000
0
1950
1955
1960
1965
1970
1975
NEW MODEL
OLD MODEL

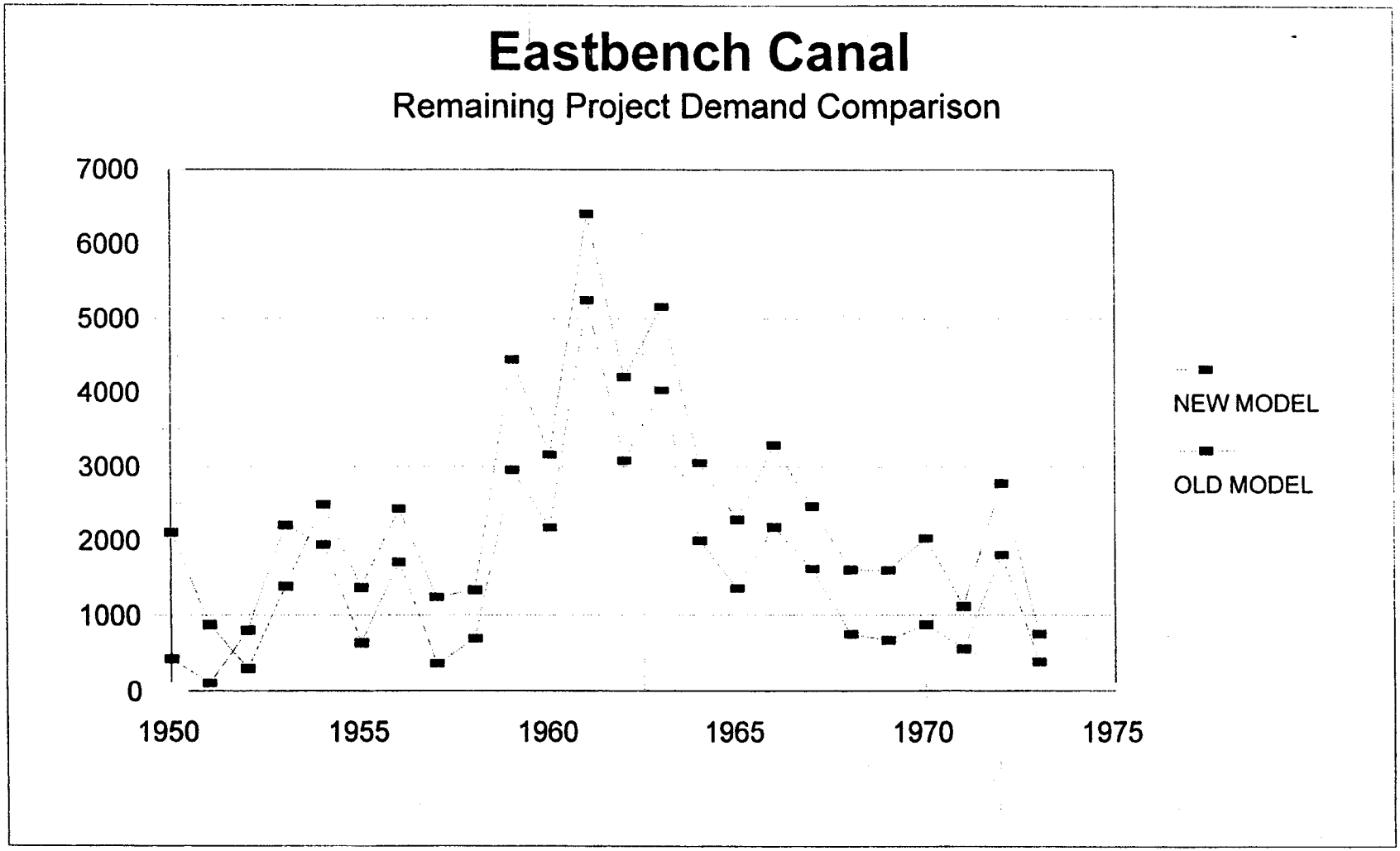
LAKESHORE CANAL

	STRAWBERRY VALLEY PROJECT WATER	DELIVERY FROM SPANISH FORK RIVER RIGHTS	TOTAL SVP & RIVER DELIVERY	TOTAL DELIVERY	DEMAND MET BY LOCAL SURFACE SUPPLIES	DEMAND MET BY WELLS AVERAGE/MO 439	DEMAND MET BY WELLS	HEAD OF CANAL DIV. REQ. TOTAL ACRES 4,274	REMAINING DEMAND: PROJ. LANDS ACREAGE = 4,207	REMAINING DEMAND:
1950	2,858	6,380	9,238	9,238	0	1,815	2,000	12,800	2,840	2,411
1951	2,638	5,138	7,775	7,776	0	2,195	2,200	12,800	3,632	3,069
1952	871	9,291	10,162	9,160	0	2,217	1,700	12,800	1,733	1,601
1953	2,844	4,666	7,510	7,509	0	2,219	2,200	12,800	3,092	2,483
1954	3,325	1,260	4,585	5,016	0	2,744	2,700	12,800	5,385	3,904
1955	2,843	3,745	6,588	6,587	0	2,135	2,300	12,800	4,424	3,397
1956	2,867	4,885	7,752	7,752	0	2,166	2,700	12,800	3,863	2,668
1957	2,700	5,917	8,617	8,617	0	2,213	1,500	12,800	2,543	2,145
1958	2,949	5,045	7,994	8,014	0	2,368	2,500	12,800	3,211	2,144
1959	2,734	1,883	4,616	3,640	0	2,622	2,700	12,800	6,111	5,617
1960	2,812	2,554	5,366	5,365	0	2,634	3,000	12,800	4,930	3,254
1961	1,801	1,284	3,086	3,086	0	2,634	3,400	12,800	7,687	5,573
1962	2,093	4,496	6,589	6,589	0	2,195	3,000	12,800	4,951	3,333
1963	1,428	4,594	6,022	6,020	0	2,583	3,300	12,800	5,997	4,010
1964	2,484	2,778	5,262	5,262	0	2,741	2,100	12,800	4,723	4,002
1965	864	6,967	7,831	7,832	0	2,195	2,300	12,800	3,994	3,005
1966	2,488	3,596	6,084	6,084	0	2,552	2,700	12,800	5,237	3,755
1967	1,904	5,274	7,178	7,180	0	2,013	1,700	12,800	3,752	3,403
1968	1,816	4,665	6,481	6,481	0	2,798	1,700	12,800	3,406	0
1969	1,494	6,351	7,845	7,845	0	2,251	1,700	12,800	3,585	0
1970	1,995	5,490	7,484	7,484	0	2,141	2,000	12,800	3,806	0
1971	2,120	5,950	8,070	8,070	0	2,274	2,300	12,800	2,842	1,814
1972	1,527	4,616	6,143	6,142	0	2,224	2,600	12,800	4,978	3,916
1973	366	6,702	7,068	7,069	0	2,395	2,000	12,800	3,388	2,754
1974	24	0	24		0	2,834		12,800	9,750	
1975	1,717	4,409	6,126		0	2,672		12,800	3,879	
1976	3,095	3,795	6,890		0	2,294		12,800	3,559	
1977	2,514	976	3,490		0	2,634		12,800	7,218	
1978	1,961	3,333	5,294		0	2,809		12,800	4,623	
1979	1,712	4,190	5,902		0	2,834		12,800	3,978	
1980	1,833	5,851	7,684		0	2,422		12,800	2,750	
1981	2,792	1,514	4,306		0	2,587		12,800	6,135	
1982	787	7,784	8,570		0	2,387		12,800	2,246	
1983	0	6,230	6,230		0	2,593		12,800	3,855	
1984	0	7,741	7,741		0	2,395		12,800	2,577	
1985	1,779	6,927	8,706		0	2,263		12,800	1,742	
1986	54	6,690	6,744		0	2,460		12,800	3,540	
1987	3,119	972	4,091		0	2,634		12,800	6,183	
1988	2,530	2,534	5,064		0	2,571		12,800	5,477	
1989	2,931	1,976	4,908		0	2,595		12,800	5,685	
1990	2,834	611	3,446		0	2,634		12,800	6,590	
1991	1,922	1,589	3,511		0	2,708		12,800	6,418	
1992	3,450	0	3,450		0	2,634		12,800	7,504	
1993	1,519	3,834	5,354		0	2,834		12,800	4,480	
1994	2,514	1,741	4,255		0	2,634		12,800	6,029	
1995	676	4,192	4,868		0	2,612		12,800	5,177	
1996	1,726	5,359	7,085		0	2,727		12,800	2,881	
1997	372	6,400	6,772		0	2,834		12,800	3,084	
1998	3,154	6,813	9,967		0	1,579		12,800	2,090	
Averages	1,976	4,265	6,241	6,826	0	2,459	2,346	12,800	4,440	2,844


Lakeshore Canal
Remaining Project Demand Comparison
8000
7000
6000
5000
4000
3000
2000
1000
1950
1955
1960
1965
1970
1975
NEW MODEL
OLD MODEL

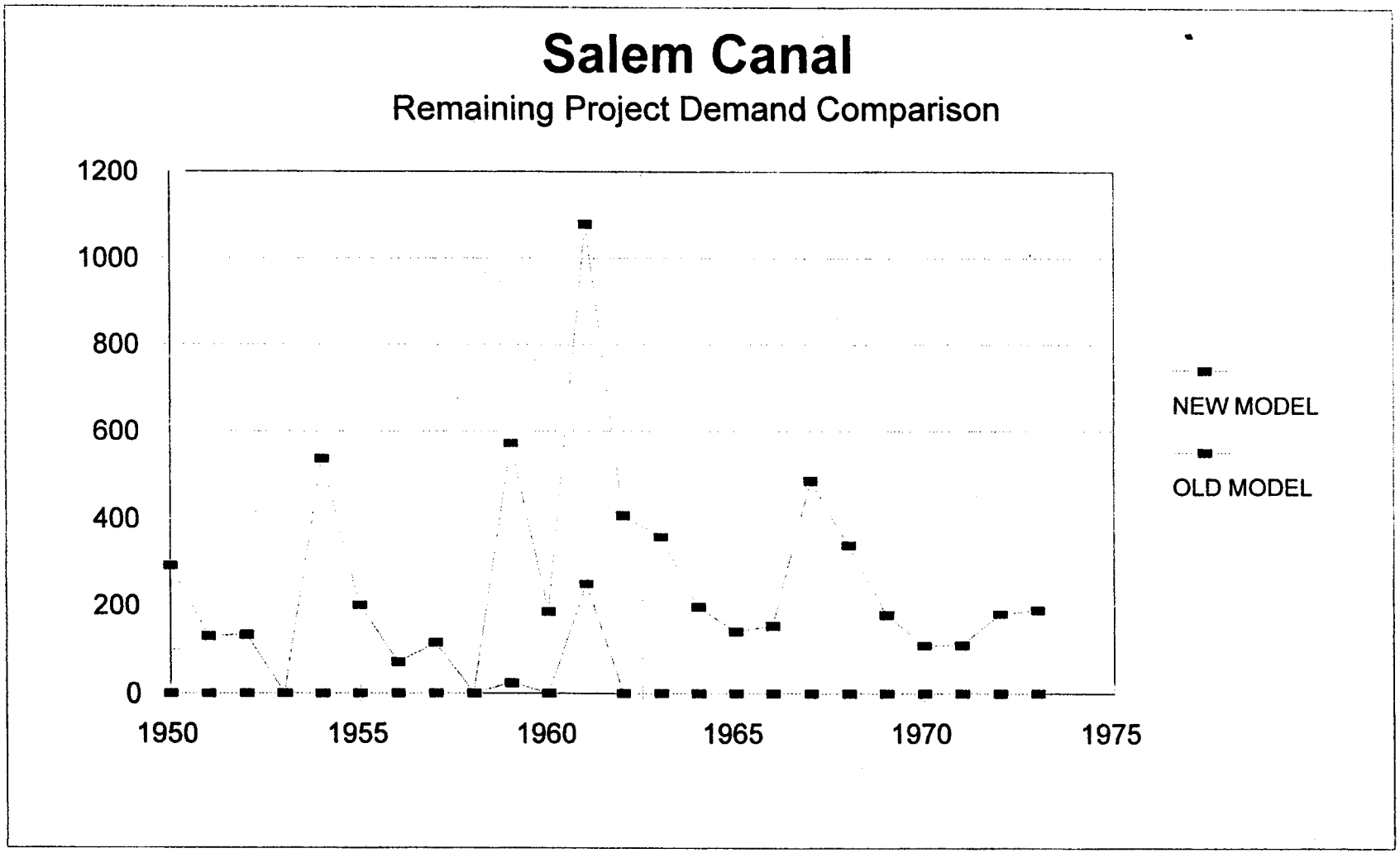
EASTBENCH CANAL

	STRAWBERRY VALLEY PROJECT WATER	DELIVERY FROM SPANISH FORK RIVER RIGHTS	TOTAL SVP & RIVER DELIVERY	TOTAL DELIVERY	DEMAND MET BY LOCAL SURFACE SUPPLIES	DEMAND MET BY WELLS AVERAGE/MO 150	DEMAND MET BY WELLS	HEAD OF CANAL DIV. REQ. TOTAL ACRES 4,251	REMAINING DEMAND: PROJ. LANDS ACREAGE = 4,169	REMAINING DEMAND:
1950	7,193	6,961	14,154	13,052	0	151	500	12,800	439	2,116
1951	3,110	12,375	15,485	14,154	0	300	500	12,800	0	881
1952	6,734	6,772	13,505	15,484	0	386	500	12,800	757	308
1953	7,092	6,092	13,184	13,503	0	600	500	12,800	2,212	1,382
1954	8,176	3,271	11,447	11,994	0	600	600	12,800	1,605	2,489
1955	7,373	5,110	12,483	12,484	0	586	500	12,800	592	1,366
1956	6,662	6,190	12,852	12,875	0	450	600	12,800	1,559	2,430
1957	6,247	6,653	12,900	12,898	0	591	500	12,800	319	1,243
1958	6,607	8,235	14,843	14,842	0	453	500	12,800	647	1,337
1959	6,798	2,252	9,050	9,049	0	828	600	12,800	2,936	4,454
1960	6,515	4,467	10,982	10,981	0	600	700	12,800	1,871	3,161
1961	5,423	2,184	7,607	7,606	0	773	900	12,800	5,220	6,404
1962	4,749	6,587	11,336	11,336	0	869	700	12,800	2,744	4,215
1963	4,086	5,886	9,972	9,973	0	750	700	12,800	3,824	5,161
1964	5,963	4,344	10,307	10,304	0	623	500	12,800	1,761	3,051
1965	3,736	9,176	12,913	12,913	0	750	500	12,800	1,018	2,292
1966	6,832	5,436	12,268	12,268	0	617	600	12,800	2,000	3,287
1967	5,373	7,742	13,115	13,116	0	365	500	12,800	1,341	2,464
1968	5,872	7,314	13,186	13,184	0	600	500	12,800	359	0
1969	6,001	9,883	15,885	15,885	0	600	500	12,800	489	0
1970	6,326	6,917	13,243	13,223	0	750	500	12,800	728	0
1971	6,782	8,934	15,716	15,717	0	300	500	12,800	334	1,116
1972	7,468	5,741	13,209	13,209	0	600	600	12,800	1,472	2,782
1973	5,567	9,177	14,744	14,744	0	367	500	12,800	0	752
1974	5,896	9,559	15,455		0	354		12,800	991	
1975	6,559	6,319	12,878		0	505		12,800	1,495	
1976	8,650	6,284	14,934		0	300		12,800	548	
1977	6,862	1,880	8,742		0	750		12,800	3,657	
1978	6,056	6,756	12,811		0	696		12,800	367	
1979	7,436	8,785	16,221		0	450		12,800	456	
1980	6,397	10,352	16,749		0	450		12,800	324	
1981	8,961	3,461	12,422		0	300		12,800	1,814	
1982	5,799	10,542	16,341		0	329		12,800	0	
1983	0	13,581	13,581		0	600		12,800	1,617	
1984	0	13,798	13,798		0	450		12,800	252	
1985	6,341	10,490	16,831		0	450		12,800	168	
1986	4,651	11,966	16,616		0	450		12,800	75	
1987	8,862	3,164	12,026		0	450		12,800	1,998	
1988	8,932	5,089	14,021		0	504		12,800	858	
1989	7,283	3,362	10,645		0	600		12,800	3,523	
1990	7,063	3,240	10,303		0	736		12,800	2,636	
1991	6,292	5,482	11,775		0	600		12,800	1,634	
1992	6,473	1,644	8,116		0	900		12,800	4,257	
1993	5,069	7,937	13,007		0	450		12,800	1,339	
1994	6,645	3,526	10,171		0	600		12,800	2,586	
1995	2,830	7,717	10,546		0	750		12,800	2,450	
1996	5,019	8,134	13,153		0	450		12,800	1,712	
1997	2,458	9,725	12,183		0	600		12,800	1,290	
1998	4,831	8,859	13,691		0	450		12,800	1,439	
Averages	5,960	6,926	12,886	12,700	0	545	563	12,800	1,463	2,195


Eastbench Canal
Remaining Project Demand Comparison
7000
6000
5000
4000
3000
2000
1000
0
1950
1955
1960
1965
1970
1975
NEW MODEL
OLD MODEL

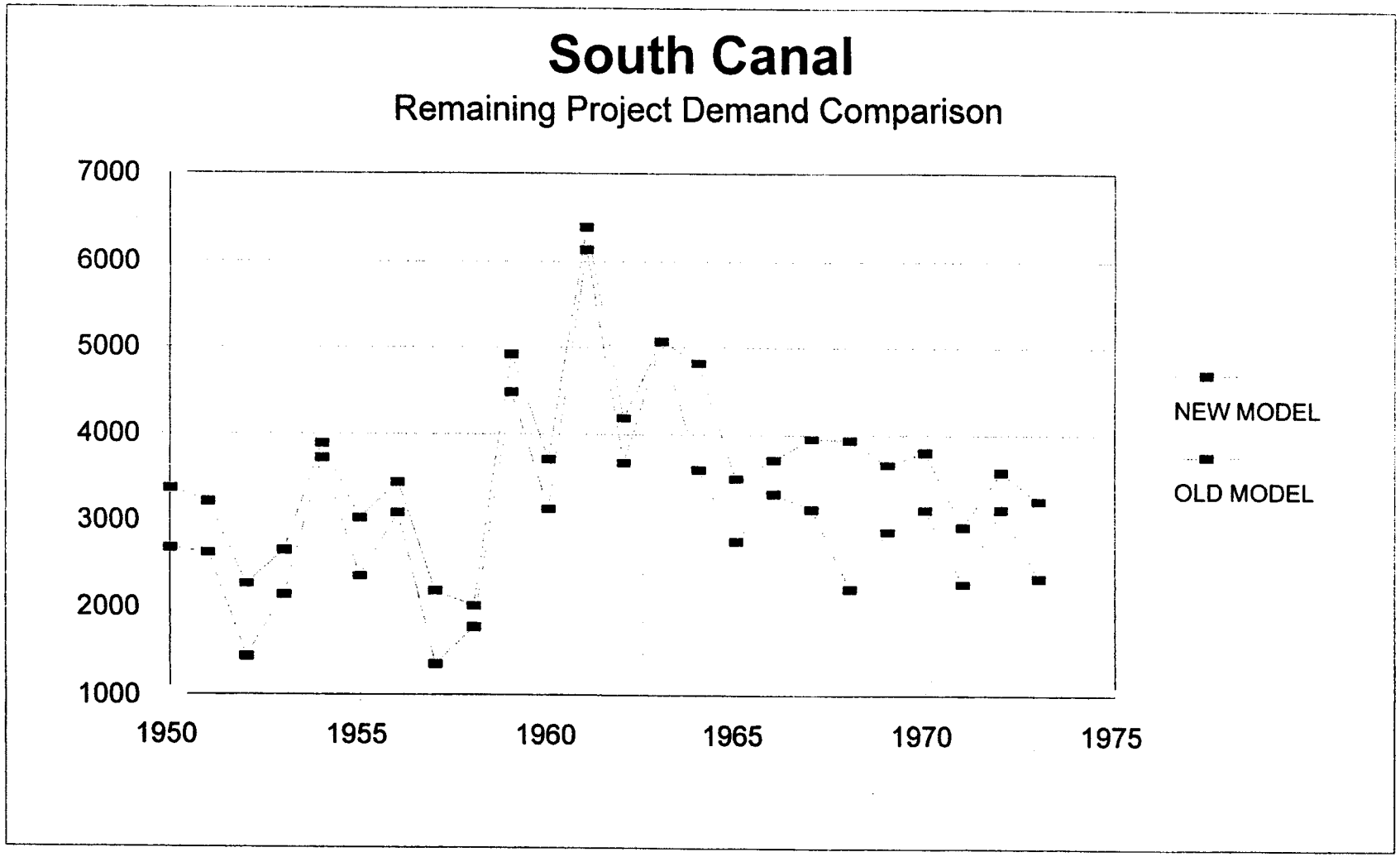
SALEM CANAL

	STRAWBERRY VALLEY PROJECT WATER	DELIVERY FROM SPANISH FORK RIVER RIGHTS	TOTAL SVP & RIVER DELIVERY	TOTAL DELIVERY	DEMAND MET BY LOCAL SURFACE SUPPLIES	DEMAND MET BY WELLS AVERAGE/MO 300	DEMAND MET BY WELLS	HEAD OF CANAL DIV. REQ. TOTAL ACRES 2,035	REMAINING DEMAND: PROJ. LANDS ACREAGE = 1,936	REMAINING DEMAND:
1950	0	7,705	7,705	7,706	0	300	500	5,900	100	290
1951	390	7,398	7,788	7,788	0	401	700	5,900	35	131
1952	0	7,634	7,634	7,673	0	341	500	5,900	0	134
1953	306	8,005	8,311	8,311	0	293	700	5,900	0	0
1954	518	5,231	5,749	5,750	0	678	1,100	5,900	537	537
1955	409	5,911	6,319	6,321	0	559	800	5,900	106	201
1956	508	7,103	7,611	7,610	0	300	1,000	5,900	71	71
1957	439	6,980	7,419	7,329	0	321	500	5,900	0	115
1958	395	7,503	7,898	7,898	0	356	900	5,900	0	0
1959	490	4,504	4,994	4,974	0	864	1,200	5,900	595	572
1960	323	5,691	6,014	6,015	0	518	1,200	5,900	228	187
1961	389	3,151	3,540	3,540	0	1,027	1,700	5,900	1,555	1,080
1962	297	6,136	6,433	6,431	0	685	1,200	5,900	313	408
1963	201	6,523	6,724	6,722	0	669	1,500	5,900	482	358
1964	404	4,710	5,115	5,111	0	876	800	5,900	48	197
1965	16	7,415	7,432	7,430	0	445	700	5,900	0	141
1966	395	6,001	6,396	6,396	0	438	1,100	5,900	197	154
1967	163	6,820	6,984	6,985	0	653	500	5,900	57	487
1968	0	6,304	6,304	6,196	0	899	500	5,900	410	0
1969	0	8,069	8,069	8,180	0	451	500	5,900	0	0
1970	360	6,242	6,602	6,602	0	291	500	5,900	0	0
1971	13	7,050	7,063	7,062	0	160	700	5,900	0	109
1972	465	6,719	7,184	7,183	0	477	1,000	5,900	0	180
1973	0	7,674	7,674	7,675	0	300	500	5,900	0	190
1974	287	8,209	8,496		0	496		5,900	11	
1975	14	5,586	5,601		0	900		5,900	568	
1976	507	6,135	6,641		0	724		5,900	0	
1977	217	2,724	2,940		0	1,457		5,900	1,497	
1978	569	6,320	6,889		0	160		5,900	0	
1979	506	6,372	6,878		0	180		5,900	0	
1980	18	6,883	6,901		0	294		5,900	0	
1981	446	5,451	5,897		0	593		5,900	258	
1982	0	8,457	8,457		0	117		5,900	0	
1983	0	5,798	5,798		0	600		5,900	476	
1984	0	7,579	7,579		0	692		5,900	189	
1985	0	6,197	6,197		0	660		5,900	123	
1986	0	6,430	6,430		0	572		5,900	0	
1987	310	5,151	5,462		0	800		5,900	281	
1988	629	5,476	6,104		0	598		5,900	98	
1989	538	5,038	5,576		0	642		5,900	165	
1990	483	4,766	5,249		0	800		5,900	436	
1991	605	4,047	4,652		0	942		5,900	400	
1992	985	3,150	4,135		0	1,008		5,900	1,273	
1993	416	6,261	6,677		0	738		5,900	0	
1994	514	4,438	4,952		0	1,049		5,900	631	
1995	0	5,262	5,262		0	1,200		5,900	790	
1996	0	6,320	6,320		0	664		5,900	72	
1997	0	6,632	6,632		0	461		5,900	0	
1998	75	6,416	6,490		0	600		5,900	94	
Averages	278	6,155	6,432	6,787	0	597	846	5,900	247	231


Salem Canal
Remaining Project Demand Comparison
1200
1000
800
600
400
200
0
1950
1955
1960
1965
1970
1975
NEW MODEL
OLD MODEL

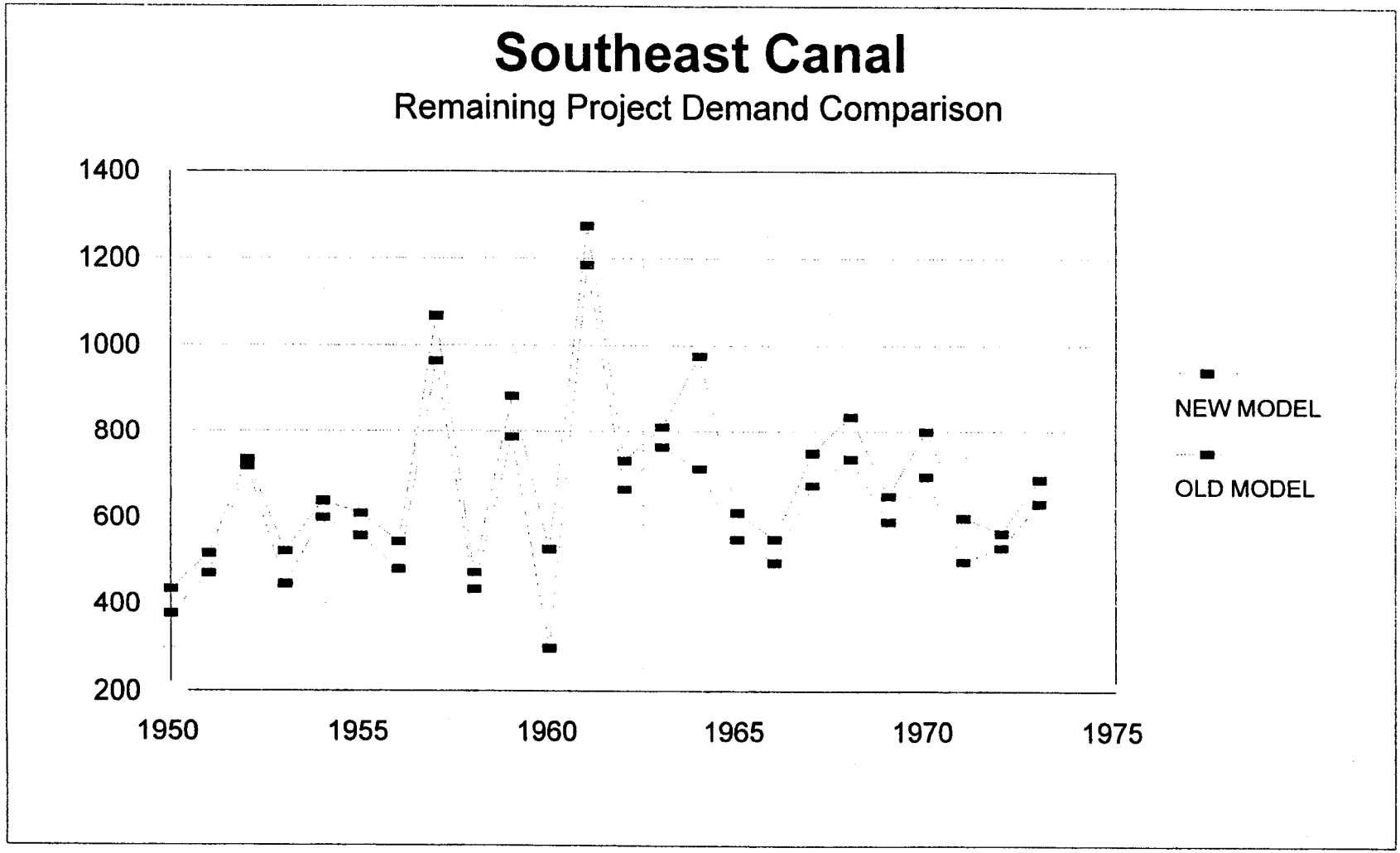
SOUTH CANAL

	STRAWBERRY VALLEY PROJECT WATER	DELIVERY FROM SPANISH FORK RIVER RIGHTS	TOTAL SVP & RIVER DELIVERY	TOTAL DELIVERY	DEMAND MET BY LOCAL SURFACE SUPPLIES	DEMAND MET BY WELLS AVERAGE/MO 783	DEMAND MET BY WELLS	HEAD OF CANAL DIV. REQ. TOTAL ACRES 515	REMAINING DEMAND: PROJ. LANDS ACREAGE = 515	REMAINING DEMAND:
1950	3,100	12,298	15,397	17,100	0	1,566	1,900	17,100	2,684	3,370
1951	3,469	10,157	13,626	17,100	0	2,059	2,100	17,100	2,628	3,219
1952	1,719	14,843	16,562	17,100	0	1,553	1,700	17,100	1,454	2,266
1953	4,760	10,952	15,712	17,100	0	1,892	2,200	17,100	2,149	2,660
1954	4,508	7,373	11,881	17,100	0	2,412	2,700	17,100	3,725	3,892
1955	4,337	8,076	12,412	17,100	0	2,485	2,300	17,100	2,360	3,027
1956	3,981	9,907	13,888	17,100	0	2,272	2,600	17,100	3,091	3,448
1957	3,528	12,495	16,024	17,100	0	1,579	1,500	17,100	1,366	2,194
1958	4,050	11,386	15,436	17,100	0	1,792	2,500	17,100	1,780	2,018
1959	3,843	6,714	10,557	17,100	0	2,864	2,700	17,100	4,492	4,922
1960	4,562	7,943	12,505	17,100	0	2,367	2,700	17,100	3,140	3,713
1961	3,146	4,453	7,599	17,100	0	3,644	3,300	17,100	6,137	6,393
1962	2,658	8,710	11,368	17,100	0	2,629	2,700	17,100	3,673	4,192
1963	2,304	8,715	11,019	17,100	0	2,740	3,100	17,100	5,069	5,077
1964	4,052	6,520	10,572	17,100	0	3,091	2,100	17,100	3,604	4,824
1965	1,405	11,311	12,716	17,100	0	2,357	2,200	17,100	2,769	3,488
1966	3,819	8,623	12,442	17,100	0	2,646	2,700	17,100	3,323	3,708
1967	2,539	10,453	12,992	17,100	0	2,066	1,700	17,100	3,140	3,947
1968	2,713	9,418	12,131	17,100	0	3,211	1,700	17,100	2,228	0
1969	3,274	12,243	15,518	17,100	0	1,566	1,700	17,100	2,880	0
1970	2,726	10,526	13,252	17,100	0	1,625	1,900	17,100	3,135	0
1971	3,176	10,905	14,081	17,100	0	2,085	2,200	17,100	2,280	2,941
1972	3,811	10,312	14,123	17,100	0	2,241	2,500	17,100	3,140	3,574
1973	1,663	12,429	14,091	17,100	0	1,866	1,900	17,100	2,349	3,239
1974	2,835	11,794	14,629		0	1,691		17,100	2,640	
1975	3,606	9,349	12,955		0	2,430		17,100	3,385	
1976	4,420	9,529	13,949		0	1,566		17,100	2,731	
1977	4,346	5,128	9,473		0	3,561		17,100	5,242	
1978	2,866	8,730	11,596		0	3,139		17,100	2,366	
1979	2,620	9,629	12,249		0	2,385		17,100	2,863	
1980	1,570	12,092	13,662		0	2,231		17,100	1,882	
1981	3,054	8,460	11,514		0	2,818		17,100	3,997	
1982	1,514	12,786	14,300		0	1,911		17,100	1,612	
1983	0	11,367	11,367		0	2,649		17,100	3,646	
1984	0	12,601	12,601		0	2,720		17,100	2,316	
1985	2,583	12,440	15,023		0	1,866		17,100	1,804	
1986	1,830	12,342	14,172		0	2,516		17,100	891	
1987	4,647	7,884	12,531		0	2,913		17,100	2,925	
1988	5,698	8,298	13,996		0	2,515		17,100	2,162	
1989	4,769	7,124	11,893		0	2,921		17,100	3,427	
1990	4,698	7,612	12,310		0	2,388		17,100	3,697	
1991	3,616	7,308	10,923		0	3,344		17,100	3,669	
1992	4,387	4,696	9,082		0	3,996		17,100	4,881	
1993	1,460	9,121	10,581		0	2,981		17,100	3,584	
1994	4,012	6,403	10,415		0	3,352		17,100	3,490	
1995	1,440	7,696	9,136		0	2,649		17,100	6,403	
1996	2,199	10,049	12,248		0	2,389		17,100	2,587	
1997	1,428	11,638	13,067		0	2,173		17,100	2,378	
1998	1,996	11,658	13,655		0	2,368		17,100	2,391	
Averages	3,076	9,643	12,719	17,100	0	2,451	2,275	17,100	3,052	3,171


South Canal
Remaining Project Demand Comparison
7000
6000
5000
4000
3000
2000
1000
1950
1955
1960
1965
1970
1975
NEW MODEL
OLD MODEL

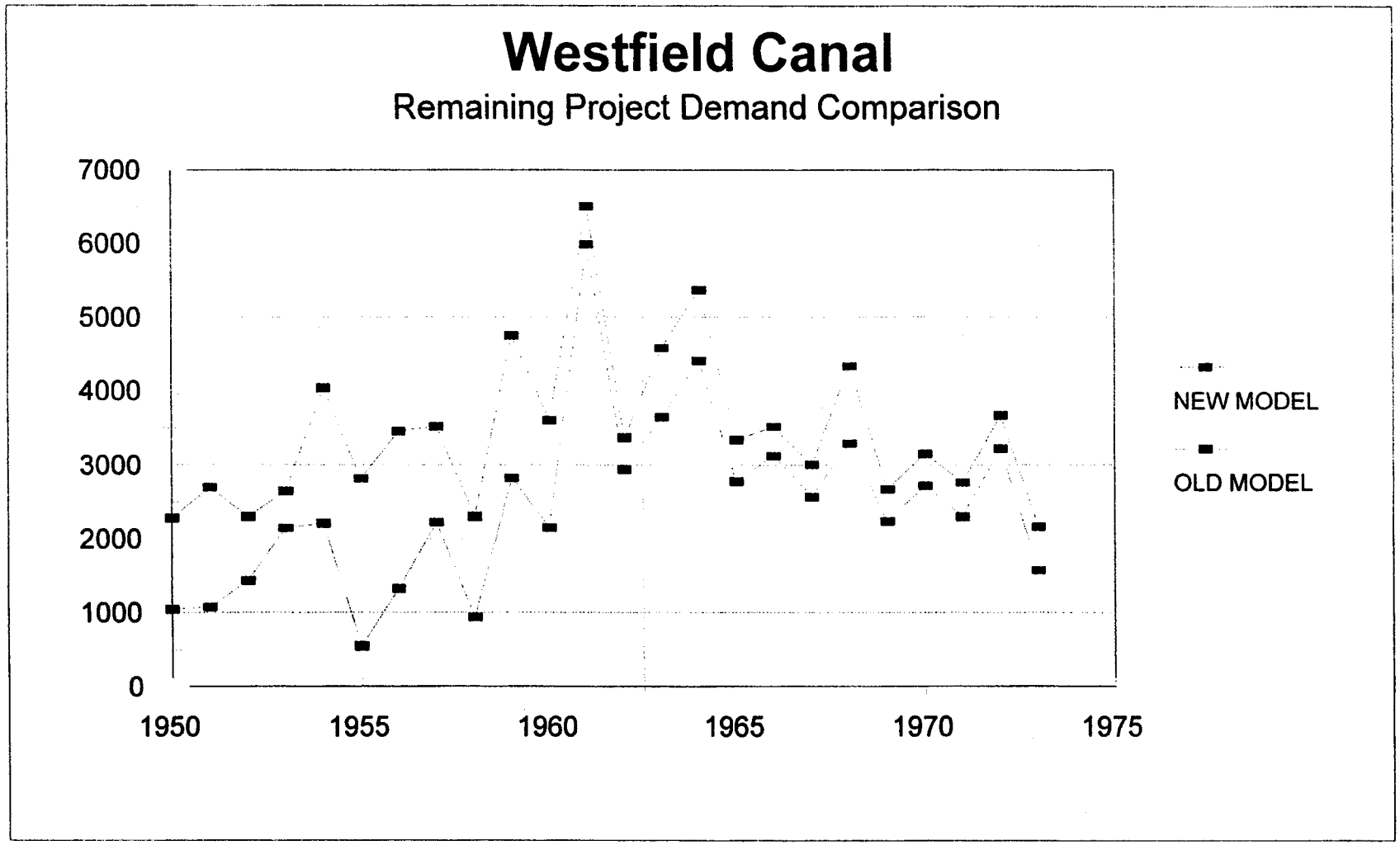
SOUTHEASTFIELD CANAL

	STRAWBERRY VALLEY PROJECT WATER	DELIVERY FROM SPANISH FORK RIVER RIGHTS	TOTAL SVP & RIVER DELIVERY	TOTAL DELIVERY	DEMAND MET BY LOCAL SURFACE SUPPLIES	DEMAND MET BY WELLS AVERAGE/MO 55	DEMAND MET BY WELLS	HEAD OF CANAL DIV. REQ. TOTAL ACRES 947	REMAINING DEMAND: PROJ. LANDS ACREAGE = 914	REMAINING DEMAND:
1950	169	2,705	2,875	2,659	0	110	150	2,500	377	434
1951	249	2,203	2,452	2,204	0	110	175	2,500	470	516
1952	(95)	1,998	1,903	2,047	0	220	150	2,500	694	734
1953	206	2,622	2,829	2,622	0	165	175	2,500	446	521
1954	217	2,024	2,241	2,024	0	165	200	2,500	600	639
1955	26	1,865	1,891	1,864	0	227	188	2,500	526	609
1956	158	2,031	2,189	2,028	0	167	200	2,500	480	543
1957	134	1,815	1,948	1,816	0	165	138	2,500	964	1,068
1958	39	2,235	2,274	2,251	0	139	188	2,500	434	472
1959	0	1,623	1,624	1,623	0	275	200	2,500	787	884
1960	238	1,878	2,116	1,877	0	161	213	2,500	298	526
1961	197	1,173	1,370	1,174	0	275	225	2,500	1,185	1,274
1962	161	1,605	1,765	1,606	0	220	213	2,500	666	732
1963	138	1,579	1,717	1,578	0	212	225	2,500	763	811
1964	195	1,493	1,688	1,494	0	172	175	2,500	714	975
1965	206	1,855	2,061	1,854	0	175	175	2,500	549	612
1966	250	2,063	2,313	2,062	0	137	200	2,500	495	549
1967	229	1,678	1,907	1,679	0	178	150	2,500	675	750
1968	16	1,521	1,537	1,538	0	220	150	2,500	736	0
1969	208	2,121	2,328	2,122	0	110	150	2,500	591	0
1970	229	1,718	1,947	1,719	0	190	150	2,500	696	0
1971	208	1,904	2,113	1,905	0	220	175	2,500	497	601
1972	188	2,047	2,235	2,046	0	110	188	2,500	530	564
1973	161	1,777	1,938	1,778	0	220	150	2,500	634	689
1974	157	2,269	2,426		0	113		2,500	400	
1975	229	1,823	2,052		0	165		2,500	458	
1976	171	2,069	2,240		0	165		2,500	440	
1977	219	1,135	1,354		0	204		2,500	1,299	
1978	229	1,664	1,893		0	220		2,500	431	
1979	229	2,015	2,244		0	110		2,500	285	
1980	208	1,793	2,001		0	165		2,500	427	
1981	252	1,730	1,982		0	220		2,500	804	
1982	229	1,746	1,975		0	220		2,500	605	
1983	252	540	792		0	275		2,500	1,383	
1984	221	1,603	1,824		0	165		2,500	572	
1985	221	1,581	1,802		0	220		2,500	855	
1986	243	1,781	2,024		0	167		2,500	654	
1987	276	1,555	1,831		0	220		2,500	835	
1988	267	1,684	1,951		0	239		2,500	557	
1989	391	1,682	2,073		0	220		2,500	634	
1990	195	1,745	1,939		0	216		2,500	711	
1991	221	1,385	1,605		0	220		2,500	876	
1992	276	1,916	2,192		0	198		2,500	685	
1993	221	1,639	1,860		0	183		2,500	729	
1994	208	1,664	1,872		0	220		2,500	628	
1995	187	1,322	1,509		0	202		2,500	1,035	
1996	221	2,160	2,381		0	220		2,500	285	
1997	221	1,863	2,084		0	220		2,500	517	
1998	220	1,359	1,579		0	220		2,500	1,014	
Averages	194	1,781	1,974	1,899	0	190	179	2,500	651	604


Southeast Canal
Remaining Project Demand Comparison
1400
1200
1000
800
600
400
200
1950
1955
1960
1965
1970
1975
NEW MODEL
OLD MODEL

WESTFIELD CANAL

	STRAWBERRY VALLEY PROJECT WATER	DELIVERY FROM SPANISH FORK RIVER RIGHTS	TOTAL SVP & RIVER DELIVERY	TOTAL DELIVERY	DEMAND MET BY LOCAL SURFACE SUPPLIES	DEMAND MET BY WELLS AVERAGE/MO 446	DEMAND MET BY WELLS	HEAD OF CANAL DIV. REQ. TOTAL ACRES 6,628	REMAINING DEMAND: PROJ. LANDS ACREAGE = 5,323	REMAINING DEMAND:
1950	2,175	15,500	17,674	15,590	0	446	1,050	17,100	1,041	2,287
1951	2,808	15,529	18,337	15,538	0	892	1,225	17,100	1,068	2,694
1952	3,815	15,847	19,662	15,791	0	892	1,050	17,100	1,432	2,309
1953	(821)	15,527	14,706	15,537	0	1,526	1,225	17,100	1,311	2,648
1954	2,657	12,372	15,030	12,381	0	1,172	1,400	17,100	2,219	4,043
1955	3,152	14,493	17,645	14,506	0	757	1,312	17,100	556	2,814
1956	2,711	15,281	17,993	15,289	0	1,015	1,400	17,100	1,328	3,463
1957	1,491	13,852	15,343	13,863	0	1,338	962	17,100	2,223	3,520
1958	2,275	15,234	17,509	15,244	0	892	1,312	17,100	931	2,303
1959	2,083	12,266	14,349	12,276	0	1,586	1,400	17,100	2,819	4,750
1960	3,132	12,972	16,104	12,981	0	896	1,487	17,100	2,159	3,602
1961	2,279	8,391	10,670	8,400	0	2,076	1,575	17,100	5,989	6,514
1962	2,067	12,488	14,555	12,497	0	1,567	1,487	17,100	2,947	3,372
1963	1,368	11,718	13,086	11,937	0	1,411	1,575	17,100	3,647	4,581
1964	2,582	7,667	10,249	10,147	0	1,784	1,225	17,100	4,409	5,382
1965	2,760	12,590	15,350	12,679	0	1,576	1,225	17,100	2,784	3,345
1966	2,985	12,982	15,967	12,991	0	1,413	1,400	17,100	3,126	3,513
1967	3,030	13,911	16,941	13,922	0	1,116	1,050	17,100	2,571	2,999
1968	3,066	11,245	14,311	11,255	0	2,084	1,050	17,100	3,291	0
1969	3,067	16,185	19,252	16,195	0	961	1,050	17,100	2,240	0
1970	3,067	14,459	17,526	14,488	0	949	1,050	17,100	2,717	0
1971	3,091	14,257	17,348	14,267	0	1,336	1,225	17,100	2,306	2,759
1972	3,068	13,058	16,125	13,059	0	1,230	1,312	17,100	3,222	3,674
1973	3,067	14,341	17,408	14,351	0	1,312	1,050	17,100	1,568	2,166
1974	3,040	16,646	19,686		0	1,022		17,100	1,616	
1975	3,067	12,486	15,553		0	915		17,100	2,378	
1976	3,354	13,534	16,887		0	962		17,100	2,276	
1977	3,029	9,279	12,308		0	2,019		17,100	5,566	
1978	3,067	12,744	15,811		0	1,139		17,100	1,622	
1979	3,067	13,814	16,881		0	997		17,100	2,039	
1980	3,296	12,945	16,242		0	1,115		17,100	2,365	
1981	3,272	12,587	15,858		0	1,497		17,100	3,562	
1982	3,087	13,451	16,538		0	1,382		17,100	2,333	
1983	3,374	7,956	11,329		0	2,084		17,100	3,502	
1984	3,067	10,366	13,433		0	1,638		17,100	3,303	
1985	3,067	13,988	17,055		0	1,192		17,100	2,482	
1986	3,374	14,451	17,825		0	1,376		17,100	1,663	
1987	3,872	15,147	19,020		0	1,203		17,100	2,440	
1988	3,710	14,401	18,111		0	1,282		17,100	2,362	
1989	3,471	13,257	16,728		0	1,499		17,100	2,531	
1990	3,105	13,843	16,948		0	1,196		17,100	3,428	
1991	3,063	8,950	12,012		0	2,084		17,100	5,375	
1992	3,072	11,754	14,826		0	2,084		17,100	3,779	
1993	3,075	12,138	15,214		0	1,706		17,100	2,945	
1994	3,127	12,566	15,692		0	1,985		17,100	2,530	
1995	2,576	9,165	11,741		0	1,638		17,100	5,840	
1996	3,067	10,636	13,703		0	1,796		17,100	4,002	
1997	3,067	13,918	16,984		0	1,340		17,100	2,205	
1998	2,793	13,997	16,791		0	1,192		17,100	2,024	
Averages	2,860	12,983	15,843	13,549	0	1,359	1,254	17,100	2,695	3,031


Westfield Canal
Remaining Project Demand Comparison
7000
6000
5000
4000
3000
2000
1000
0
1950
1955
1960
1965
1970
1975
NEW MODEL
OLD MODEL

Water Delivery Comparisons

old model

	PETEETNET											
	HEAD OF CANAL DIV. REQ. TOTAL ACRES= 4,630	HISTORICAL DIVERSIONS	HISTORICAL DIVERSIONS	WELL WATER	DEMAND MET	DEMAND MET	REMAINING DEMAND: TOTAL AREA	REMAINING DEMAND: TOTAL AREA	REMAINING DEMAND: PROJECT LANDS-ACREAGE = 4,630	REMAINING DEMAND: PROJECT LANDS-	SURPLUS DIVERSIONS HISTORICAL	SURPLUS DIVERSIONS HISTORICAL
1950	14,500	9,111	10,700	2,916	7,360	8,676	7,030	5,794	7,030	5,794	2,687	3,240
1951	14,500	6,936	9,300	2,916	6,804	7,576	7,586	6,894	7,586	6,894	1,717	2,840
1952	14,500	25,004	22,900	2,916	11,819	11,077	2,571	3,393	2,571	3,393	13,814	12,960
1953	14,500	10,783	9,000	2,916	8,402	7,676	5,988	6,794	5,988	6,794	1,709	1,640
1954	14,500	6,515	4,300	2,916	5,990	4,696	8,400	9,774	8,400	9,774	1,134	920
1955	14,500	7,178	7,200	2,916	6,905	7,076	7,485	7,394	7,485	7,394	1,634	1,840
1956	14,500	6,807	6,800	2,916	6,300	6,476	8,090	7,994	8,090	7,994	1,511	1,740
1957	14,500	13,023	13,000	2,916	9,845	9,877	4,545	4,593	4,545	4,593	4,098	4,360
1958	14,500	12,083	12,000	2,916	8,133	8,176	6,257	6,294	6,257	6,294	4,225	4,740
1959	14,500	5,172	5,200	2,916	5,276	5,396	9,114	9,074	9,114	9,074	507	820
1960	14,500	6,187	6,200	2,916	6,256	6,376	8,134	8,094	8,134	8,094	1,460	1,640
1961	14,500	3,657	3,500	2,916	4,826	4,796	9,564	9,674	9,564	9,674	338	520
1962	14,500	9,937	4,200	2,916	7,915	5,396	6,475	9,074	6,475	9,074	3,438	420
1963	14,500	6,116	6,000	2,916	6,117	6,176	8,273	8,294	8,273	8,294	700	940
1964	14,500	8,064	8,100	2,916	7,653	7,676	6,737	6,794	6,737	6,794	1,893	2,140
1965	14,500	9,839	9,900	2,916	8,411	8,476	5,979	5,994	5,979	5,994	2,175	2,440
1966	14,500	7,349	7,300	2,916	6,073	6,176	8,317	8,294	8,317	8,294	1,921	2,240
1967	14,500	8,270	7,500	2,916	8,022	7,176	6,368	7,294	6,368	7,294	1,330	1,640
1968	14,500	10,726	10,300	2,916	8,918	8,176	5,472	6,294	5,472	6,294	2,736	2,840
1969	14,500	15,451	15,700	2,916	8,582	10,253	5,808	4,217	5,808	4,217	7,010	4,940
1970	14,500	11,150	10,700	2,916	8,739	8,376	5,651	6,094	5,651	6,094	2,222	3,040
1971	14,500	11,328	11,400	2,916	8,577	8,576	5,813	5,894	5,813	5,894	2,823	3,340
1972	14,500	6,328	4,800	2,916	5,891	6,176	8,499	8,294	8,499	8,294	544	540
1973	14,500	14,793	14,900	2,916	9,290	9,976	5,100	4,494	5,100	4,494	6,651	4,740
1974	14,500	12,073		2,916	10,119		4,271		4,271		3,132	
1975	14,500	6,812		2,916	6,108		8,282		8,282		1,288	
1976	14,500	3,200		2,916	4,627		9,763		9,763		198	
1977	14,500	13,532		2,916	9,595		4,795		4,795		5,379	
1978	14,500	10,541		2,916	7,455		6,935		6,935		3,608	
1979	14,500	20,914		2,916	10,997		3,393		3,393		10,017	
1980	14,500	5,388		2,916	5,762		8,628		8,628		849	
1981	14,500	15,099		2,916	8,230		6,160		6,160		7,137	
1982	14,500	48,810		2,916	12,772		1,618		1,618		34,052	
1983	14,500	64,840		2,916	12,154		2,236		2,236		49,929	
1984	14,500	16,817		2,916	9,054		5,336		5,336		7,021	
1985	14,500	19,967		2,916	8,748		5,642		5,642		10,502	
1986	14,500	2,917		2,916	3,898		10,492		10,492		493	
1987	14,500	2,218		2,916	4,532		9,858		9,858		353	
1988	14,500	2,259		2,916	4,133		10,257		10,257		656	
1989	14,500	1,459		2,916	3,839		10,551		10,551		316	
1990	14,500	4,375		2,916	5,739		8,651		8,651		1,219	
1991	14,500	1,419		2,916	3,448		10,942		10,942		309	
1992	14,500	7,704		2,916	6,611		7,779		7,779		3,304	
1993	14,500	3,187		2,916	4,767		9,623		9,623		282	
1994	14,500	11,143		2,916	9,876		4,514		4,514		2,583	
1995	14,500	8,260		2,916	6,934		7,456		7,456		2,567	
1996	14,500	10,435		2,916	7,215		7,175		7,175		4,149	
1997	14,500	13,588		2,916	9,638		4,752		4,752		5,100	
1998	14,500	13,588		2,916	9,638		4,752		4,752		5,100	
Averages	14,500	11,273	9,204	2,916	7,510	7,520	6,880	6,950	6,880	6,950	4,649	2,772

MONA

	HEAD OF CANAL DIV. REQ. TOT. ACRES= 4,675 acre-feet	SURFACE WATER DIVERSION 17.20% acre-feet	SURFACE WATER DIVERSION	GROUND WATER DIVERSION 830 peak/mo acre-feet	GROUND WATER DIVERSION	HISTORICAL DIVERSIONS (S&G) acre-feet	HISTORICAL DIVERSIONS (S&G)	DEMAND MET BY SURFACE WATER acre-feet	DEMAND MET BY SURFACE WATER	DEMAND MET BY GROUND WATER acre-feet	DEMAND MET BY GROUND WATER	DEMAND MET acre-feet	DEMAND MET	REMAINING DEMAND: TOTAL AREA acre-feet	REMAINING DEMAND: TOTAL AREA	REMAINING DEMAND: PROJ. LANDS-ACREAGE = 4,675 acre-feet	REMAINING DEMAND: PROJ. LANDS-ACREAGE = acre-feet
1950	14,700	3,027	3,000	4,282	5,360	7,310	8,360	2,374	2,400	4,282	5,350	6,656	7,750	8,044	6,950	8,044	6,950
1951	14,700	2,337	2,600	4,517	5,740	6,854	8,340	1,848	2,000	4,517	5,730	6,364	7,730	8,336	6,970	8,336	6,970
1952	14,700	8,248	8,300	3,320	3,470	11,568	11,770	6,174	6,000	3,320	3,470	9,494	9,470	5,206	5,230	5,206	5,230
1953	14,700	3,581	3,600	4,487	4,980	8,068	8,580	2,409	2,900	4,487	4,970	6,896	7,870	7,804	6,830	7,804	6,830
1954	14,700	2,161	2,200	4,516	6,660	6,676	8,860	1,391	1,700	4,516	6,650	5,907	8,350	8,793	6,350	8,793	6,350
1955	14,700	2,007	2,100	4,646	7,770	6,653	9,870	1,451	1,600	4,646	7,770	6,097	9,370	8,603	5,330	8,603	5,330
1956	14,700	2,395	2,400	4,504	5,930	6,899	8,330	1,731	1,900	4,504	5,930	6,235	7,830	8,465	6,570	8,465	6,570
1957	14,700	4,035	4,000	4,459	4,740	8,495	8,740	3,457	3,200	4,459	4,740	7,916	7,940	6,784	6,760	6,784	6,760
1958	14,700	4,674	4,600	4,202	4,460	8,875	9,060	3,654	3,600	4,202	4,460	7,856	8,060	6,844	6,640	6,844	6,640
1959	14,700	1,733	1,800	4,680	7,770	6,413	9,570	984	1,400	4,680	7,770	5,664	9,170	9,036	5,530	9,036	5,530
1960	14,700	2,108	2,100	4,521	7,770	6,629	9,870	1,614	1,600	4,521	7,770	6,135	9,370	8,565	5,330	8,565	5,330
1961	14,700	1,051	1,000	4,779	8,490	5,829	9,490	588	900	4,779	8,480	5,367	9,380	9,333	5,320	9,333	5,320
1962	14,700	3,955	3,900	4,150	4,790	8,105	8,690	3,063	3,100	4,150	4,780	7,213	7,880	7,487	6,820	7,487	6,820
1963	14,700	2,544	2,500	4,642	5,780	7,185	8,280	1,791	1,900	4,642	5,780	6,432	7,680	8,268	7,020	8,268	7,020
1964	14,700	2,555	2,500	4,691	5,780	7,247	8,280	2,075	1,900	4,691	5,780	6,766	7,680	7,934	7,020	7,934	7,020
1965	14,700	3,603	3,600	4,370	4,980	7,972	8,580	2,920	2,900	4,370	4,970	7,290	7,870	7,410	6,830	7,410	6,830
1966	14,700	2,206	2,100	4,510	6,130	6,716	8,230	1,407	1,500	4,510	6,130	5,917	7,630	8,783	7,070	8,783	7,070
1967	14,700	2,758	2,800	4,629	5,580	7,387	8,380	2,133	2,200	4,629	5,570	6,761	7,770	7,939	6,930	7,939	6,930
1968	14,700	3,555	3,500	4,467	5,010	8,021	8,510	2,878	2,800	4,467	5,000	7,345	7,800	7,355	6,900	7,355	6,900
1969	14,700	5,167	5,200	4,150	4,250	9,317	9,450	3,690	3,900	4,150	4,250	7,840	8,150	6,860	6,550	6,660	6,550
1970	14,700	3,663	3,700	4,618	4,930	8,280	8,630	2,633	3,000	4,618	4,930	7,251	7,930	7,449	6,770	7,449	6,770
1971	14,700	3,824	3,800	4,236	5,550	8,061	9,350	2,852	2,900	4,236	5,550	7,089	8,450	7,611	6,250	7,611	6,250
1972	14,700	2,103	1,900	4,629	7,770	6,732	9,670	1,164	1,300	4,629	7,770	5,793	9,070	8,907	5,630	8,907	5,630
1973	14,700	4,798	4,800	4,064	4,390	8,862	9,190	4,198	3,600	4,064	4,390	8,262	7,990	6,438	6,710	6,438	6,710
1974	14,700	3,977		4,679		8,656		3,453		4,679		8,132		6,568		6,568	
1975	14,700	2,233		4,614		6,846		1,460		4,614		6,074		8,626		8,626	
1976	14,700	1,062		4,770		5,832		633		4,770		5,403		9,297		9,297	
1977	14,700	4,554		4,150		8,704		3,881		4,150		8,031		6,669		6,669	
1978	14,700	3,472		4,292		7,764		2,675		4,292		6,967		7,733		7,733	
1979	14,700	6,926		3,551		10,477		5,468		3,551		9,019		5,681		5,681	
1980	14,700	1,785		4,505		6,290		1,243		4,505		5,748		8,952		8,952	
1981	14,700	5,016		4,126		9,143		3,762		4,126		7,888		6,812		6,812	
1982	14,700	15,991		2,490		18,481		8,560		2,490		11,050		3,650		3,650	
1983	14,700	20,584		3,320		23,904		7,323		3,320		10,643		4,057		4,057	
1984	14,700	5,623		4,150		9,773		3,980		4,150		8,130		6,570		6,570	
1985	14,700	6,803		3,792		10,595		4,276		3,792		8,068		6,632		6,632	
1986	14,700	958		4,650		5,608		505		4,650		5,155		9,545		9,545	
1987	14,700	723		4,707		5,429		643		4,707		5,350		9,350		9,350	
1988	14,700	788		4,584		5,371		639		4,584		5,223		9,477		9,477	
1989	14,700	497		4,722		5,219		420		4,722		5,142		9,558		9,558	
1990	14,700	1,390		4,719		6,109		1,285		4,719		6,004		8,696		8,696	
1991	14,700	488		4,725		5,212		290		4,725		5,015		9,685		9,685	
1992	14,700	2,540		4,415		6,955		2,274		4,415		6,689		8,011		8,011	
1993	14,700	1,033		4,735		5,769		686		4,735		5,421		9,279		9,279	
1994	14,700	3,705		4,635		8,340		3,183		4,635		7,818		6,882		6,882	
1995	14,700	2,718		4,413		7,131		2,158		4,413		6,571		8,129		8,129	
1996	14,700	3,486		4,226		7,712		2,772		4,226		6,999		7,701		7,701	
1997	14,700	4,543		4,180		8,724		3,926		4,180		8,107		6,593		6,593	
1998	14,700	4,543		4,180		8,724		3,926		4,180		8,107		6,593		6,593	
Averages	14,700	3,745	3,250	4,355	5,753	8,100	9,003	2,610	2,508	4,355	5,750	6,965	8,258	7,735	6,430	7,735	6,430

Water Delivery Comparisons

old model

	NEPHI																
	HEAD OF CANAL DIV. REQ. TOT. ACRES= 7,850	SURFACE WATER DIVERSION	SURFACE WATER DIVERSION	GROUND WATER DIVERSION 2,950 peak/mo	GROUND WATER DIVERSION	HISTORICAL DIVERSIONS (S&G)	HISTORICAL DIVERSIONS (S&G)	DEMAND MET BY SURFACE WATER	DEMAND MET BY SURFACE WATER	DEMAND MET BY GROUND WATER	DEMAND MET BY GROUND WATER	DEMAND MET	DEMAND MET	REMAINING DEMAND: TOTAL AREA	REMAINING DEMAND: TOTAL AREA	REMAINING DEMAND: PROJ. LANDS-ACREAGE = 7,850	REMAINING DEMAND: PROJ. LANDS-ACREAGE =
	acre-feet	acre-feet	acre-feet	acre-feet		acre-feet		acre-feet		acre-feet		acre-feet		acre-feet		acre-feet	acre-feet
1950	25,300	17,600	17,600	11,050	9,130	28,650	26,730	11,600	11,600	11,050	8,900	22,650	20,500	2,650	4,790	2,650	4,790
1951	25,300	13,590	15,000	11,723	9,770	25,312	24,770	9,904	10,000	11,723	9,800	21,627	19,800	3,673	5,530	3,673	5,530
1952	25,300	47,952	48,000	4,761	5,910	52,713	53,910	20,539	20,500	4,761	4,000	25,300	24,500	0	800	0	800
1953	25,300	20,819	20,900	10,001	8,470	30,820	29,370	13,095	13,100	10,001	8,500	23,097	21,600	2,203	3,750	2,203	3,750
1954	25,300	12,563	12,500	12,573	11,340	25,135	23,840	7,343	7,300	12,573	11,300	19,916	18,600	5,384	6,660	5,384	6,660
1955	25,300	11,667	12,100	12,484	13,230	24,151	25,330	8,452	8,500	12,484	13,300	20,936	21,800	4,364	3,570	4,364	3,570
1956	25,300	13,925	13,900	11,896	10,100	25,821	24,000	9,250	9,300	11,896	10,100	21,146	19,400	4,154	5,900	4,154	5,900
1957	25,300	23,460	23,400	7,675	8,070	31,135	31,470	16,160	16,100	7,675	7,400	23,834	23,500	1,466	1,800	1,466	1,800
1958	25,300	27,172	27,000	9,047	7,590	36,218	34,590	14,028	13,900	9,047	7,600	23,075	21,500	2,225	3,810	2,225	3,810
1959	25,300	10,074	10,200	13,978	13,230	24,052	23,430	5,819	5,900	13,978	13,300	19,797	19,200	5,503	6,170	5,503	6,170
1960	25,300	12,254	12,200	12,278	13,230	24,532	25,430	8,672	8,600	12,278	13,300	20,950	21,900	4,350	3,470	4,350	3,470
1961	25,300	6,110	6,100	14,906	14,460	21,016	20,570	3,519	3,500	14,906	14,300	18,425	17,800	6,875	7,480	6,875	7,480
1962	25,300	22,995	22,900	9,164	8,150	32,159	31,050	13,616	13,500	9,164	8,100	22,779	21,600	2,521	3,650	2,521	3,650
1963	25,300	14,788	14,800	10,980	9,850	25,769	24,650	10,398	10,400	10,980	9,900	21,379	20,300	3,921	5,050	3,921	5,050
1964	25,300	14,856	14,800	10,787	9,850	25,643	24,650	11,248	11,200	10,787	9,900	22,035	21,100	3,265	4,250	3,265	4,250
1965	25,300	20,946	20,900	8,951	8,470	29,897	29,370	14,784	14,900	8,951	7,800	23,735	22,700	1,565	2,630	1,565	2,630
1966	25,300	12,828	13,000	12,328	10,440	25,156	23,440	7,402	7,500	12,328	10,400	19,730	17,900	5,570	7,360	5,570	7,360
1967	25,300	16,036	16,000	10,396	9,500	26,433	25,500	12,312	12,400	10,396	9,400	22,708	21,800	2,592	3,480	2,592	3,480
1968	25,300	20,666	20,600	8,656	8,530	29,322	29,130	14,760	14,800	8,656	8,300	23,416	23,100	1,884	2,290	1,884	2,290
1969	25,300	30,040	30,000	9,132	7,240	39,172	37,240	14,046	14,000	9,132	7,200	23,178	21,200	2,122	4,060	2,122	4,060
1970	25,300	21,295	21,300	8,807	8,400	30,101	29,700	14,455	14,500	8,807	8,000	23,261	22,500	2,039	2,780	2,039	2,780
1971	25,300	22,235	22,200	8,955	9,450	31,190	31,650	14,078	14,000	8,955	9,400	23,033	23,400	2,267	1,850	2,267	1,850
1972	25,300	12,226	12,200	13,325	13,230	25,551	25,430	6,683	6,700	13,325	13,300	20,008	20,000	5,292	5,370	5,292	5,370
1973	25,300	27,896	28,000	7,859	7,470	35,755	35,460	15,526	15,600	7,859	7,400	23,384	23,000	1,916	2,240	1,916	2,240
1974	25,300	23,124		7,830		30,954		16,780		7,830		24,610		690		690	
1975	25,300	12,981		12,117		25,098		8,315		12,117		20,432		4,868		4,868	
1976	25,300	6,177		14,910		21,087		3,782		14,910		18,692		6,608		6,608	
1977	25,300	26,478		7,710		34,188		15,813		7,710		23,523		1,777		1,777	
1978	25,300	20,188		10,419		30,607		11,826		10,419		22,246		3,054		3,054	
1979	25,300	40,265		6,587		46,852		18,713		6,587		25,300		0		0	
1980	25,300	10,377		13,520		23,897		6,423		13,520		19,943		5,357		5,357	
1981	25,300	29,165		9,524		38,689		13,354		9,524		22,878		2,422		2,422	
1982	25,300	92,972		2,225		95,196		23,075		2,225		25,300		0		0	
1983	25,300	119,677		3,707		123,385		21,593		3,707		25,300		0		0	
1984	25,300	32,693		7,924		40,617		14,971		7,924		22,895		2,405		2,405	
1985	25,300	39,550		8,965		48,516		14,399		8,965		23,364		1,936		1,936	
1986	25,300	5,568		14,474		20,042		2,973		14,474		17,447		7,853		7,853	
1987	25,300	4,202		14,318		18,520		3,839		14,318		18,157		7,143		7,143	
1988	25,300	4,579		14,524		19,104		3,321		14,524		17,846		7,454		7,454	
1989	25,300	2,891		14,794		17,685		2,544		14,794		17,338		7,962		7,962	
1990	25,300	8,079		12,254		20,333		7,570		12,254		19,824		5,476		5,476	
1991	25,300	2,836		14,863		17,699		1,787		14,863		16,650		8,650		8,650	
1992	25,300	14,767		11,204		25,971		10,206		11,204		21,410		3,890		3,890	
1993	25,300	6,008		14,498		20,506		4,086		14,498		18,584		6,716		6,716	
1994	25,300	21,540		7,769		29,310		16,428		7,769		24,197		1,103		1,103	
1995	25,300	15,803		10,788		26,591		10,769		10,788		21,557		3,743		3,743	
1996	25,300	20,265		10,241		30,506		11,376		10,241		21,617		3,683		3,683	
1997	25,300	26,414		7,855		34,269		15,924		7,855		23,779		1,521		1,521	
1998	25,300	26,414		7,855		34,269		15,924		7,855		23,779		1,521		1,521	
Averages	25,300	21,776	18,983	10,461	9,796	32,237	28,780	11,295	11,575	10,461	9,621	21,756	21,196	3,544	4,114	3,544	4,114

South Utah County	NEPHI/MONA	Elberta/West Mona	Peteetnet	SUMMARY

	IRRIGATED S. UTAH	IRRIGATED NEPHI/MONA	DRY NEPHI	DRY MONA	IRRIGATED ELBERTA	DRY W.MONA	IRRIGATED PETEETNET	TOTAL IRRIGATED	TOTAL DRY	TOTAL
Total Ac	48,567	12,525								
Proj/Dry Ac.	45,173	12,525	6260	2,655		1920				
	TOTALS	TOTALS	3.22	3.14	TOTALS	3.17	TOTALS			
1950	14,882	10,694	20,157	8,337	0	6,086	7,030	32,606	14,423	47,029
1951	15,224	12,009	20,157	8,337	0	6,086	7,586	34,819	14,423	49,242
1952	9,866	5,206	20,157	8,337	0	6,086	2,571	17,644	14,423	32,067
1953	16,272	10,007	20,157	8,337	0	6,086	5,988	32,268	14,423	46,691
1954	26,342	14,177	20,157	8,337	0	6,086	8,400	48,919	14,423	63,343
1955	17,500	12,967	20,157	8,337	0	6,086	7,485	37,952	14,423	52,375
1956	21,321	12,620	20,157	8,337	0	6,086	8,090	42,031	14,423	56,454
1957	16,729	8,249	20,157	8,337	0	6,086	4,545	29,524	14,423	43,947
1958	13,519	9,070	20,157	8,337	0	6,086	6,257	28,845	14,423	43,269
1959	31,411	14,540	20,157	8,337	0	6,086	9,114	55,065	14,423	69,488
1960	25,136	12,915	20,157	8,337	0	6,086	8,134	46,186	14,423	60,609
1961	51,713	16,208	20,157	8,337	0	6,086	9,564	77,485	14,423	91,908
1962	33,942	10,008	20,157	8,337	0	6,086	6,475	50,424	14,423	64,848
1963	45,060	12,189	20,157	8,337	0	6,086	8,273	65,522	14,423	79,945
1964	31,225	11,199	20,157	8,337	0	6,086	6,737	49,160	14,423	63,583
1965	22,915	8,975	20,157	8,337	0	6,086	5,979	37,869	14,423	52,292
1966	27,432	14,353	20,157	8,337	0	6,086	8,317	50,102	14,423	64,525
1967	19,795	10,531	20,157	8,337	0	6,086	6,368	36,693	14,423	51,116
1968	17,206	9,240	20,157	8,337	0	6,086	5,472	31,918	14,423	46,341
1969	17,354	8,983	20,157	8,337	0	6,086	5,808	32,144	14,423	46,567
1970	19,783	9,488	20,157	8,337	0	6,086	5,651	34,922	14,423	49,346
1971	15,765	9,878	20,157	8,337	0	6,086	5,813	31,456	14,423	45,879
1972	26,448	14,199	20,157	8,337	0	6,086	8,499	49,146	14,423	63,569
1973	13,413	8,354	20,157	8,337	0	6,086	5,100	26,867	14,423	41,290
1974	15,578	7,258	20,157	8,337	0	6,086	4,271	27,107	14,423	41,530
1975	14,803	13,494	20,157	8,337	0	6,086	8,282	36,579	14,423	51,002
1976	10,651	15,905	20,157	8,337	0	6,086	9,763	36,319	14,423	50,742
1977	24,607	8,446	20,157	8,337	0	6,086	4,795	37,849	14,423	52,272
1978	9,651	10,788	20,157	8,337	0	6,086	6,935	27,374	14,423	41,797
1979	9,621	5,681	20,157	8,337	0	6,086	3,393	18,696	14,423	33,119
1980	9,497	14,309	20,157	8,337	0	6,086	8,628	32,434	14,423	46,857
1981	16,580	9,234	20,157	8,337	0	6,086	6,160	31,975	14,423	46,398
1982	6,917	3,650	20,157	8,337	0	6,086	1,618	12,186	14,423	26,609
1983	14,479	4,057	20,157	8,337	0	6,086	2,236	20,771	14,423	35,194
1984	9,579	8,975	20,157	8,337	0	6,086	5,336	23,889	14,423	38,312
1985	8,515	8,568	20,157	8,337	0	6,086	5,642	22,726	14,423	37,149
1986	8,519	17,398	20,157	8,337	0	6,086	10,492	36,409	14,423	50,832
1987	15,041	16,494	20,157	8,337	0	6,086	9,858	41,393	14,423	55,816
1988	11,514	16,931	20,157	8,337	0	6,086	10,257	38,702	14,423	53,125
1989	16,665	17,520	20,157	8,337	0	6,086	10,551	44,736	14,423	59,160
1990	18,611	14,171	20,157	8,337	0	6,086	8,651	41,433	14,423	55,856
1991	22,114	18,335	20,157	8,337	0	6,086	10,942	51,391	14,423	65,814
1992	23,832	11,901	20,157	8,337	0	6,086	7,779	43,512	14,423	57,935
1993	15,885	15,995	20,157	8,337	0	6,086	9,623	41,503	14,423	55,926
1994	15,895	7,985	20,157	8,337	0	6,086	4,514	28,394	14,423	42,817
1995	25,051	11,871	20,157	8,337	0	6,086	7,456	44,378	14,423	58,801
1996	12,677	11,385	20,157	8,337	0	6,086	7,175	31,236	14,423	45,659
1997	10,593	8,114	20,157	8,337	0	6,086	4,752	23,460	14,423	37,883
1998	10,106	8,114	20,157	8,337	0	6,086	4,752	22,973	14,423	37,396
MAXIMUM	51,713	18,335	20,157	8,337	0	6,086	10,942	77,485	14,423	91,908
MINIMUM	6,917	3,650	20,157	8,337	0	6,086	1,618	12,186	14,423	26,609
AVERAGE	18,515	11,278	20,157	8,337	0	6,086	6,880	36,673	14,423	51,096

	SVP
1950	66,723
1951	57,987
1952	52,729
1953	68,523
1954	70,889
1955	65,714
1956	67,088
1957	52,299
1958	61,376
1959	64,636
1960	68,623
1961	48,003
1962	40,123
1963	38,016
1964	52,526
1965	38,627
1966	64,113
1967	54,513
1968	51,810
1969	57,819
1970	55,768
1971	58,769
1972	62,577
1973	51,429
1974	58,450
1975	54,586
1976	71,673
1977	62,914
1978	58,115
1979	62,960
1980	54,598
1981	68,360
1982	49,185
1983	20,406
1984	30,448
1985	55,063
1986	50,343
1987	71,315
1988	76,184
1989	70,265
1990	65,128
1991	53,433
1992	65,374
1993	48,524
1994	64,909
1995	36,688
1996	50,600
1997	42,001
1998	50,357
AVG	**56,379**

	South Utah County Remaining Project Demand									Nephi / Mona Remaining Project Demand			Elberta / West Mona Remaining Project Demand		Peteetnet Remaining Project Demand		
	HIGHLINE	MAPLETON	LAKESHORE	EASTBENCH	SALEM	SOUTH	SOUTHEAST	WESTFIELD	S. UTAH	NEPHI	MONA	NEPHI/MONA	ELBERTA	WEST MONA		SUMMIT CREEK		SUMMARY
Total Ac	19,940	3,825	4,274	4,251	2,035	6,667	947	6,628	48,567	7,850	4,675	12,525				4630		
Project Ac	18,514	3,673	4,207	4,169	1,936	6,437	914	5,323	45,173	7,850	4,675	12,525				4630		
	acre-feet	acre-feet	acre-feet	acre-feet	acre-feet	acre-feet	acre-feet	acre-feet	TOTALS	acre-feet	acre-feet	TOTALS			TOTALS	acre-feet	TOTALS	TOTALS
1950	7,266	136	2,840	439	100	2,684	377	1,041	14,882	2,650	8,044	10,694			0	7,030	7,030	32,606
1951	7,173	218	3,632	0	35	2,628	470	1,068	15,224	3,673	8,336	12,009			0	7,586	7,586	34,819
1952	3,308	488	1,733	757	0	1,454	694	1,432	9,866	0	5,206	5,206			0	2,571	2,571	17,644
1953	7,063	0	3,092	2,212	0	2,149	446	1,311	16,272	2,203	7,804	10,007			0	5,988	5,988	32,268
1954	11,472	799	5,385	1,605	537	3,725	600	2,219	26,342	5,384	8,793	14,177			0	8,400	8,400	48,919
1955	8,796	142	4,424	592	106	2,360	526	556	17,500	4,364	8,603	12,967			0	7,485	7,485	37,952
1956	10,572	358	3,863	1,559	71	3,091	480	1,328	21,321	4,154	8,465	12,620			0	8,090	8,090	42,031
1957	8,215	1,099	2,543	319	0	1,366	964	2,223	16,729	1,466	6,784	8,249			0	4,545	4,545	29,524
1958	6,212	305	3,211	647	0	1,780	434	931	13,519	2,225	6,844	9,070			0	6,257	6,257	28,845
1959	12,629	1,042	6,111	2,936	595	4,492	787	2,819	31,411	5,503	9,036	14,540			0	9,114	9,114	55,065
1960	11,402	1,109	4,930	1,871	228	3,140	298	2,159	25,136	4,350	8,565	12,915			0	8,134	8,134	46,186
1961	20,213	3,725	7,687	5,220	1,555	6,137	1,185	5,989	51,713	6,875	9,333	16,208			0	9,564	9,564	77,485
1962	17,080	1,569	4,951	2,744	313	3,673	666	2,947	33,942	2,521	7,487	10,008			0	6,475	6,475	50,424
1963	22,434	2,844	5,997	3,824	482	5,069	763	3,647	45,060	3,921	8,268	12,189			0	8,273	8,273	65,522
1964	13,664	2,303	4,723	1,761	48	3,604	714	4,409	31,225	3,265	7,934	11,199			0	6,737	6,737	49,160
1965	10,829	973	3,994	1,018	0	2,769	549	2,784	22,915	1,565	7,410	8,975			0	5,979	5,979	37,869
1966	11,858	1,198	5,237	2,000	197	3,323	495	3,126	27,432	5,570	8,783	14,353			0	8,317	8,317	50,102
1967	7,815	443	3,752	1,341	57	3,140	675	2,571	19,795	2,592	7,939	10,531			0	6,368	6,368	36,693
1968	6,492	285	3,406	359	410	2,228	736	3,291	17,206	1,884	7,355	9,240			0	5,472	5,472	31,918
1969	6,834	735	3,585	489	0	2,880	591	2,240	17,354	2,122	6,860	8,983			0	5,808	5,808	32,144
1970	8,588	114	3,806	728	0	3,135	696	2,717	19,783	2,039	7,449	9,488			0	5,651	5,651	34,922
1971	7,059	447	2,842	334	0	2,280	497	2,306	15,765	2,267	7,611	9,878			0	5,813	5,813	31,456
1972	12,226	881	4,978	1,472	0	3,140	530	3,222	26,448	5,292	8,907	14,199			0	8,499	8,499	49,146
1973	5,185	289	3,388	0	0	2,349	634	1,568	13,413	1,916	6,438	8,354			0	5,100	5,100	26,867
1974	5,774	171	9,750	991	11	2,640	400	1,616	21,351	690	6,568	7,258			0	4,271	4,271	32,881
1975	5,738	2,640	3,879	1,495	568	3,385	458	2,378	20,541	4,868	8,626	13,494			0	8,282	8,282	42,317
1976	9,537	1,098	3,559	548	0	2,731	440	2,276	20,188	6,608	9,297	15,905			0	9,763	9,763	45,856
1977	7,802	127	7,218	3,657	1,497	5,242	1,299	5,566	32,408	1,777	6,669	8,446			0	4,795	4,795	45,650
1978	4,250	242	4,623	367	0	2,366	431	1,622	13,901	3,054	7,733	10,788			0	6,935	6,935	31,624
1979	2,889	0	3,978	456	0	2,863	285	2,039	12,511	0	5,681	5,681			0	3,393	3,393	21,586
1980	4,092	1,750	2,750	324	0	1,882	427	2,365	13,589	5,357	8,952	14,309			0	8,628	8,628	36,526
1981	7,439	10	6,135	1,814	258	3,997	804	3,562	24,019	2,422	6,812	9,234			0	6,160	6,160	39,414
1982	1,696	121	2,246	0	0	1,612	605	2,333	8,613	0	3,650	3,650			0	1,618	1,618	13,881
1983	3,073	0	3,855	1,617	476	3,646	1,383	3,502	17,552	0	4,057	4,057			0	2,236	2,236	23,844
1984	10,309	370	2,577	252	189	2,316	572	3,303	19,888	2,405	6,570	8,975			0	5,336	5,336	34,198
1985	6,390	1,340	1,742	168	123	1,804	855	2,482	14,905	1,936	6,632	8,568			0	5,642	5,642	29,116
1986	11,311	1,696	3,540	75	0	891	654	1,663	19,830	7,853	9,545	17,398			0	10,492	10,492	47,720
1987	11,220	379	6,183	1,998	281	2,925	835	2,440	26,261	7,143	9,350	16,494			0	9,858	9,858	52,612
1988	8,373	0	5,477	858	98	2,162	557	2,362	19,887	7,454	9,477	16,931			0	10,257	10,257	47,075
1989	12,593	700	5,685	3,523	165	3,427	634	2,531	29,258	7,962	9,558	17,520			0	10,551	10,551	57,330
1990	10,598	1,113	6,590	2,636	436	3,697	711	3,428	29,209	5,476	8,696	14,171			0	8,651	8,651	52,031
1991	17,511	3,741	6,418	1,634	400	3,669	876	5,375	39,625	8,650	9,685	18,335			0	10,942	10,942	68,902
1992	11,431	1,454	7,504	4,257	1,273	4,881	685	3,779	35,264	3,890	8,011	11,901			0	7,779	7,779	54,943
1993	12,651	2,808	4,480	1,339	0	3,584	729	2,945	28,536	6,716	9,279	15,995			0	9,623	9,623	54,154
1994	5,892	0	6,029	2,586	631	3,490	628	2,530	21,787	1,103	6,882	7,985			0	4,514	4,514	34,286
1995	16,966	3,356	5,177	2,450	790	6,403	1,035	5,840	42,016	3,743	8,129	11,871			0	7,456	7,456	61,344
1996	10,741	1,140	2,881	1,712	72	2,587	285	4,002	23,418	3,683	7,701	11,385			0	7,175	7,175	41,977
1997	7,251	1,120	3,084	1,290	0	2,378	517	2,205	17,845	1,521	6,593	8,114			0	4,752	4,752	30,711
1998	4,989	1,055	2,090	1,439	94	2,391	1,014	2,024	15,095	1,521	6,593	8,114			0	4,752	4,752	27,962
MAXIMUM	22,434	3,741	9,750	5,220	1,555	6,403	1,383	5,989	51,713	8,650	9,685	18,335			0	10,942	10,942	77,485
MINIMUM	1,696	0	1,733	0	0	891	285	556	8,613	0	3,650	3,650			0	1,618	1,618	13,881
AVERAGE	9,284	978	4,440	1,463	247	3,052	651	2,695	22,811	3,544	7,735	11,278			0	6,880	6,880	40,970

SPANISH FORK CITY EXAMPLE OF HOW AGRICULTURAL CONVERSIONS WERE MADE

Appendix C
Agricultural Conversions

The irrigated lands receive as their principal sources of water supply, storage water from Strawberry Reservoir and direct flow from the Spanish Fork River. The irrigated area in south Utah County is served by the following canal companies.

- Highline Canal
- Mapleton Lateral
- East Bench Canal
- Salem Canal
- Spanish Fork South Canal
- Spanish Fork Southeast Canal
- Spanish Fork Westfield Canal
- Lake Shore Canal

The following steps were undertaken to determine at what future date during the ULS planning horizon of the year 2050 the remaining SVP lands would have a firm water supply. After that date the SVP water could be considered as surplus to the remaining agricultural lands. **As an example, the rate of conversion of agricultural lands to municipal use in the city of Spanish Fork is used to illustrate the analysis.** The following paragraphs describe the steps by which the analysis was conducted. Several tables that accompany this discussion are included as printouts from the spreadsheets. The analysis for the other communities in south Utah County with a significant agricultural component are presented in Appendix D.

- Step 1 - Determine the existing distribution of agricultural lands by cities and canal company.
- Step 2 - Determine the amount of acreage the city could potentially grown onto and the yield in acre-feet per acre of this acreage.
    - Steps 2A and 2B have been superceded.
    - (2A) Determine the acreage under each canal company and city where zoning restrictions would be a constraint to growth
    - (2B) - Determine the projected future yield of agricultural lands urbanized in acre-feet per acre
- Step 3 - Using population projections determine the amount of acreage required for growth.
- Step 4 - Allocate the urbanization of agricultural lands between lands with SVP water and lands with Spanish Fork River water.
    - 4(A) Determine the Portion of Agricultural Lands That Could Possibly be Urbanized
    - 4 (B) Allocate between SVP lands and Spanish Fork River Lands
- Step 5 - Determine the Amount of Water Made Available Through Urbanization
- Step 6 – Determine the Projected Remaining Agricultural Water on Irrigated Lands not Urbanized

- Step 7 - Determine by community and Canal Company the Projected Surplus or deficit in irrigation water supplies
    - (7A) Determine the net irrigation requirement (acre-feet per acre) for agricultural lands
    - (7B) Determine any surplus water from SVP lands as lands under each canal company are urbanized that can be reapplied to the remaining SVP lands which are projected to have irrigation shortages.
- Step 8 - Allocate Surplus SVP water, Groundwater, and Other SVP Non-Canal Water
    - (8A) Determine the amount of groundwater pumping by canal companies
    - (8B) Determine the amount of groundwater pumping within each city's declaration boundary
    - (8C) Determine the amount of SVP water required for lands under no canal company
    - (8D) Determine any surplus or deficit in irrigation water supplies
- Step 9 - Draw conclusions on resulting firm irrigation water supply, need for supplemental irrigation water, and future amount of Spanish Fork River water converted to M&I use.

4.1.1 Step 1 - Determine the Existing Distribution of Agricultural Lands by City and Canal Company

Table 1 contains a reconnaissance level estimate of the canal acreage for the various south Utah County communities that have irrigated acreage.[1] As noted in the report cited in footnote 1, the service boundaries of some irrigation companies includes more than one city area. For example, the Spanish Fork South Field Irrigation Company serves both Spanish Fork City and Salem City. The water supply from an irrigation company is allocated to a city as a fraction of its total delivery quantity, based on the amount of area it serves within a particular city's declaration boundary. The fraction is calculated by dividing the irrigation company's service area, within the city's declaration boundary, by the total service area of the irrigation company.

The following description, from the report cited in footnote 1, of the canal companies with acreage in Spanish Fork City is used for illustration purposes.

> *Spanish Fork South Irrigation Company* - The Spanish Fork South Irrigation Company, commonly known as "Southfield" Irrigation Company, serves irrigated acres in both Spanish Fork City and Salem City. In Spanish Fork it serves approximately 3,056 acres within the Spanish Fork City declaration boundary, which represents about 51 percent of the canals service area. Therefore, it was assumed that 50.93 percent of the canal company's water supply can be allocated to Spanish Fork City.

[1] Source of information on percentages of canal companies within the various south Utah County Communities is the report entitled, "Water Rights Analysis, Future Demands and Needs Inventory", for the South Utah Valley Municipal Water Association, March 1996, prepared by JUB Engineers, Inc.

Table 1
Distribution of Agricultural Acreage

	Total Acres (see footnote 1)	Genola		Mapleton		Payson		Salem		Spanish Fork		Springville		West Mountain		Other Irrigated Lands 4/
		Percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	
Highline Canal	18,514	27.61%	5,112		0	45.88%	8,494	11.92%	2,207	1.17%	217					2,485
Mapleton Canal	3,673		0	98.81%	3,629		0		0	1.19%	44					0
East Bench Canal	4,169		0	23.87%	995		0		0	76.13%	3,174					0
Salem Canal	1,936		0		0	6.98%	135	74.28%	1,438		0					363
Spanish Fork South Canal	6,437		0		0		0	10.18%	655	50.93%	3,278					2,503
Spanish Fork Southeast Canal	914		0		0		0		0	100.00%	914					0
Westfield Canal	5,323		0		0		0		0	100.00%	5,323					0
Lakeshore	4,207		0		0		0		0					75.00%	3155	1,052
South Shore (see footnote 2)	515		0		0		0		0							515
Totals	**45,688**		**5,112**		**4,624**		**8,629**		**4,300**		**12,950**	**Footnote 3**				**6,917**

Footnote 1 - The total acres for the various canal companies is taken from the Bonneville Unti, Draft Water Supply Appendix, Volume 1, Table 3-14, page 3-29, dated March 1998.

Footnote 2 - In the most recent history about 515 acres of land are now irrigated in South Shore area of West Mountain and Utah Lake

Footnote 3 - Historically 4,500 acres has been irrigated in Springville.

Footnote 4 - Of the 6,917 acres of land the analysis in this report considered that 515 acres from South Shore and 4,500 acres in Springville were part of this remaining amount. By subtracting the lands South Shore and Springville would leave 1,902 acres remaining to be considered in accounting for all irrigated lands. This information is used in determining the rate of conversion of agricultural lands. For example, The amount of SVP that has historically been associated with the Springville area is 4,500 acre-feet. Subtracting the existing SVP M&I of 1,051 acre-feet from this historical irrigation water would leave a balance of 3,449 acre-feet for the irrigated lands in Springivle. This amount was used in projecting the amount of agricultual water that is available for conversion and future use on other SVP lands.

Spanish Fork Southeast Irrigation Company - The Spanish Fork Southeast Irrigation Company serves approximately 1,173 acres. All of this acreage is within Spanish Fork City's declaration boundary. Therefore, it is assumed that all (100%) of the canal company's supply can be allocated to the Spanish Fork Area.

East Bench Irrigation Company - The East Bench Irrigation Company serves other communities other than Spanish Fork City. It serves about 2,908 acres within Spanish Fork City's declaration boundary, which is about 76 percent of the total acres served by the East Bench Canal. Therefore, it is assumed that 76 percent of the canal company's water supply can be allocated to Spanish Fork City as these agricultural lands are urbanized.

Spanish Fork Westfield Irrigation Company. The Spanish Fork Westfield Irrigation Company serves about 6,887 acres near Spanish Fork. All of this acreage is within the declaration boundary of Spanish Fork City. Therefore, it is assumed that all of the water supply can be allocated to the Spanish Fork area.

Strawberry Highline Canal Company - The Strawberry Highline Canal company is the largest canal company in south Utah County. However it serves only a very small area of approximately 242 acres within Spanish Fork City's declaration boundary. This 242 acres represents less than 1% of the irrigation company's total acreage. For analysis purposes it was assumed that 1% of water delivered by the Strawberry Highline Canal could be allocated to the Spanish Fork Area.

Mapleton Irrigation Company - The Mapleton Irrigation Company serves primarily the Mapleton and Springville Area. However it does serve about 45 acres within the Spanish Fork City declaration boundary which represents about 1% of the total irrigated acres served by the canal company. Therefore, it is assumed that 1% of the company's irrigation water deliveries can be allocated to the Spanish Fork area as urbanization grows onto the agricultural lands.

4.1.2 Step 2 - Determine the Amount of Acreage the City Could Potentially Grow Onto and the Yield in Acre-Feet per Acre of This Acreage

Four incremental steps under Step 2, with results presented in Tables 2 and 3 were undertaken to determine the amount of acreage the city would potentially grow onto and the projected yield in acre-feet per acre from the agricultural lands that were historically urbanized and those projected for future urbanization. These are:

- Step 2A (Now superceded)
- Step 2 B (Now supercede)
- Step 2 C - Determine the acreage under each canal company and city where zoning restrictions would be a constraint to growth and
- Step 2 D - Determine the projected future yield of agricultural lands urbanized

TABLE 2
SPANISH FORK CITY
(computation of reduction in SVP acres from present M&I)

M&I of	0	equals		divided by	12950	equals		0.00	acre-feet per acre
Corresponding acreage for		0	equals	0	divided by	0.00	equals		0 acres

Note: Table 2 has been superceded and not used in the analysis.

TABLE 3

SPANISH FORK CITY

Amount of Agricultural Acreage City Could Potentially Grow Onto

	Acreage Reduction for M&I		Acreage City Could Potentially Grow Onto			Yield of Water Supply		
	Step 2A & Step 2 B		Step 2 C			Step 2 D		
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
	Canal acreage in City Declaration Boundary	Acreageafter reduction for SVP M&I	% of acreage city could potentially grow on to (information from Spanish Fork City's engineer)	Adjusted acreage	Remaining agriculture lands on which no growth is expected to occur	AverageYear Yield	Historical Year (af/ac)	Projected Future Yield in af/ac
Lands with SVP water								
								Adjusted for Enlarged Strawberry (see footnote 1)
Highline Canal	217	217	100.00%	217	0	325	1.50	1.50
Mapleton Canal	44	44	100.00%	44	0	87	1.98	1.98
East Bench Canal	3,174	3,174	100.00%	3,174	0	4,129	1.30	1.30
Spanish Fork South Canal	3,278	3,278	20.00%	656	2,622	1,602	0.49	0.49
Spanish Fork Southeast Canal	914	914	0.00%	0	914	197	0.22	0.22
Spanish Fork Westfield	5,323	5,323	50.00%	2,662	2,662	2,279	0.43	0.43
	12950	12,950		6,752	6,198	8619	0.67	0.67
Lands with Spanish Fork River water								
								Adjusted for Spanish Fork Average Flow of 46,338 AF (see footnote 2)
Highline Canal	217	217	100.00%	217	0	70	0.32	0.32
Mapleton Canal	44	44	100.00%	44	0	12	0.26	0.26
East Bench Canal	3,174	3,174	100.00%	3174	0	4,553	1.43	1.43
Spanish Fork South Canal	3,278	3,278	20.00%	656	2622	4,922	1.50	1.50
Spanish Fork Southeast Canal	914	914	0.00%	0	914	1,896	2.07	2.07
Spanish Fork Westfield	5,323	5,323	50.00%	2662	2662	12,469	2.34	2.34
	12950	12,950		6752	6198	23921	1.85	1.85
						32540		

Step 2C - Determine the Acreage Under Each Canal Company and City Where Zoning Restrictions would be a Constraint to Growth

The next step in the step-wise procedure was to determine the acreage on which the population of Spanish Fork City could potentially to grow onto. (Note: Results the analysis of Step 2C are presented in Table 4, Columns 3, 4 and 5). A necessary component of this process is working with the local communities concerning their zoning plans and areas of expected growth. From these discussions an estimate of the percentage of growth that would occur on non-agricultural lands and agricultural lands was made. In the case of Spanish Fork, the engineering department, provided an estimate of growth they expect to occur under each of the canal companies within Spanish Fork City's declaration boundary. They information in Table 4 was provided by Spanish Fork City's engineering department.

Table 4
Spanish Fork City
Constraints to Growth on Agricultural Lands
(Source of information: Spanish Fork City Engineering Department)

Canal Company	Percent of the Canal Acreage Located Within the City's Declaration Boundary that the City Could Potentially Grow On To
Highline Canal	100 % of the 217 acres
Mapleton Canal	100% of the 44 acres
Salem Canal	No acreage
East Bench Canal	100% of the 3,174 acres
Spanish Fork South Canal	20% of the 3,278acres
Spanish Fork Southeast Canal	0 % of the 914 acres
Spanish Fork Westfield Canal	50% of the 5,323 acres

This information was used as shown in Table 3 Columns 3, 4 and 5 to determine the adjusted acreage on which growth could occur and the acreage on which growth through zoning restrictions would not occur.

Step 2D - Determine the Projected Future Yield of Agricultural Lands Urbanized in Acre-Feet per Acre

Because of several important factors it was necessary to keep a separate accounting for the Strawberry Valley Project (SVP) water and the Spanish Fork River water. Among these factors are:

(1) The historical dry 1961 dry year yield of the SVP water is 1.01 acre-feet per acre while the corresponding dry year yield of the Spanish Fork River was 0.53 acre-feet per acre.
(2) There are legal restrictions on the future conversion of SVP water. Under these restrictions the SVP water on agricultural lands that become urbanized revert back to the Strawberry Water Users for use on other agricultural lands of the SVP that have remaining irrigation shortages

(3) For the Spanish Fork River, the most likely scenario is that developers would purchase the water rights for new subdivisions and the water would be applied back to these lands for outdoor watering. Therefore this water was included as being available to meet future M&I supplies of the city under which the land is urbanized.
(4) In estimating future irrigation shortages the approach was to use average annual conditions. To do this the yield of the SVP water and the Spanish Fork River water could best be handled in separate accounting. The historical dry year yield was adjusted to replicate an average year yield.

Enlarged Strawberry Reservoir Future Yield in Acre-Feet per Acre. The 1961 historical yield of lands with SVP water are based on records prior to the construction of Soldier Creek Dam which enlarged the capacity of the Strawberry Reservoir to provide a storage facility for Bonneville Unit water. Under future operation of the Strawberry Reservoir the yield of the SVP water will be 61,000 acre-feet. To determine the future yield for irrigation water a conversion factor is required. The enlarged Strawberry Reservoir yield was adjusted by taking the average future yield of 61,000 acre-feet and then subtracting (1) 4% river loss of 2,440 acre-feet , and (2) the 10,177 acre-feet of SVP water that is being used by the cities to get a net yield of 48,363 acre-feet of water that is projected to be available on an average annual basis to provide water to SVP irrigated lands.

4.1.4 Step 3 - Using Population Projections Determine the Amount of Acreage Required for Growth

Step 3 A -

In computing the acreage required for growth of Spanish Fork City is was assumed that growth would require approximately 1 acre for each increase in population of 9 people. It should be noted, that for early planning purposes the value of 6 people acre was used in the analysis in the Draft Plan Formulation Report of February 2002. The Utah Division of Water Resources uses 9 people were acre in Utah County in their modeling. In this revised assessment of M&I needs the value of 9 was used to be consistent with the State of Utah. Refer to Table 5 for information on the acreage required for urban growth for the time periods of 2010, 2020, 2030, 2040, and 2050.

TABLE 5
SPANISH FORK CITY
(COMPUTATION OF RATE OF URBANIZATION OF AGRICULTURAL LANDS)

		2000	2010	2020	2030	2040	2050
Population		20,246	27,693	32,745	35,771	50,900	66,028
Declaration Boundary (acres)	17,881						
Existing Size of City (acres)	8,102						
Historical Irrigated acreage	12,950						
Project Land Acreage for growth			827	1,389	1,725	3,406	5,087
Percent on agricultural lands	72%						
Incremental agricultural			595	562	336	1,681	1,681
Cumulative agricultural			595	1,157	1,493	3,174	4,855

Step 3B - Determine the Portion of Agricultural Lands That Could Possibly Be Urbanized

In lieu of any detailed urban planning computerized model, it appears that a rational approach would be to take the percentage of the agricultural land to the total declaration boundary as the percentage of agricultural lands that could be urbanized. The assumptions for each the communities are presented in Table 6. For Spanish Fork City the irrigated acreage is 12,950 acres and the total declaration boundary is 17,881 acres. By dividing 12,950 acres by the 17,881 acres for the declaration boundary a percentage of 72% is arrived at. This percentage was then multiplied by the land requirements computed in Step 3 A to support the projected population growth shown in Table 5. For example, from Table 5 at year 2010 the total is 827 acres. This value time 72% equals 659 acres of agricultural lands that are projected for future urbanization.

TABLE 6
PERCENTAGE OF GROWTH
BETWEEN AGRICULTURAL AND NON-AGRICULTURAL LANDS

Community	Percentage of Growth on Mixture of agricultural and non-Agricultural Lands	Percentage of Growth on Agricultural Lands
Genola	49%	51%
Mapleton	41%	59%
Payson	65%	35%
Salem	60%	40%
Spanish Fork	28%	72%
Springville	61%	37%
West Mountain	58%	42%

4.1.5 Step 4 - Allocate the Urbanization of Agricultural Lands Between Lands with SVP Water and Lands with Spanish Fork River Water.

As stated previously, because the yield of the water supply from Strawberry Reservoir and the Spanish Fork River are different it is necessary in the analysis to keep a separate accounting.

The information generated in previous steps is a constraint to the amount of urbanization that could occur on irrigated lands. For example, the total lands urbanized under the Mapleton Canal could not exceed the 44 acres (see Table 3, column 4). Because of the commingling of agricultural lands that use SVP water and Spanish Fork River water and the absence of any other available mathematical approach it was assumed for this illustrative example of Spanish Fork City that for the 72% growth onto agricultural lands that 60% of the growth would be on lands with SVP water and 40% on lands with Spanish Fork River water. This distribution is different for the various communities that have agricultural lands. Table 7 shows this distribution. The

results of the analytical analysis for the rate of urbanization for Spanish Fork City are shown in Table 8.

TABLE 7
ASSUMED PERCENTAGES OF GROWTH BETWEEN SVP LANDS AND SPANISH FORK RIVER LANDS

	Percent of Growth on SVP Lands	Percent of Growth On Lands with Spanish Fork River Water
Genola	90%	10%
Mapleton	90%	10%
Payson	90%	10%
Salem	50%	50%
Spanish Fork	60%	40%
Springville	60%	40% 1/
West Mountain	50%	50%

1/ The 40% in Springville is Hobble Creek water instead of Spanish Fork River water.

4.1.6 Step 5 - Determine the Amount of Water Made Available Through Urbanization

The calculation of amount of water made available through urbanization and shown is Table 9 is a straight-forward calculation using the agricultural acres urbanized in Table 8 and the adjusted future yield in acre-feet per acre in Table 3, Column 9.

Urbanization of SVP Water. As an example, using the 159 acres projected for urbanization for the Spanish Fork Westfield Canal at the year 2020 under the land with SVP water multiplied times the average year yield of 0.43 acre-feet per acre from Table 3, Column 8 results in 68 acre-feet of SVP water as shown in Table 9.

Urbanization of Spanish Fork River Water. Since the yield of the Spanish Fork River is substantially more at 2.34 (from Table 3, Column 8) acre-feet per acre the yield is 557 acre-feet as shown in Table 9 at year 2020 for the Spanish Fork Westfield Canal. As stated earlier it was assumed that a likely scenario for lands with Spanish Fork River water that are urbanized the water associated with the lands would remain on the land as a future water supply for outdoor use. The calculations in this table are an input to the water demand sheets in Appendix D.

Water Demand Sheets. Continuing with Spanish Fork City as an example, the following projected amounts of water (from Table 9) made available by urbanization of lands with Spanish Fork River water are entered into the computations for the Spanish Fork City Water Demand Sheet on the following page in Table 10.

Table 8

SPANISH FORK CITY

Projected Urbanization of Agricultural Lands by Canal Company

(Units in Acres)

(For Analysis Purposes the Growth Was Apportioned

To Be 40% on Lands with SVP Water and 60% To Lands with Spanish Fork River Water)

SVP %	0.40			Spanish Fork	0.60
Lands with SVP water 1/	**Portion of Lands Converted with SVP water (in acres)**				
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		8	13	16	32	47
Mapleton Canal		2	3	3	6	10
East Bench Canal		113	189	235	464	693
Spanish Fork South Canal		23	39	49	96	143
Spanish Fork Southeast Canal		0	0	0	0	0
Spanish Fork Westfield		94	159	197	389	581
	Subtotal	***240***	***402***	***500***	***987***	***1,474***
Lands with Spanish Fork River water 2/	**Portion of Lands Converted with Spanish Fork River water (in acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		12	19	24	48	71
Mapleton Canal		2	4	5	10	14
East Bench Canal		169	284	352	696	1,039
Spanish Fork South Canal		35	59	73	144	215
Spanish Fork Southeast Canal		0	0	0	0	0
Spanish Fork Westfield		142	238	295	583	871
	Subtotal	***300***	***503***	***750***	***1,480***	***2,210***
	Total acres urbanized	**539**	**905**	**1,249**	**2,467**	**3,684**

1/ SVP water that becomes available becomes supplemental irrigation water. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 9

SPANISH FORK CITY

Projected Amount of Agricultural Water Resulting from Urbanization

Lands with SVP water 1/	SVP water (in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		12	19	24	47	71
Mapleton Canal		3	5	6	13	19
East Bench Canal		147	246	306	603	901
Spanish Fork South Canal		11	19	24	47	70
Spanish Fork Southeast Canal		0	0	0	0	0
Spanish Fork Westfield		40	68	84	167	249
	Subtotal	**213**	**358**	**444**	**877**	**1310**
Lands with Spanish Fork River water 2	**Spanish Fork River water (in acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		4	6	8	15	23
Mapleton Canal		1	1	1	3	4
East Bench Canal		242	407	505	998	1490
Spanish Fork South Canal		52	88	109	216	322
Spanish Fork Southeast Canal		0	0	0	0	0
Spanish Fork Westfield		332	557	692	1367	2041
	Subtotal	**631**	**1059**	**1316**	**2598**	**3880**
	Total (acre-feet)	**844**	**1417**	**1760**	**3475**	**5190**

Table 10
Spanish Fork

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 17,881 acres (from Brown & Caldwell Report, Table 2, September 1999) Irrigated acres = 14,226acres (from JUB Report, Table 4, March 1996)						
Population Projections (State of Utah - Office of Planning and Budget)	20,246	27,693	32,745	35,771	50,900	66,028
Future Demand With Conservation (12-1/2% by Year 2020 and 25% by Year 2050) but limited to 190 gpcd						
Acre-feet/capita/year[1]	0.261	0.258	0.254	0.251	0.248	0.246
Acre-feet/year[2]	5,284	7,135	8,327	8,976	12,601	16,272
Total Water Use Gallons per capita per day[3]	233	230	227	224	221	220
Potable Demand (gpcd)	203	195	187	179	171	165
Indoor demand[4]	78	77	76	75	74	73
Outdoor demand[4]	75	70	65	60	55	52
Institutional, Commercial, and Industrial[4]	50	48	46	44	42	40
Non-potable outdoor demand in gpcd[5]	30	35	40	45	50	55

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	(acre-feet)		(acre-feet)		(acre-feet)	
Springs[6]	1,591		dry yr. yield	1,591		0
Subtotal		1,591				
Spring Creek[6]	4,691			4,691		0
Subtotal		4,691				
Groundwater Wells[7]	10,467			10,467		0
Subtotal		10,467				
South Utah Valley Municipal Water Association (SUVMW)[8]						
Share of SUVMWA purchased water from East/South Jordan Canal Company	108.0		108.0		0.0	
Share of SUVMWA CUP M&I	429.3		429.3		0.0	
Subtotal		537		537		0
SVP water[9]						
Highline Canal	219		219		0	
Mapleton Canal	48		48		0	
East Bench Canal	2,016		2,016		0	
Spanish Fork South Canal (20% of 1,045[9])	137		137		0	
Southeast Canal (City will not expand onto this land[9])	0		0		0	
Westfield (80% of 1,920[9])	1,001		1,001		0	
Subtotal		3,421		3,421		0
Spanish Fork River water[9]						
Highline Canal	6		0		6	
Mapleton Canal	0		0		0	
East Bench Canal	626		626		0	
Spanish Fork South Canal (20% of 2,268)[10a]	227		144		83	
Southeast Canal (city will not expand onto this land[10a]	0		0		0	
Westfield (80% of 8,390 - see footnote 10a)	3,356		100		3,256	
Subtotal	8,429	4,215		870		3,345
Spring Exchange Water[11]						
Mill Race Exchange	238		238		0	
Malcolm Stream	635		635		0	
Spanish Fork City (SVP water)	0		0			
Subtotal	1,745	873		873		0
Total		25,794		22,450		3,345
Potential Agricultural Conversion Assuming 1 Acre per 9 People Converted	SVP Yield in acre-feet per acre[12]		0.000	Spanish Fork River Yield in acre-feet per acre[12]		
SVP water[14]	0	0	0	0	0	0
Spanish Fork River water[14]	**0**	**533**	**895**	**1,111**	**2,195**	**3,278**

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

Potable demand in acre-feet	4,604	6,049	6,859	7,173	9,750	12,204
Springs	1,591	1,591	1,591	1,591	1,591	1,591
Spring Creek	3,013	4,458	4,691	4,691	4,691	4,691
Groundwater wells	0	0	577	891	3,468	5,922
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Non-potable demand in acre-feet	680	1,086	1,467	1,803	2,851	4,068
Springs	0	0	0	0	0	0
Spring Creek	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
SUVMWA	537	537	537	537	537	537
SVP water	0	0	0	0	6	440
Spanish Fork River water	143	549	930	1,266	1,930	2,218
Local front streams	0	0	0	0	378	873
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
SVP Water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Total New Supplies Developed	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	20,510	18,659	18,045	17,709	16,661	15,444
Unavailable Agricultural Water Within Declaration Boundary	3,345	2,812	2,450	2,234	1,150	67

Year	Projected Amount of Converted Spanish Fork River Water
2010	533 acre-feet
2020	895 acre-feet
2030	1,111 acre-feet
2040	2,195 acre-feet
2050	3,278 acre-feet

4.1.7 Step 6 - Determine the Projected Remaining Agricultural Water on Irrigated Lands not Urbanized

For example, using Spanish Fork South Canal as an example the remaining agricultural water on lands not urbanized on lands with SVP water is the adjusted acreage in Table 3, Column 4 of 656 acres plus the 2,622 acres (Table 3, Column 5) of agricultural lands on which no growth will occur due to zoning restrictions minus the agricultural lands converted in Table 8 at year 2030 of 39 acres times the enlarged Strawberry Reservoir yield of 0.49 acre-feet per acre equals 1,578 acre-feet. Results of the projected remaining agricultural water on lands not urbanized are presented in Table 11.

4.1.8 Step 7 - Determine by Community and Canal Company the Projected Surplus or Deficit in Irrigation Water Supplies on Remaining Agricultural Lands

The assumption as stated previously was that the SVP lands would become supplemental irrigation water for use on other SVP lands while the water from the Spanish Fork River lands would in all likelihood be purchased by developers who were constructing housing in these newly urbanized lands

The projected remaining agricultural water supply is based upon the following:

(1) the enlarged Strawberry Reservoir average annual yield of 61,000 acre-feet reduced by 4% river loss of 2,440 acre-feet and 10,177 acre-feet of SVP M&I for an adjusted average annual yield of 48,363 acre-feet; and
(2) the average annual yield of the Spanish Fork River of 49,000 acre-feet adjusted by the amount that is outside the ideal irrigation diversion requirement to arrive at an annual average of 46,338 acre-feet. This amount was reduced over time by the amount of lands urbanized which were allocated in Step 5, Tables 8 and 9, to the Spanish Fork River.

As a necessary step in determining the capability of these remaining water supplies to meet demands the irrigation diversion requirement in acre-feet per acre was determined.

Step 7 A - Determine the Net Irrigation Requirement in Acre-Feet per Acre for Agricultural Lands

There exists substantial information in south Utah County on the crop consumptive use and other factors such as effective precipitation, groundwater contribution, and irrigation efficiency which

Table 11
SPANISH FORK CITY
Projected Remaining Agricultural Water on Lands Not Urbanized

Lands with SVP water 1/	Remaining SVP Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		313	306	301	278	254
Mapleton Canal		84	82	81	74	68
East Bench Canal		3982	3883	3823	3526	3228
Spanish Fork South Canal		1591	1583	1578	1555	1532
Spanish Fork Southeast Canal		197	197	197	197	197
Spanish Fork Westfield		2239	2211	2195	2112	2030
	Subtotal	***8406***	***8261***	***8175***	***7742***	***7309***

Lands with Spanish Fork River water 2/	Remaining Spanish Fork River Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		66	64	62	55	47
Mapleton Canal		11	11	10	9	8
East Bench Canal		4310	4146	4047	3555	3062
Spanish Fork South Canal		4870	4834	4813	4707	4600
Spanish Fork Southeast Canal		1896	1896	1896	1896	1896
Spanish Fork Westfield		12137	11912	11777	11102	10428
	Subtotal	***23290***	***22862***	***22606***	***21323***	***20041***
	Total (acre-feet)	**31696**	**31124**	**30780**	**29065**	**27350**

when combined correctly determines the net irrigation delivery requirement to meet the crop needs. [2]

Under present conditions there are significant areas of groundwater contribution to the crop consumptive use in the irrigated lands in south Utah County. However there is expected to be less groundwater contribution with time as irrigated lands are urbanized and the cities continue to increase significantly their groundwater pumping to meet future M&I needs. For the analysis of projecting the future irrigation needs and any resulting surplus of deficit in SVP water supplies for irrigation the approach was adopted to show full utilization of groundwater contribution at the present time of 0.26 acre-feet per acre and by the year 2050 the groundwater contribution of the equation for computing net irrigation requirement would be reduced to 0.13 acre-feet per acre at the year 2050. Table 12 contains the net irrigation water requirement for each of the canals.

TABLE 12
VARIATION IN NET IRRIGATION REQUIREMENT OVER TIME
(UNITS: ACRE-FEET PER ACRE)

Canal	2010	2020	2030	2040	2050
Highline Canal	2.90	2.96	2.96	2.99	3.02
Mapleton Canal 1/	3.36	3.36	3.36	3.36	3.36
Salem Canal	2.88	2.93	2.97	3.02	3.06
East Bench Canal 1/	3.31	3.31	3.31	3.31	3.31
Spanish Fork South Canal	2.58	2.71	2.83	2.96	3.08
Spanish Fork Southeast Canal	2.58	2.71	2.83	2.96	3.08
Spanish Fork Westfield	2.58	2.71	2.83	2.96	3.08
Lakeshore Canal	2.58	2.71	2.83	2.96	3.08
Average	2.85	2.93	2.99	3.06	3.13

1/ Mapleton Canal and East Bench Canal do not have a groundwater contribution to the crop consumptive use. Therefore the net irrigation requirement for the crop does not change over time.

Step 7 C - Determine Surplus Water from SVP lands as lands under each canal company are urbanized that can be reapplied to Remaining SVP land which are projected to have irrigation shortages

Table 13 for Spanish Fork City has the purpose of determining for each of the canals the amount of surplus or deficit in SVP water supply. Using as an example the East Bench Canal the amount of surplus SVP water is 186 acre-feet at the year 2030.

Table 14 is an overall summary for Spanish Fork City. For example, it shows a surplus of SVP water of 495 acre-feet at year 2050 that can be used on other SVP agricultural lands.

[2] Source of information on crop consumptive use, effective precipitation, groundwater contribution, and irrigation efficiency are contained in Bonneville Unit Draft Water Supply Appendix, Volume 1 – Text, March 1998.

Table 13
SPANISH FORK CITY
Projected Surplus of Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Highline Canal					
Remaining agricultural Land (acres)	198	185	177	138	99
Water Diversion Requirement in acre-feet acre	2.90	2.93	2.96	2.99	3.02
Water Demand	573	541	523	412	298
Water Supply					
SVP Water from Urbanization	12	19	24	47	71
Local supplies	40	40	40	40	40
Groundwater	61	61	61	61	61
Remaining SVP Agricultal Water	313	306	301	278	254
Remaining Spanish Fork River Agricultural Water	66	64	62	55	47
Surplus of Deficit in Agricultural Water	-81	-51	-35	69	176
Mapleton Canal					
Remaining agricultural Land	40	37	36	28	20
Water Diversion Requirement in acre-feet acre	3.36	3.36	3.36	3.36	3.36
Water Demand	135	126	121	94	67
Water Supply					
SVP Water from Urbanization	3	5	6	13	19
Local supplies	38	38	38	38	38
Groundwater	5	5	5	5	5
Remaining SVP Agricultal Water	84	82	81	74	68
Remaining Spanish Fork River Agricultural Water	11	11	10	9	8
Surplus of Deficit in Agricultural Water	6	15	20	45	71
East Bench Canal					
Remaining agricultural Land	2,892	2,701	2,587	2,014	1,442
Water Diversion Requirement in acre-feet acre	3.31	3.31	3.31	3.31	3.31
Water Demand	9,579	8,946	8,567	6,672	4,777
Water Supply					
SVP Water from Urbanization	147	246	306	603	901
Local supplies	0	0	0	0	0
Groundwater	457	457	457	457	457
Remaining SVP Agricultal Water	3,982	3,883	3,823	3,526	3,228
Remaining Spanish Fork River Agricultural Water	4,310	4,146	4,047	3,555	3,062
Surplus of Deficit in Agricultural Water	-683	-215	66	1,469	2,871

Table 13 (continued)
SPANISH FORK CITY
Projected Surplus of Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Spanish Fork South Canal					
Remaining agricultural Land	5,723	5,684	5,660	5,542	5,424
Water Diversion Requirement in acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	14,766	15,374	16,018	16,376	16,705
Water Supply					
SVP Water from Urbanization	11	19	24	47	70
Local supplies	0	0	0	0	0
Groundwater	1,258	1,258	1,258	1,258	1,258
Remaining SVP Agricultal Water	2,814	2,806	2,802	2,779	2,756
Remaining Spanish Fork River Agricultural Water	8,629	8,593	8,572	8,465	8,359
Surplus of Deficit in Agricultural Water	-2,054	-2,698	-3,363	-3,827	-4,263
Spanish Fork Southeast Canal					
Remaining agricultural Land	914	914	914	914	914
Water Diversion Requirement in acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	2,358	2,472	2,587	2,701	2,815
Water Supply					
SVP Water from Urbanization	0	0	0	0	0
Local supplies	0	0	0	0	0
Groundwater	180	180	180	180	180
Remaining SVP Agricultal Water	197	197	197	197	197
Remaining Spanish Fork River Agricultural Water	1,896	1,896	1,896	1,896	1,896
Surplus of Deficit in Agricultural Water	-85	-199	-314	-428	-542
Spanish Fork Westfield Canal					
Remaining agricultural Land	5,087	4,927	4,831	4,351	3,871
Water Diversion Requirement in acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	13,124	13,326	13,670	12,856	11,922
Water Supply					
SVP Water from Urbanization	40	68	84	167	249
L:ocal supplies	0	0	0	0	0
Groundwater	1,330	1,330	1,330	1,330	1,330
Remaining SVP Agricultal Water	2,239	2,211	2,195	2,112	2,030
Remaining Spanish Fork River Agricultural Water	12,137	11,912	11,777	11,102	10,428
Surplus of Deficit in Agricultural Water	2,622	2,194	1,715	1,855	2,115

Table 14
SPANISH FORK CITY
Summary Table

	2,010	2,020	2,030	2,040	2,050
Remaining Lands in acres with SVP Water in Spanish Fork	14,854	14,448	14,204	12,987	11,769
Water Diversion Requirement in acre-feet acre					
Water Demand	40,401	40,661	41,366	39,017	36,516
Water Supply					
SVP Water from Urbanization	213	358	444	877	1,310
Local supplies	78	78	78	78	78
Groundwater	3,291	3,291	3,291	3,291	3,291
Remaining SVP Agricultal Water	9,629	9,485	9,398	8,966	8,533
Remaining Spanish Fork River Agricultural Water	27,049	26,621	26,364	25,082	23,800
Surplus of Deficit in Agricultural Water	-140	-828	-1,790	-723	495
SVP Water that could be used on other SVP lands	0	0	0	0	495

SOUTHERN UTAH COUNTY SUPPORTING DATA ON AGRICULTURAL CONVERSIONS

GENOLA

Table 1
Distribution of Agricultural Acreage

	Total Acres (see footnote 1)	Genola		Mapleton		Payson		Salem		Spanish Fork		Springville		West Mountain		Other Irrigated Lands 4/
		Percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	
Highline Canal	18,514	27.61%	5,112		0	45.88%	8,494	11.92%	2,207	1.17%	217					2,485
Mapleton Canal	3,673		0	98.81%	3,629		0		0	1.19%	44					0
East Bench Canal	4,169		0	23.87%	995		0		0	76.13%	3,174					0
Salem Canal	1,936		0		0	6.98%	135	74.28%	1,438		0					363
Spanish Fork South Canal	6,437		0		0		0	10.18%	655	50.93%	3,278					2,503
Spanish Fork Southeast Canal	914		0		0		0		0	100.00%	914					0
Westfield Canal	5,323		0		0		0		0	100.00%	5,323					0
Lakeshore	4,207		0		0		0		0					75.00%	3155	1,052
South Shore (see footnote 2)	515		0		0		0		0							515
Totals	**45,688**		**5,112**		**4,624**		**8,629**		**4,300**		**12,950**	**Footnote 3**				6,917

Footnote 1 - The total acres for the various canal companies is taken from the Bonneville Unti, Draft Water Supply Appendix, Volume 1, Table 3-14, page 3-29, dated March 1998.

Footnote 2 - In the most recent history about 515 acres of land are now irrigated in South Shore area of West Mountain and Utah Lake

Footnote 3 - Historically 4,500 acres has been irrigated in Springville.

Footnote 4 - Of the 6,917 acres of land the analysis in this report considered that 515 acres from South Shore and 4,500 acres in Springville were part of this remaining amount. By subtracting the lands South Shore and Springville would leave 1,902 acres remaining to be considered in accounting for all irrigated lands. This information is used in determining the rate of conversion of agricultural lands. For example, The amount of SVP that has historically been associated with the Springville area is 4,500 acre-feet. Subtracting the existing SVP M&I of 1,051 acre-feet from this historical irrigation water would leave a balance of 3,449 acre-feet for the irrigated lands in Springivlle. This amount was used in projecting the amount of agricultual water that is available for conversion and future use on other SVP lands.

TABLE 2
GENOLA
(Computation of Reduction in SVP Acres From Present Conversion to M&I)

Yield of	0	equals	9318.9272	divided by	5112	equals	1.82	acre-feet per acre	
Corresponding acreage for		0	equals	0	divided t	1.82	equals	0	

TABLE 3
GENOLA
Amount of Agricultural Acreage City Expected to Grown Onto

	Acreage Reduction for M&I			Acreage City Expected to Grown Onto			Yield of Water Supply		
	Canal acreage in City Declaration Boundary	Acreageafter reduction for SVP M&I		% of acreage city expected to grow on to	Adjusted acreage	Remaining agriculture lands on which no growth is expected to occur	1961 DryYear Yield	Yield af/ac	Adjusted
Lands with SVP water									
Highline Canal	5,112	5,112		20.00%	1,022	4,090	7,669	1.50	1.50
Mapleton Canal	0	0		0.00%	0	0	0	0.00	0.00
East Bench Canal	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork South Canal (20%)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00	0.00
		5,112			1,022	4,090	7,669	1.50	1.50
Lands with Spanish Fork River water									
Highline Canal	5,112	5,112		20.00%	1022	4090	1,650	0.32	0.32
Mapleton Canal	0	0		0.00%	0	0	0	0.00	0.00
East Bench Canal	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork South Canal (20%)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00	0.00
	5112	5,112			1022	4090	1,650	0.32	0.32

Table 4
Genola

		2000	2010	2020	2030	2040	2050
Population		965	1,565	2,392	4,744	11,467	18,191
Declaration Boundary Acreage	**10,000**						
Existing Size of City Boundary in Acres	**1,000**						
Historcial Irrigated Acreage in Delcaration Boundary	**5,112**						
Land required for new growth (at 9 people per acre)							
(Assume 20% of growth will be on irrigated agricultural)	**0.51**						
Incremental acreage			34	47	134	382	382
Cumulative acreage			34	81	215	597	978

Table 5

GENOLA

Projected Agricultural Lands Urbanized by Canal Company

(Units in Acres)

(For Analysis Purposes the Growth Was Apportioned

To Be 90% on Lands with SVP Water and 10% to Lands with Spanish Fork River Water

SVP % 0.9 **Spanish Fork %** 0.1

Lands with SVP water 1/	**Portion of Lands Converted with SVP water (in acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		31	73	193	537	881
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	***31***	***73***	***193***	***537***	***881***
Lands with Spanish Fork River water 2/	**Portion of Lands Converted with Spanish Fork River water (in acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		3	8	21	60	98
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	***3***	***8***	***21***	***60***	***98***
	Total acres urbanized	**34**	**81**	**215**	**597**	**978**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase

the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 6

GENOLA

Projected Amount of Agricultural Water Resulting from Urbanization

(Yield in Acre-Feet Using Unit Yield in Acre-Feet Per Acre During Dry Year (1961))

Lands with SVP water 1/	SVP water (in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		46	109	290	805	1321
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	46	109	290	805	1321
Lands with Spanish Fork River water 2/	**Spanish Fork River water (in acres)**					
		2010	2020	2030	2040	2050
Highline Canal		1	3	7	19	32
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	1	3	7	19	32
	Total (acre-feet)	47	112	297	825	1353

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 7
GENOLA
Remaining Agricultural Water on Lands Not Urbanized

(Remaining Agricultural Water equals the 1961 Dry Year Yield of 19,968 acre-feet minus the 3,417 AF of SVP M&I minus the Agricultural Conversion shown in Table 4)

Lands with SVP water 1/	Remaining SVP Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		7623	7559	7379	6863	6348
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	***7623***	***7559***	***7379***	***6863***	***6348***

Lands with Spanish Fork River water 2/	Remaining Spanish Fork River Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		1649	1648	1643	1631	1619
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	***1649***	***1648***	***1643***	***1631***	***1619***
	Total (acre-feet)	**9272**	**9207**	**9022**	**8494**	**7966**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 8
GENOLA
Surplus of Deficit on Remaining Agricultural Lands

CANALS	2010	2020	2030	2040	2050
Highline Canal					
Remaining agricultural Land (acres)	5,078	5,031	4,897	4,515	4,134
Water Diversion Requirement of 3.33 acre-feet acre	2.90	2.93	2.96	2.99	3.02
Water Demand	14,726	14,741	14,496	13,501	12,483
Water Supply					
SVP Water from Table 4	46	109	290	805	1,321
Remaining SVP Water (from Table 5)	7,623	7,559	7,379	6,863	6,348
Remaining Spanish Fork River (from Table 5)	1,649	1,648	1,643	1,631	1,619
Surplus of Deficit	-5,408	-5,424	-5,184	-4,202	-3,196
Mapleton Canal					
East Bench Canal					

Table 8 (Continued)
GENOLA
Surplus of Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Spanish Fork South Canal					
Spanish Fork Southeast Canal					
Spanish Fork Westfield Canal					

Table 9
Summary Table
GENOLA

	2,010	2,020	2,030	2,040	2,050
Remaining Agricultural Acreage	5,078	5,031	4,897	4,515	4,134
Water Diversion Requirement of 3.33 acre-feet acre	2.90	2.93	2.96	2.99	3.02
Water Demand	14,726	14,741	14,496	13,501	12,483
Water Supply					
SVP Water from Table 4	46	109	290	805	1,321
Remaining SVP Water (from Table 5)	7,623	7,559	7,379	6,863	6,348
Remaining Spanish Fork River (from Table 5)	1,649	1,648	1,643	1,631	1,619
Surplus of Deficit	-5,408	-5,424	-5,184	-4,202	-3,196
SVP Water that could be used on other SVP lands	0	0	0	0	0

MAPLETON

Table 1
Distribution of Agricultural Acreage

	Total Acres (see footnote 1)	Genola		Mapleton		Payson		Salem		Spanish Fork		Springville		West Mountain		Other Irrigated Lands 4/
		Percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	
Highline Canal	18,514	27.61%	5,112		0	45.88%	8,494	11.92%	2,207	1.17%	217					2,485
Mapleton Canal	3,673		0	98.81%	3,629		0		0	1.19%	44					0
East Bench Canal	4,169		0	23.87%	995		0		0	76.13%	3,174					0
Salem Canal	1,936		0		0	6.98%	135	74.28%	1,438		0					363
Spanish Fork South Canal	6,437		0		0		0	10.18%	655	50.93%	3,278					2,503
Spanish Fork Southeast Canal	914		0		0		0		0	100.00%	914					0
Westfield Canal	5,323		0		0		0		0	100.00%	5,323					0
Lakeshore	4,207		0		0		0		0					75.00%	3155	1,052
South Shore (see footnote 2)	515		0		0		0		0							515
Totals	**45,688**		**5,112**		**4,624**		**8,629**		**4,300**		**12,950**	Footnote 3				6,917

Footnote 1 - The total acres for the various canal companies is taken from the Bonneville Unti, Draft Water Supply Appendix, Volume 1, Table 3-14, page 3-29, dated March 1998.

Footnote 2 - In the most recent history about 515 acres of land are now irrigated in South Shore area of West Mountain and Utah Lake

Footnote 3 - Historically 4,500 acres has been irrigated in Springville.

Footnote 4 - Of the 6,917 acres of land the analysis in this report considered that 515 acres from South Shore and 4,500 acres in Springville were part of this remaining amount. By subtracting the lands South Shore and Springville would leave 1,902 acres remaining to be considered in accounting for all irrigated lands. This information is used in determining the rate of conversion of agricultural lands. For example, The amount of SVP that has historically been associated with the Springville area is 4,500 acre-feet. Subtracting the existing SVP M&I of 1,051 acre-feet from this historical irrigation water would leave a balance of 3,449 acre-feet for the irrigated lands in Springivile. This amount was used in projecting the amount of agricultual water that is available for conversion and future use on other SVP lands.

TABLE 2
MAPLETON CITY
(Computation of reduction of SVP acres from Present SVP M&I)

Yield of	0	equals	6754.9701	divided by		4624	equal	1.46	acre-feet per acre
Corresponding acreage for		0	equa	0		divide	1.46	equals	0

TABLE 3
MAPLETON CITY
Amount of Agricultural Acreage City Projected to Grow Onto

	Acreage Reduction of SVP M&I			Acreage City Expected to Grown Onto			Yield of Water Supply		
	Canal acreage in City Declaration Boundary	Acreageafter reduction for SVP M&I		% of acreage city expected to grow on to	Adjusted acreage	Remaining agriculture lands on which no growth is expected to occur	Average Year Yield	Yield af/ac	
Lands with SVP water									
Highline Canal	0	0		0.00%	0	0	0	0.00	0.00
Mapleton	3,629	3,629		75.00%	2,722	907	4,010	1.10	1.10
East Bench Canal	995	995		75.00%	746	249	1,294	1.30	1.30
Spanish Fork South Canal (20%)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00	0.00
	4624	4,624			3,468	1,156	5304	1.15	1.15
Lands with Spanish Fork River water									
Highline Canal	0	0		75.00%	0	0	0	0.00	0.00
Mapleton	3,629	3,629		75.00%	2722	907	529	0.15	0.15
East Bench Canal	995	995		0.00%	0	995	922	0.93	0.93
Spanish Fork South Canal (20%)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00	0.00
	4624	4,624			2722	1902	1451	0.31	0.31

TA BLE 4
MAPLETON CITY
(Computation of Rate of Urbanization of Agricultural Lands

		2000	2010	2020	2030	2040	2050
Population		5,809	9,403	14,928	20,990	27,507	34,024
Declaration Boundary Acreage	**7,817**						
Existing Size of City Boundary in Acres	**6,701**						
Historcial Irrigated Acreage in Delcaration Boundary	**4,624**						
Land required for new growth (at 6 people per acre)							
Assume % of future growth on irrigated lands	**0.59**						
Incremental Agricultural acreage			236	363	398	428	428
Cumulative Agricultural acreage			236	599	998	1,426	1,854

TABLE 5

MAPLETON CITY

Projected Agricultural Lands Urbanized Under Canal Company

(Units in Acres)

(For Analysis Purposes the Growth Was Apportioned

To Be 90% on Lands with SVP Water and 10% To Lands with Spanish Fork River Water)

	SVP	0.9		Spanish Fork	0.1	
Lands with SVP water 1/	**Portion of Lands Converted with SVP water (in acres)**					
		2010	2020	2030	2040	2050
Highline Canal		0	0	0	0	0
Mapleton		167	423	705	1,007	1,310
East Bench Canal		46	116	193	276	359
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***213***	***539***	***898***	***1,284***	***1,669***
Lands with Spanish Fork River water 2/	**Portion of Lands Converted with Spanish Fork River water (in acres)**					
		2010	2020	2030	2040	2050
Highline Canal		0	0	0	0	0
Mapleton Canal		19	47	78	112	146
East Bench Canal		0	7	6	0	0
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***19***	***54***	***85***	***112***	***146***
	Total agricultural acres urbanized	**231**	**593**	**983**	**1,395**	**1,815**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

TABLE 6

MAPLETON CITY

Amount of Agricultural Water Resulting from Urbanization

(Yield in Acre-Feet Using Unit Yield in Acre-Feet Per Acre During Dry Year (1961))

Lands with SVP water 1/	**SVP water (in acre-feet)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		0	0	0	0	0
Mapleton Canal		184	468	779	1113	1447
East Bench Canal		60	151	251	359	467
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	**244**	**619**	**1030**	**1472**	**1914**
Lands with Spanish Fork River water 2/	**Spanish Fork River water (in acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		0	0	0	0	0
Mapleton Canal		3	7	11	16	21
East Bench Canal		0	6	6	0	0
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	**3**	**13**	**17**	**16**	**21**
	Total (acre-feet)	**247**	**632**	**1047**	**1489**	**1936**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 7
Mapleton
Projected Remaining Agricultural Water on Lands Not Urbanized

(Remaining Agricultural Water equals the 1961 Dry Year Yield of 19,968 acre-feet minus the 3,417 AF of SVP M&I minus the Agricultural Conversion shown in Table 4)

Lands with SVP water 1/	Remaining SVP Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		0	0	0	0	0
Mapleton Canal		3825	3542	3231	2897	2562
East Bench Canal		1235	1143	1043	935	827
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***5060***	***4685***	***4274***	***3832***	***3390***

Lands with Spanish Fork River water 2/	Remaining Spanish Fork River Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		0	0	0	0	0
Mapleton Canal		526	522	518	513	508
East Bench Canal		922	916	916	922	922
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***1448***	***1438***	***1434***	***1435***	***0***
						1430
	Total (acre-feet)	**6508**	**6123**	**5708**	**5266**	**3390**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

TABLE 8
MAPLETON CITY
Projected Surplus or Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Highline Canal					
Mapleton Canal					
Remaining agricultural Land	3,444	2,251	1,939	1,603	1,266
Water Diversion Requirement of 3.33 acre-feet acre	3.26	3.26	3.26	3.26	3.26
Water Demand	11,226	7,339	6,320	5,224	4,128
Water Supply					
SVP Water from Table 4	184	468	779	1,113	1,447
Local supplies	3,132	3,132	3,132	3,132	3,132
Groundwater	435	435	435	435	435
Remaining SVP Water (from Table 5)	3,825	3,542	3,231	2,897	2,562
Remaining Spanish Fork River (from Table 5)	526	522	518	513	508
Surplus of Deficit	-3,124	759	1,774	2,865	3,956
East Bench Canal					
Remaining agricultural Land	949	872	795	719	636
Water Diversion Requirement of 3.33 acre-feet acre	3.31	3.31	3.31	3.31	3.31
Water Demand	3,142	2,887	2,633	2,379	2,105
Water Supply					
SVP Water from Table 4	60	151	251	359	467
Remaining SVP Water (from Table 5)	1,235	1,143	1,043	935	827
Remaining Spanish Fork River (from Table 5)	922	916	916	922	922
Surplus of Deficit	-926	-677	-422	-163	112

TABLE 8 (Continued)
MAPLETON CITY

Projected Surplus or Deficit on Remaining Agricultural Lands

CANALS	2010	2020	2030	2040	2050
Spanish Fork South Canal					
Spanish Fork Southeast Canal					
Spanish Fork Westfield Canal					

TABLE 9
SUMMARY TABLE
MAPLETON CITY

	2,010	2,020	2,030	2,040	2,050
Remaining Agricultural Acreage	4,393	3,124	2,734	2,321	1,902
Water Diversion Requirement of 3.33 acre-feet acre	0.00	0.00	0.00	0.00	0.00
Water Demand	14,368	10,226	8,953	7,603	6,233
Water Supply					
SVP Water from Table 4	244	619	1,030	1,472	1,914
Remaining SVP Water (from Table 5)	5,060	4,685	4,274	3,832	3,390
Remaining Spanish Fork River (from Table 5)	1,448	1,438	1,434	1,435	1,430
Local water supply	3,132	3,132	3,132	3,132	3,132
Groundwater	435	435	435	435	435
Surplus of Deficit	-4,484	-352	917	2,267	3,633
Amount of SVP that can be applied on other lands	**0**	**0**	**917**	**1,472**	**1,914**

PAYSON

Table 1
Distribution of Agricultural Acreage

	Total Acres (see footnote 1)	Genola		Mapleton		Payson		Salem		Spanish Fork		Springville		West Mountain		Other Irrigated Lands 4/
		Percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	
Highline Canal	18,514	27.61%	5,112		0	45.88%	8,494	11.92%	2,207	1.17%	217					2,485
Mapleton Canal	3,673		0	98.81%	3,629		0		0	1.19%	44					0
East Bench Canal	4,169		0	23.87%	995		0		0	76.13%	3,174					0
Salem Canal	1,936		0		0	6.98%	135	74.28%	1,438		0					363
Spanish Fork South Canal	6,437		0		0		0	10.18%	655	50.93%	3,278					2,503
Spanish Fork Southeast Canal	914		0		0		0		0	100.00%	914					0
Westfield Canal	5,323		0		0		0		0	100.00%	5,323					0
Lakeshore	4,207		0		0		0		0					75.00%	3155	1,052
South Shore (see footnote 2)	515		0		0		0		0							515
Totals	**45,688**		**5,112**		**4,624**		**8,629**		**4,300**		**12,950**	Footnote 3				**6,917**

Footnote 1 - The total acres for the various canal companies is taken from the Bonneville Unit, Draft Water Supply Appendix, Volume 1, Table 3-14, page 3-29, dated March 1998.

Footnote 2 - In the most recent history about 515 acres of land are now irrigated in South Shore area of West Mountain and Utah Lake

Footnote 3 - Historically 4,500 acres has been irrigated in Springville.

Footnote 4 - Of the 6,917 acres of land the analysis in this report considered that 515 acres from South Shore and 4,500 acres in Springville were part of this remaining amount. By subtracting the lands South Shore and Springville would leave 1,902 acres remaining to be considered in accounting for all irrigated lands. This information is used in determining the rate of conversion of agricultural lands. For example, The amount of SVP that has historically been associated with the Springville area is 4,500 acre-feet. Subtracting the existing SVP M&I of 1,051 acre-feet from this historical irrigation water would leave a balance of 3,449 acre-feet for the irrigated lands in Springville. This amount was used in projecting the amount of agricultual water that is available for conversion and future use on other SVP lands.

TABLE 2
PAYSON CITY
(computation of reduction in SVP acres from present M&I)

Yield of	0	equals	20482.5536	divided by		8629	equal	2.37	acre-feet per acre
Corresponding acreage for		0	equa	0		divide	2.37	equals	0

TABLE 3
PAYSON CITY
Amount of Agricultural Acreage City Projected to Grow Onto

	Acreage Reduction for M&I			Acreage City Expected to Grow Onto			Yield of Water Supply		
	Canal acreage in City Declaration Boundary	Acreageafter reduction for SVP M&I		% of acreage city expected to grow on to	Adjusted acreage	Remaining agriculture lands on which no growth is expected to occur	1961 DryYear Yield	Yield af/ac	
Lands with SVP water									
Highline Canal	8,494	8,494		30.00%	2,548	5,946	16,471	1.94	1.94
Salelm Canal	135	135		30.00%	41	95	100	0.74	0.74
East Bench Canal	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork South Canal (20%)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00	0.00
		8,629			2,589	6,040	16,571	1.92	1.92
Lands with Spanish Fork River water									
Highline Canal	8,494	8,494		30.00%	2548	5946	3,544	0.42	0.42
Salem Canal	135	135		30.00%	41	95	368	2.72	2.72
East Bench Canal	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork South Canal (20%)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00	0.00
	8629	8,629			2589	6040	3,912	0.45	0.45

TABLE 4
PAYSON CITY
(Computation of Rate of Urbanization of Agricultural Lands

		2000	2010	2020	2030	2040	2050
Population		12,716	20,606	27,750	30,583	55,673	80,763
Declaration Boundary Acreage	**24,721**						
Existing Size of City Boundary in Acres	**4,233**						
Historcial Irrigated Acreage in Delcaration Boundary	**8,629**						
Land required for new growth (at 9 people per acre)							
Percentage of future growth on irrigated lands	**0.35**						
Incremental Agricultural acreage			306	277	110	973	973
Cumulative Agricultural acreage			306	583	693	1,666	2,639

Table 5

PAYSON CITY

Projected Agricultural Lands Urbanized by Canal Company

(Units in Acres)

(For Analysis Purposes the 30% Growth on Agriculture Was Apportioned To Be 90% on Lands with SVP Water and 10% To Lands with Spanish Fork River Water)

	SVP	0.9		Spanish Fork	0.1	
Lands with SVP water 1/	**Portion of Lands Converted with SVP water (in acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		271	517	614	1,476	2,338
Salelm Canal		4	8	10	23	37
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***275***	***525***	***624***	***1,499***	***2,375***
Lands with Spanish Fork River water 2/	**Portion of Lands Converted with Spanish Fork River water (in acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		30	57	68	164	260
Salelm Canal		0	1	1	3	4
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***31***	***58***	***69***	***167***	***264***
	Total agricultural acres urbanized	**306**	**583**	**693**	**1,666**	**2,639**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 6

PAYSON CITY

Projected Amount of Agricultural Water Resulting from Urbanization

(Yield in Acre-Feet Using Unit Yield in Acre-Feet per Acre for Enlarge Strawberry Reservoir and Average Annual Yield of Spanish Fork)

Lands with SVP water 1/	**SVP water (in acre-feet)**				
	2010	**2020**	**2030**	**2040**	**2050**
Highline Canal	526	1002	1190	2862	4534
Salelm Canal	3	6	7	17	28
East Bench Canal	0	0	0	0	0
Spanish Fork South Canal (20%)	0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)	0	0	0	0	0
Spanish Fork Westfield (50%)	0	0	0	0	0
Subtotal	**529**	**1008**	**1198**	**2879**	**4561**
Lands with Spanish Fork River water 2/	**Spanish Fork River water (in acres)**				
	2010	**2020**	**2030**	**2040**	**2050**
Highline Canal	13	24	28	68	108
Salelm Canal	1	2	3	7	11
East Bench Canal	0	0	0	0	0
Spanish Fork South Canal (20%)	0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)	0	0	0	0	0
Spanish Fork Westfield (50%)	0	0	0	0	0
Subtotal	**14**	**26**	**31**	**76**	**120**
Total (acre-feet)	**543**	**1034**	**1229**	**2955**	**4681**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 7
PAYSON CITY
Remaining Agricultural Water on Lands Not Urbanized

(Remaining Agricultural Water equals the 1961 Dry Year Yield of 19,968 acre-feet minus the 3,417 AF of SVP M&I minus the Agricultural Conversion shown in Table 4)

Lands with SVP water 1/	Remaining SVP Agricultural Water (Units in acre-feet)				
	2010	2020	2030	2040	2050
Highline Canal	15945	15469	15280	13609	11937
Salelm Canal	97	94	93	83	73
East Bench Canal	0	0	0	0	0
Spanish Fork South Canal (20%)	0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)	0	0	0	0	0
Spanish Fork Westfield (50%)	0	0	0	0	0
Subtotal	***16042***	***15563***	***15373***	***13691***	***12009***

Lands with Spanish Fork River water 2/	Remaining Spanish Fork River Agricultural Water (Units in acre-feet)				
	2010	2020	2030	2040	2050
Highline Canal	3532	3520	3516	3476	3436
Salelm Canal	366	365	365	360	356
East Bench Canal	0	0	0	0	0
Spanish Fork South Canal (20%)	0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)	0	0	0	0	0
Spanish Fork Westfield (50%)	0	0	0	0	0
Subtotal	***3898***	***3885***	***3881***	***3836***	***3792***
Total (acre-feet)	**19940**	**19448**	**19254**	**17528**	**15802**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 8
PAYSON CITY
Projected Surplus or Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Highline Canal					
Remaining agricultural Land	10,677	10,405	10,296	9,339	8,381
Water Diversion Requirement in acre-feet acre	2.90	2.93	2.96	2.99	3.02
Water Demand	30,964	30,486	30,478	27,922	25,310
Water Supply					
SVP Water from Urbanization from Table 5-14	526	1,002	1,190	2,862	4,534
Local supplies	1,583	1,583	1,583	1,583	1,583
Groundwater	2,390	2,390	2,390	2,390	2,390
Remaining SVP Agricultal Water from Table 5-15	19,672	19,196	19,008	17,336	15,664
Remaining Spanish Fork River Agricultural Water from Table 5-15	3,532	3,520	3,516	3,476	3,436
Surplus of Deficit in Agricultural Water	-3,261	-2,794	-2,790	-275	2,297
Salelm Canal					
Remaining agricultural Land	130	126	124	109	94
Water Diversion Requirement in acre-feet acre	2.88	2.93	2.97	3.02	3.06
Water Demand	375	368	369	328	287
Water Supply					
SVP Water from Urbanization from Table 5-14	3	6	7	17	28
Local Supplies	0	0	0	0	0
Groundwater	63	63	63	63	63
Remaining SVP Agricultal Water from Table 5-15	97	94	93	83	73
Remaining Spanish Fork River Agricultural Water from Table 5-15	366	365	365	360	356
Surplus of Deficit in Agricultural Water	91	97	96	132	170
East Bench Canal					

Table 8 (Continued)
PAYSON CITY
Projected Surplus or Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Spanish Fork South Canal					
Spanish Fork Southeast Canal					
Spanish Fork Westfield Canal					

Table 9
PAYSON CITY
Summary Table

	2,010	2,020	2,030	2,040	2,050
Remaining Agricultural Acreage (acres)	10,808	10,531	10,421	9,448	8,474
Water Diversion Requirement of 3.33 acre-feet acre					
Water Demand	30,964	30,486	30,478	27,922	25,310
Water Supply					
SVP Water from Table 4	529	1,008	1,198	2,879	4,561
Remaining SVP Water (from Table 5)	19,769	19,290	19,100	17,419	15,737
Remaining Spanish Fork River (from Table 5)	3,898	3,885	3,881	3,836	3,792
Local Supplies	1,583	1,583	1,583	1,583	1,583
Groundwater	2,453	2,453	2,453	2,453	2,453
Surplus of Deficit	-2,732	-2,266	-2,263	248	2,817
Amount of SVP that can be applied to other lands	**0**	**0**	**0**	**248**	**2,817**

SALEM

Table 1
Distribution of Agricultural Acreage

	Total Acres (see footnote 1)	Genola		Mapleton		Payson		Salem		Spanish Fork		Springville		West Mountain		Other Irrigated Lands 4/
		Percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	
Highline Canal	18,514	27.61%	5,112		0	45.88%	8,494	11.92%	2,207	1.17%	217					2,485
Mapleton Canal	3,673		0	98.81%	3,629		0		0	1.19%	44					0
East Bench Canal	4,169		0	23.87%	995		0		0	76.13%	3,174					0
Salem Canal	1,936		0		0	6.98%	135	74.26%	1,438		0					363
Spanish Fork South Canal	6,437		0		0		0	10.18%	655	50.93%	3,278					2,503
Spanish Fork Southeast Canal	914		0		0		0		0	100.00%	914					0
Westfield Canal	5,323		0		0		0		0	100.00%	5,323					0
Lakeshore	4,207		0		0		0		0					75.00%	3155	1,052
South Shore (see footnote 2)	515		0		0		0		0							515
Totals	**45,688**		**5,112**		**4,624**		**8,629**		**4,300**		**12,950**		**Footnote 3**			**6,917**

Footnote 1 - The total acres for the various canal companies is taken from the Bonneville Unti, Draft Water Supply Appendix, Volume 1, Table 3-14, page 3-29, dated March 1998.

Footnote 2 - In the most recent history about 515 acres of land are now irrigated in South Shore area of West Mountain and Utah Lake

Footnote 3 - Historically 4,500 acres has been irrigated in Springville.

Footnote 4 - Of the 6,917 acres of land the analysis in this report considered that 515 acres from South Shore and 4,500 acres in Springville were part of this remaining amount. By subtracting the lands South Shore and Springville would leave 1,902 acres remaining to be considered in accounting for all irrigated lands. This information is used in determining the rate of conversion of agricultural lands. For example, The amount of SVP that has historically been associated with the Springville area is 4,500 acre-feet. Subtracting the existing SVP M&I of 1,051 acre-feet from this historical irrigation water would leave a balance of 3,449 acre-feet for the irrigated lands in Springville. This amount was used in projecting the amount of agricultual water that is available for conversion and future use on other SVP lands.

TABLE 2
SALEM CITY
(Computation of Reduction in SVP Acres from Present SVP M&I

Yield of	0	equals	10298.73	divided by	4300	equals	2.40	acre-feet per acre	
Corresponding acreage for		0	equals	0	divided b	2.40	equals	0	

TABLE 3
SALEM CITY
Amount of Agricultural Acreage City is Projected to Grow Onto

	Acreage Reduction for SVP M&I			Acreage City Expected to Grow Onto			Yield of Water Supply		
	Canal acreage in City Declaration Boundary	Acreageafter reduction for SVP M&I		% of acreage city expected to grow on to	Adjusted acreage	Remaining agriculture lands on which no growth is expected to occur	Average Annual Yield	Yield af/ac	
Lands with SVP water									
Highline Canal	2,207	2,207		40.00%	883	1,324	3,311	1.50	1.50
Salem Canal	1,438	1,438		40.00%	575	863	73	0.05	0.05
East Bench Canal	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork South Canal (20%)	655	655		40.00%	262	393	320	0.49	0.49
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00	0.00
	4,300	4,300			1,720	2,580	3,704	0.86	0.86
Lands with Spanish Fork River water									
Highline Canal	2,207	2,207		40.00%	883	1324	712	0.32	0.32
Salem Canal	1,438	1,438		40.00%	575	863	4,898	3.41	3.41
East Bench Canal	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork South Canal (20%)	655	655		40.00%	262	393	984	1.50	1.50
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00	0.00
	4300	4,300			1720	2580	6595	1.53	1.53
									0.00
							10,299		0.00

TABLE 4
SALEM CITY
(Computation of Rate of Urbanization of Agricultural Lands)

		2000	2010	2020	2030	2040	2050
Population		4,372	7,351	12,101	17,016	24,212	31,409
Declaration Boundary Acreage	**7,500**						
Existing Size of City Boundary in Acres	**3,167**						
Historcial Irrigated Acreage in Delcaration Boundary	**4,300**						
Total Amount of Land Required for Growth			331	859	1405	2204	3004
Agricultural Land required for new growth							
(Assumed Percentage of growth on irrigated agricultural)	**0.4**						
Incremental acreage			132	211	218	320	320
Cumulative acreage			132	344	562	882	1,202

Table 5

SALEM CITY

Projected Agricultural Lands Urbanized by Canal Company

(Units in Acres)

(For Analysis Purposes the Growth Was Apportioned

To Be 40% on Lands with SVP Water and 60% To Lands with Spanish Fork River Water)

	SVP	0.4		Spanish Fork	0.6	
Lands with SVP water 1/	**Portion of Lands Converted with SVP water (in acres)**					
		2010	2020	2030	2040	2050
Highline Canal		27	71	115	181	247
Salem Canal		18	46	75	118	161
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		8	21	34	54	73
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***53***	***137***	***225***	***353***	***481***
Lands with Spanish Fork River water 2/	**Portion of Lands Converted with Spanish Fork River water (in acres)**					
		2010	2020	2030	2040	2050
Highline Canal		41	106	173	272	370
Salem Canal		27	69	113	177	241
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		12	31	51	81	110
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***66***	***172***	***281***	***441***	***601***
	Total acres urbanized	**119**	**309**	**506**	**794**	**1,081**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 6

SALEM CITY

Projected Amount of Agricultural Water Resulting from Urbanization

(Yield in Acre-Feet Using Enlarged Strawberry Yield and Average Annual Yield of Spanish Fork River)

Lands with SVP water 1/	**SVP water (in acre-feet)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		41	106	173	272	370
Salem Canal		1	2	4	6	8
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		4	10	17	26	36
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	**46**	**118**	**194**	**304**	**414**
Lands with Spanish Fork River water 2/	**Spanish Fork River water (In acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		13	34	56	88	119
Salem Canal		90	235	384	603	821
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		18	47	77	121	165
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	**122**	**316**	**517**	**811**	**1106**
	Total (acre-feet)	**167**	**434**	**711**	**1115**	**1520**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 7
SALEM CITY
Remaining Agricultural Water on Lands Not Urbanized

Lands with SVP water 1/	Remaining SVP Agricultural Water (Units in acre-feet)				
	2010	2020	2030	2040	2050
Highline Canal	3270	3205	3138	3039	2941
Salem Canal	72	71	69	67	65
East Bench Canal	0	0	0	0	0
Spanish Fork South Canal (20%)	316	310	304	294	284
Spanish Fork Southeast Canal (city will not expand onto this)	0	0	0	0	0
Spanish Fork Westfield (50%)	0	0	0	0	0
Subtotal	***3658***	***3586***	***3510***	***3400***	***3290***

Lands with Spanish Fork River water 2/	Remaining Spanish Fork River Agricultural Water (Units in acre-feet)				
	2010	2020	2030	2040	2050
Highline Canal	699	678	657	625	593
Salem Canal	4808	4664	4514	4296	4077
East Bench Canal	0	0	0	0	0
Spanish Fork South Canal (20%)	966	937	907	863	819
Spanish Fork Southeast Canal (city will not expand onto this)	0	0	0	0	0
Spanish Fork Westfield (50%)	0	0	0	0	0
Subtotal	***6473***	***6279***	***6078***	***5783***	***5489***
Total (acre-feet)	**10131**	**9864**	**9588**	**9183**	**8779**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

TABLE 8
SALEM CITY
Projected Surplus or Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Highline Canal					
Remaining agricultural Land (acres)	2,139	2,031	1,919	1,754	1,590
Water Diversion Requirement of 3.33 acre-feet acre	2.90	2.93	2.96	2.99	3.02
Water Demand	6,203	5,950	5,679	5,246	4,803
Water Supply					
SVP Water from Table 4	41	106	173	272	370
Local supplies	411	411	411	411	411
Groundwater	621	621	621	621	621
Remaining SVP Water (from Table 5)	3,270	3,205	3,138	3,039	2,941
Remaining Spanish Fork River (from Table 5)	699	678	657	625	593
Surplus of Deficit	-1,161	-929	-679	-278	133
Salem Canal					
Remaining agricultural Land	1,757	1,686	1,613	1,506	1,399
Water Diversion Requirement of 3.33 acre-feet acre	2.880	2.925	2.970	3.015	3.060
Water Demand	5,059	4,931	4,790	4,540	4,281
Water Supply					
SVP Water from Table 4	1	2	4	6	8
Local supplies	0	0	0	0	0
Groundwater	669	669	669	669	669
Remaining SVP Water (from Table 5)	145	143	142	140	138
Remaining Spanish Fork River (from Table 5)	5,795	5,650	5,501	5,283	5,064
Surplus of Deficit	1,550	1,533	1,525	1,557	1,597
East Bench Canal					
Remaining agricultural Land	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	3.312	3.312	3.312	3.312	3.312
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0

TABLE 8 (Continued)
SALEM CITY
Projected Surplus or Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Spanish Fork South Canal					
Remaining agricultural Land	635	603	569	521	472
Water Diversion Requirement of 3.33 acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	1,638	1,630	1,611	1,539	1,454
Water Supply					
SVP Water from Table 4	4	10	17	26	36
Lcoal supplies	0	0	0	0	0
Groundwater	251	251	251	251	251
Remaining SVP Water (from Table 5)	316	310	304	294	284
Remaining Spanish Fork River (from Table 5)	966	937	907	863	819
Surplus of Deficit	-100	-122	-133	-104	-63
Spanish Fork Southeast Canal					
Remaining agricultural Land	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	0	0	0	0	0
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0
Spanish Fork Westfield Canal					
Remaining agricultural Land	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	0	0	0	0	0
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0

TABLE 9
SALEM CITY
Summary Table

	2,010	2,020	2,030	2,040	2,050
Remaining Lands Agricultural Acreage in Spanish Fork	4,530	4,319	4,101	3,781	3,461
Water Diversion Requirement of 3.33 acre-feet acre					
Water Demand	7,841	7,580	7,290	6,784	6,256
Water Supply					
SVP Water from Table 4	46	118	194	304	414
Local supplies	411	411	411	411	411
Groundwater	1,541	1,541	1,541	1,541	1,541
Remaining SVP Water (from Table 5)	3,731	3,658	3,583	3,473	3,363
Remaining Spanish Fork River (from Table 5)	7,460	7,266	7,065	6,770	6,476
Surplus of Deficit	5,348	5,414	5,503	5,715	5,949
SVP Water that could be used on other lands	**46**	**118**	**194**	**304**	**414**

SPANISH FORK

Table 1
Distribution of Agricultural Acreage

	Total Acres (see footnote 1)	Genola		Mapleton		Payson		Salem		Spanish Fork		Springville		West Mountain		Other Irrigated Lands 4/
		Percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	
Highline Canal	18,514	27.61%	5,112		0	45.88%	8,494	11.92%	2,207	1.17%	217					2,485
Mapleton Canal	3,673		0	98.81%	3,629		0		0	1.19%	44					0
East Bench Canal	4,169		0	23.87%	995		0		0	76.13%	3,174					0
Salem Canal	1,936		0		0	6.98%	135	74.28%	1,438		0					363
Spanish Fork South Canal	6,437		0		0		0	10.18%	655	50.93%	3,278					2,503
Spanish Fork Southeast Canal	914		0		0		0		0	100.00%	914					0
Westfield Canal	5,323		0		0		0		0	100.00%	5,323					0
Lakeshore	4,207		0		0		0		0					75.00%	3155	1,052
South Shore (see footnote 2)	515		0		0		0		0							515
Totals	**45,688**		**5,112**		**4,624**		**8,629**		**4,300**		**12,950**		**Footnote 3**			**6,917**

Footnote 1 - The total acres for the various canal companies is taken from the Bonneville Unit, Draft Water Supply Appendix, Volume 1, Table 3-14, page 3-29, dated March 1998.

Footnote 2 - In the most recent history about 515 acres of land are now irrigated in South Shore area of West Mountain and Utah Lake

Footnote 3 - Historically 4,500 acres has been irrigated in Springville.

Footnote 4 - Of the 6,917 acres of land the analysis in this report considered that 515 acres from South Shore and 4,500 acres in Springville were part of this remaining amount. By subtracting the lands South Shore and Springville would leave 1,902 acres remaining to be considered in accounting for all irrigated lands. This information is used in determining the rate of conversion of agricultural lands. For example, The amount of SVP that has historically been associated with the Springville area is 4,500 acre-feet. Subtracting the existing SVP M&I of 1,051 acre-feet from this historical irrigation water would leave a balance of 3,449 acre-feet for the irrigated lands in Springville. This amount was used in projecting the amount of agricultual water that is available for conversion and future use on other SVP lands.

TABLE
SPANISH FORK CITY
(computation of reduction in SVP acres from present M&I)

M&I of	0	equals	32540.4681	divided by	12950	equals	2.51	acre-feet per acre	
Corresponding acreage for		0	equals	0	divided by	2.51	equals	0	acres

Note: The 1,703 acre-feet is from Table 5- 8 and represents the amount of existing SVP M&I water in Spanish Fork City, The 19,968 acre-feet is the historical dry year yield of the Strawberry Valley Project of 13,95 acre-feet plus the Spanish Fork River of 6,873 acre-feet in Spanish Fork City's Declaration boundary. This 19,968 acre-feet is divided by the total histoical acreage of 12,950 acres to arrive at the yield of 1.54 acre-feet per acre. The M&I water of 1,703 acre-feet divided by the factor of 1.54 provides an estimate of the amount of SVP acreage that is no longer in irrigated agriculture. The historical irrigated acreage of 12,950 acre-feet is then reduced by 1,104 acres as shown in Table 5-13.

TABLE

SPANISH FORK CITY

Amount of Agricultural Acreage City Could Potentially Grow Onto

	Acreage Reduction for M&I		Acreage City Could Potentially Grow Onto			Yield of Water Supply		
	Step 2A & Step 2 B		Step 2 C			Step 2 D		
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
	Canal acreage in City Declaration Boundary	Acreageafter reduction for SVP M&I	% of acreage city could potentially grow on to (Information from Spanish Fork City's engineer)	Adjusted acreage	Remaining agriculture lands on which no growth is expected to occur	AverageYear Yield	Historical Year (af/ac)	Projected Future Yield in af/ac
[illegible]								
								Adjusted for Enlarged Strawberry (see footnote 1)
Highline Canal	217	217	100.00%	217	0	325	1.50	1.50
Mapleton Canal	44	44	100.00%	44	0	87	1.98	1.98
East Bench Canal	3,174	3,174	100.00%	3,174	0	4,129	1.30	1.30
Spanish Fork South Canal	3,278	3,278	20.00%	656	2,622	1,602	0.49	0.49
Spanish Fork Southeast Canal	914	914	0.00%	0	914	197	0.22	0.22
Spanish Fork Westfield	5,323	5,323	50.00%	2,662	2,662	2,279	0.43	0.43
		12,950		6,752	6,198	8619	0.67	0.67
[illegible]								
								Adjusted for Spanish Fork Average Flow of 46,338 AF (see footnote 2)
Highline Canal	217	217	100.00%	217	0	70	0.32	0.32
Mapleton Canal	44	44	100.00%	44	0	12	0.26	0.26
East Bench Canal	3,174	3,174	100.00%	3174	0	4,553	1.43	1.43
Spanish Fork South Canal	3,278	3,278	20.00%	656	2622	4,922	1.50	1.50
Spanish Fork Southeast Canal	914	914	0.00%	0	914	1,896	2.07	2.07
Spanish Fork Westfield	5,323	5,323	50.00%	2662	2662	12,469	2.34	2.34
	12950	12,950		6752	6198	23921	1.85	1.85

(1) Enlarged Strawberry Yield was adjusted by taking the yield of 61,000 acre-feet and subtracting the 10,177 to get a net yield of 50,803 acre-feet projected to be available in the future for irrigation. This was then divided by the Also there needs to be an accounting for the losses in stream channels prior to diversions. The losses total about 4% of diversion which is 4% times 61,000 or 2,440 acre-feet. This would result in 48,363 acre-feet This was divided by the historical yield of 37,913 to get a factor of 1.276. This factor was then applied to the historical dry year yield to get the projected yield in acre-feet per acre for the future. For example, 0.05 times 1.34 equals 0.06 acre-feet per acre.

SVP Factor

(2) The yield of the Spanish Fork River was adjusted to account for average conditions. The average yield of 45,000 acre-feet was divided by the 1961 dry year yield of 15,542 acre-feet for all canals in South Utah County to get a factor of 3.15 which was then multipled by the historical yield in af/ac to get the expected annual average future yield. For example, 1.35 times 3.15 equals 4.26 acre-feet per acre.

Spanish Fork River Factor

TABLE
SPANISH FORK CITY
(Computation of rate of urbanization of agricultural lands)

		2000	2010	2020	2030	2040	2050
Population		20,246	27,693	32,745	35,771	50,900	66,028
Declaration Boundary Acreage	17,881						
Existing Size of City Boundary in Acres	8,102						
Historcial Irrigated Acreage in Delcaration Boundary	12,950						
Total Land Area Required for Growth			827	1389	1725	3406	5087
Land required for new growth (at 9 people per acre) *(Percentage of growth)*	0.72						
Incremental acreage			599	407	244	1,217	1,217
Cumulative acreage			599	1,006	1,249	2,467	3,684

Table

SPANISH FORK CITY

Projected Urbanization of Agricultural Lands by Canal Company

(Units in Acres)

(For Analysis Purposes the Growth Was Apportioned To Be 40% on Lands with SVP Water and 60% To Lands with Spanish Fork River Water)

SVP % 0.40 Spanish Fork 0.60

Lands with SVP water 1/	Portion of Lands Converted with SVP water (in acres)					
		2010	2020	2030	2040	2050
Highline Canal		8	13	16	32	47
Mapleton Canal		2	3	3	6	10
East Bench Canal		113	189	235	464	693
Spanish Fork South Canal		23	39	49	96	143
Spanish Fork Southeast Canal		0	0	0	0	0
Spanish Fork Westfield		94	159	197	389	581
	Subtotal	*240*	*402*	*500*	*987*	*1,474*
Lands with Spanish Fork River water 2/	**Portion of Lands Converted with Spanish Fork River water (in acres)**					
		2010	2020	2030	2040	2050
Highline Canal		12	19	24	48	71
Mapleton Canal		2	4	5	10	14
East Bench Canal		169	284	352	696	1,039
Spanish Fork South Canal		35	59	73	144	215
Spanish Fork Southeast Canal		0	0	0	0	0
Spanish Fork Westfield		142	238	295	583	871
	Subtotal	*300*	*503*	*750*	*1,480*	*2,210*
	Total acres urbanized	**539**	**905**	**1,249**	**2,467**	**3,684**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table

SPANISH FORK CITY

Projected Amount of Agricultural Water Resulting from Urbanization

Lands with SVP water 1/	SVP water (in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		12	19	24	47	71
Mapleton Canal		3	5	6	13	19
East Bench Canal		147	246	306	603	901
Spanish Fork South Canal		11	19	24	47	70
Spanish Fork Southeast Canal		0	0	0	0	0
Spanish Fork Westfield		40	68	84	167	249
	Subtotal	**213**	**358**	**444**	**877**	**1310**
Lands with Spanish Fork River water 2/	**Spanish Fork River water (in acres)**					
		2010	**2020**	**2030**	**2040**	**2050**
Highline Canal		4	6	8	15	23
Mapleton Canal		1	1	1	3	4
East Bench Canal		242	407	505	998	1490
Spanish Fork South Canal		52	88	109	216	322
Spanish Fork Southeast Canal		0	0	0	0	0
Spanish Fork Westfield		332	557	692	1367	2041
	Subtotal	**631**	**1059**	**1316**	**2598**	**3880**
	Total (acre-feet)	**844**	**1417**	**1760**	**3475**	**5190**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table
SPANISH FORK CITY
Projected Remaining Agricultural Water on Lands Not Urbanized

Lands with SVP water 1/	Remaining SVP Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		313	306	301	278	254
Mapleton Canal		84	82	81	74	68
East Bench Canal		3982	3883	3823	3526	3228
Spanish Fork South Canal		1591	1583	1578	1555	1532
Spanish Fork Southeast Canal		197	197	197	197	197
Spanish Fork Westfield		2239	2211	2195	2112	2030
	Subtotal	***8406***	***8261***	***8175***	***7742***	***7309***

Lands with Spanish Fork River water 2/	Remaining Spanish Fork River Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		66	64	62	55	47
Mapleton Canal		11	11	10	9	8
East Bench Canal		4310	4146	4047	3555	3062
Spanish Fork South Canal		4870	4834	4813	4707	4600
Spanish Fork Southeast Canal		1896	1896	1896	1896	1896
Spanish Fork Westfield		12137	11912	11777	11102	10428
	Subtotal	***23290***	***22862***	***22606***	***21323***	***20041***
	Total (acre-feet)	**31696**	**31124**	**30780**	**29065**	**27350**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table
SPANISH FORK CITY
Projected Surplus of Deficit on Remaining Agricultural Lands

CANALS	2010	2020	2030	2040	2050
Highline Canal					
Remaining agricultural Land (acres)	198	185	177	138	99
Water Diversion Requirement in acre-feet acre	2.90	2.93	2.96	2.99	3.02
Water Demand	573	541	523	412	298
Water Supply					
SVP Water from Urbanization from Table 5-14	12	19	24	47	71
Local supplies	40	40	40	40	40
Groundwater	61	61	61	61	61
Remaining SVP Agricultal Water from Table 5-15	313	306	301	278	254
Remaining Spanish Fork River Agricultural Water from Table 5-15	66	64	62	55	47
Surplus of Deficit in Agricultural Water	-81	-51	-35	69	176
Mapleton Canal					
Remaining agricultural Land	40	37	36	28	20
Water Diversion Requirement in acre-feet acre	3.36	3.36	3.36	3.36	3.36
Water Demand	135	126	121	94	67
Water Supply					
SVP Water from Urbanization from Table 5-14	3	5	6	13	19
Local supplies	38	38	38	38	38
Groundwater	5	5	5	5	5
Remaining SVP Agricultal Water from Table 5-15	84	82	81	74	68
Remaining Spanish Fork River Agricultural Water from Table 5-15	11	11	10	9	8
Surplus of Deficit in Agricultural Water	6	15	20	45	71
East Bench Canal					
Remaining agricultural Land	2,892	2,701	2,587	2,014	1,442
Water Diversion Requirement in acre-feet acre	3.31	3.31	3.31	3.31	3.31
Water Demand	9,579	8,946	8,567	6,672	4,777
Water Supply					
SVP Water from Urbanization from Table 5-14	147	246	306	603	901
Local supplies	0	0	0	0	0
Groundwater	457	457	457	457	457
Remaining SVP Agricultal Water from Table 5-15	3,982	3,883	3,823	3,526	3,228
Remaining Spanish Fork River Agricultural Water from Table 5-15	4,310	4,146	4,047	3,555	3,062
Surplus of Deficit in Agricultural Water	-683	-215	66	1,469	2,871

Table
SPANISH FORK CITY
Projected Surplus of Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Spanish Fork South Canal					
Remaining agricultural Land	5,723	5,684	5,660	5,542	5,424
Water Diversion Requirement in acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	14,766	15,374	16,018	16,376	16,705
Water Supply					
SVP Water from Urbanization from Table 5-14	11	19	24	47	70
Local supplies	0	0	0	0	0
Groundwater	1,258	1,258	1,258	1,258	1,258
Remaining SVP Agricultal Water from Table 5-15	2,814	2,806	2,802	2,779	2,756
Remaining Spanish Fork River Agricultural Water from Table 5-15	8,629	8,593	8,572	8,465	8,359
Surplus of Deficit in Agricultural Water	-2,054	-2,698	-3,363	-3,827	-4,263
Spanish Fork Southeast Canal					
Remaining agricultural Land	914	914	914	914	914
Water Diversion Requirement in acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	2,358	2,472	2,587	2,701	2,815
Water Supply					
SVP Water from Urbanization from Table 5-14	0	0	0	0	0
Local supplies	0	0	0	0	0
Groundwater	180	180	180	180	180
Remaining SVP Agricultal Water from Table 5-15	197	197	197	197	197
Remaining Spanish Fork River Agricultural Water from Table 5-15	1,896	1,896	1,896	1,896	1,896
Surplus of Deficit in Agricultural Water	-85	-199	-314	-428	-542
Spanish Fork Westfield Canal					
Remaining agricultural Land	5,087	4,927	4,831	4,351	3,871
Water Diversion Requirement in acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	13,124	13,326	13,670	12,856	11,922
Water Supply					
SVP Water from Urbanization from Table 5-14	40	68	84	167	249
L:ocal supplies	0	0	0	0	0
Groundwater	1,330	1,330	1,330	1,330	1,330
Remaining SVP Agricultal Water from Table 5-15	2,239	2,211	2,195	2,112	2,030
Remaining Spanish Fork River Agricultural Water from Table 5-15	12,137	11,912	11,777	11,102	10,428
Surplus of Deficit in Agricultural Water	2,622	2,194	1,715	1,855	2,115

Table
SPANISH FORK CITY
Summary Table

	2,010	2,020	2,030	2,040	2,050
Remaining Lands in acres with SVP Water in Spanish Fork	14,854	14,448	14,204	12,987	11,769
Water Diversion Requirement in acre-feet acre					
Water Demand	40,401	40,661	41,366	39,017	36,516
Water Supply					
SVP Water from Urbanization from Table 5-14	213	358	444	877	1,310
Local supplies	78	78	78	78	78
Groundwater	3,291	3,291	3,291	3,291	3,291
Remaining SVP Agricultal Water from Table 5-15	9,629	9,485	9,398	8,966	8,533
Remaining Spanish Fork River Agricultural Water from Table 5-15	27,049	26,621	26,364	25,082	23,800
Surplus of Deficit in Agricultural Water	-140	-828	-1,790	-723	495
SVP Water that could be used on other SVP lands	0	0	0	0	495

SPRINGVILLE

Table 1
Distribution of Agricultural Acreage

	Total Acres (see footnote 1)	Genola		Mapleton		Payson		Salem		Spanish Fork		Springville		West Mountain		Other Irrigated Lands 4/
		Percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	
Highline Canal	18,514	27.61%	5,112		0	45.88%	8,494	11.92%	2,207	1.17%	217					2,485
Mapleton Canal	3,673		0	98.81%	3,629		0		0	1.19%	44					0
East Bench Canal	4,169		0	23.87%	995		0		0	76.13%	3,174					0
Salem Canal	1,936		0		0	6.98%	135	74.28%	1,438		0					363
Spanish Fork South Canal	6,437		0		0		0	10.18%	655	50.93%	3,278					2,503
Spanish Fork Southeast Canal	914		0		0		0		0	100.00%	914					0
Westfield Canal	5,323		0		0		0		0	100.00%	5,323					0
Lakeshore	4,207		0		0		0		0					75.00%	3155	1,052
South Shore (see footnote 2)	515		0		0		0		0							515
Totals	**45,688**		**5,112**		**4,624**		**8,629**		**4,300**		**12,950**	Footnote 3				**6,917**

Footnote 1 - The total acres for the various canal companies is taken from the Bonneville Unit, Draft Water Supply Appendix, Volume 1, Table 3-14, page 3-29, dated March 1998.

Footnote 2 - In the most recent history about 515 acres of land are now irrigated in South Shore area of West Mountain and Utah Lake

Footnote 3 - Historically 4,500 acres has been irrigated in Springville.

Footnote 4 - Of the 6,917 acres of land the analysis in this report considered that 515 acres from South Shore and 4,500 acres in Springville were part of this remaining amount. By subtracting the lands South Shore and Springville would leave 1,902 acres remaining to be considered in accounting for all irrigated lands. This information is used in determining the rate of conversion of agricultural lands. For example, The amount of SVP that has historically been associated with the Springville area is 4,500 acre-feet. Subtracting the existing SVP M&I of 1,051 acre-feet from this historical irrigation water would leave a balance of 3,449 acre-feet for the irrigated lands in Springville. This amount was used in projecting the amount of agricultual water that is available for conversion and future use on other SVP lands.

TABLE 2
SPRINGVILLE CITY
(Computation of reduction of SVP acres from Present SVP M&I)

Yield of	0	equals	10386.749	divided by		4100	equal	2.53	acre-feet per acre
Corresponding acreage for		0	equa	0		divide	2.53	equals	0

TABLE 3
SPRINGVILLE CITY
Amount of Agricultural Acreage City Projected to Grow Onto

	Acreage Reduction of SVP M&I			Acreage City Expected to Grown Onto			Yield of Water Supply	
	Canal acreage in City Declaration Boundary	Acreageafter reduction for SVP M&I		% of acreage city expected to grow on to	Adjusted acreage	Remaining agriculture lands on which no growth is expected to occur	1961 DryYear Yield	Yield af/ac
Lands with SVP water								
Highline Canal	0	0		0.00%	0	0	0	0.00
Mapleton	4,100	4,100		85.00%	3,485	615	3,194	0.78
East Bench Canal	0	0		0.00%	0	0	0	0.00
Spanish Fork South Canal (20%)	0	0		0.00%	0	0	0	0.00
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	0.00
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	0.00
	4100	4,100			3,485	615	3194	0.78
Lands with Hobble Creek water								
Highline Canal	0	0		0.00%	0	0	0	0.00
Mapleton	4,100	4,100		85.00%	3485	615	7,193	1.75
East Bench Canal	0	0		0.00%	0	0	0	0.00
Spanish Fork South Canal (20%)	0	0		0.00%	0	0	0	
Spanish Fork Southeast Canal (city will not expand onto this)	0	0		0.00%	0	0	0	
Spanish Fork Westfield (50%)	0	0		0.00%	0	0	0	
	4100	4,100			3485	615	7193	1.75
							10,387	

TA BLE 4
SPRINGVILLE CITY
(Computation of Rate of Urbanization of Agricultural Lands

		2000	2010	2020	2030	2040	2050
Population		20,424	28,866	34,132	37,266	59,658	59,658
Declaration Boundary Acreage	**11,185**						
Existing Size of City Boundary in Acres	**6,405**						
Historcial Irrigated Acreage in Delcaration Boundary	**4,100**						
Land required for new growth (at 6 people per acre)							
Assume % of future growth on irrigated lands	**0.37**						
Incremental Agricultural acreage			521	325	193	1381	0
Cumulative Agricultural acreage			521	845	1039	2419	2419

SPRINVILLE CITY

Agricultural Lands Urbanized by Canal

(Units in Acres)

(For Analysis Purposes the Growth Was Apportioned

To Be 40% on Lands with SVP Water and 60% To Lands with Hobble Creek Water)

	SVP	0.4	Spanish Fork	0.6		
Lands with SVP water 1/	**Portion of Lands Converted with SVP water (in acres)**					
		2010	2020	2030	2040	2050
Highline Canal		0	0	0	0	0
Mapleton		208	338	415	968	968
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***208***	***338***	***415***	***968***	***968***
Lands with Hobble Creek water 2/	**Portion of Lands Converted with Spanish Fork River water (in acres)**					
		2010	2020	2030	2040	2050
Highline Canal		0	0	0	0	0
Mapleton		312	507	623	1,452	1,452
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	***312***	***507***	***623***	***1,452***	***1,452***
	Total agricultural acres urbanized	**521**	**845**	**1,039**	**2,419**	**2,419**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase

the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 6

SPRINGVILLE CITY

Amount of Agricultural Water Resulting from Urbanization

(Yield in Acre-Feet Using Unit Yield in Acre-Feet Per Acre During Dry Year (1961))

Lands with SVP water 1/	SVP water (in acre-feet)					
		2010	2020	2030	2040	2050
Highline Canal		0	0	0	0	0
Salelm Canal		162	263	324	754	754
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	**162**	**263**	**324**	**754**	**754**
Lands with Hobble Creek water 2/	Spanish Fork River water (in acres)					
		2010	2020	2030	2040	2050
Highline Canal		0	0	0	0	0
Salelm Canal		548	890	1093	2547	2547
East Bench Canal		0	0	0	0	0
Spanish Fork South Canal (20%)		0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)		0	0	0	0	0
Spanish Fork Westfield (50%)		0	0	0	0	0
	Subtotal	**548**	**890**	**1093**	**2547**	**2547**
	Total (acre-feet)	**710**	**1153**	**1417**	**3301**	**3301**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 7
SPRINGVILLE CITY
Remaining Agricultural Water on Lands Not Urbanized

(Remaining Agricultural Water equals the 1961 Dry Year Yield of 19,968 acre-feet minus the 3,417 AF of SVP M&I minus the Agricultural Conversion shown in Table 4)

Lands with SVP water 1/

	Remaining SVP Agricultural Water (Units in acre-feet)				
	2010	2020	2030	2040	2050
Highline Canal	0	0	0	0	0
Salelm Canal	3032	2930	2870	2440	2440
East Bench Canal	0	0	0	0	0
Spanish Fork South Canal (20%)	0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)	0	0	0	0	0
Spanish Fork Westfield (50%)	0	0	0	0	0
Subtotal	***3032***	***2930***	***2870***	***2440***	***2440***

Lands with Hobble Creek water 2/

	Remaining Spanish Fork River Agricultural Water (Units in acre-feet)				
	2010	2020	2030	2040	2050
Highline Canal	0	0	0	0	0
Salelm Canal	6645	6303	6100	4646	4646
East Bench Canal	0	0	0	0	0
Spanish Fork South Canal (20%)	0	0	0	0	0
Spanish Fork Southeast Canal (city will not expand onto this)	0	0	0	0	0
Spanish Fork Westfield (50%)	0	0	0	0	0
Subtotal	***6645***	***6303***	***6100***	***4646***	***4646***
Total (acre-feet)	**9677**	**9234**	**8970**	**7086**	**7086**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

TABLE 8
SPRINGVILLE CITY
Surplus or Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Highline Canal					
Remaining agricultural Land (acres)	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	3.16	3.16	3.16	3.16	3.16
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0
Mapleton Canal					
Remaining agricultural Land	3,579	2,640	2,446	1,066	1,066
Water Diversion Requirement of 3.33 acre-feet acre	3.26	3.26	3.26	3.26	3.26
Water Demand	11,669	8,605	7,975	3,474	3,474
Water Supply					
SVP Water from Table 4	162	263	324	754	754
Remaining SVP Water (from Table 5)	3,032	2,930	2,870	2,440	2,440
Remaining Hobble Creek Water (from Table 5)	6,645	6,303	6,100	4,646	4,646
Supplies from Hobble Creek					
Surplus of Deficit	-1,830	892	1,318	4,366	4,366
East Bench Canal					
Remaining agricultural Land	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	3.31	3.31	3.31	3.31	3.31
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0

TABLE 8 (Continued)
SPRINGVILLE CITY

Surplus or Deficit on Remaining Agricultural Lands

CANALS	2010	2020	2030	2040	2050
Spanish Fork South Canal					
Remaining agricultural Land	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	0	0	0	0	0
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0
Spanish Fork Southeast Canal					
Remaining agricultural Land	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	0	0	0	0	0
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0
Spanish Fork Westfield Canal					
Remaining agricultural Land	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	0	0	0	0	0
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0

TABLE 9
SUMMARY TABLE
SPRINGVILLE CITY

	2,010	2,020	2,030	2,040	2,050
Remaining Agricultural Acreage	4,194	3,255	3,061	1,681	1,681
Water Diversion Requirement of 3.33 acre-feet acre	3.16	3.16	3.16	3.16	3.16
Water Demand	13,254	10,285	9,674	5,311	5,311
Water Supply					
SVP Water from Table 4	162	263	324	754	754
Remaining SVP Water (from Table 5)	3,032	2,930	2,870	2,440	2,440
Remaining Hobble Creek Water (from Table 5)	6,645	6,303	6,100	4,646	4,646
Surplus of Deficit	-3,416	-788	-381	2,529	2,529
Amount of SVP that can be applied on other lands	**0**	**0**	**0**	**754**	**754**

WEST MOUNTAIN

Table 1
Distribution of Agricultural Acreage

	Total Acres (see footnote 1)	Genola		Mapleton		Payson		Salem		Spanish Fork		Springville			Other Irrigated Lands 4/
		Percent	acres	percent	acres	percent	acres	percent	acres	percent	acres	percent	acres		
Highline Canal	18,514	27.61%	5,112		0	45.88%	8,494	11.92%	2,207	1.17%	217				2,485
Mapleton Canal	3,673		0	98.81%	3,629		0		0	1.19%	44				0
East Bench Canal	4,169		0	23.87%	995		0		0	76.13%	3,174				0
Salem Canal	1,936		0		0	6.98%	135	74.28%	1,438		0				363
Spanish Fork South Canal	6,437		0		0		0	10.18%	655	50.93%	3,278				2,503
Spanish Fork Southeast Canal	914		0		0		0		0	100.00%	914				0
Westfield Canal	5,323		0		0		0		0	100.00%	5,323				0
Lakeshore	4,207		0		0		0		0						1,052
South Shore (see footnote 2)	515		0		0		0		0						515
Totals	**45,688**		**5,112**		**4,624**		**8,629**		**4,300**		**12,950**	Footnote 3			**6,917**

Footnote 1 - The total acres for the various canal companies is taken from the Bonneville Unit, Draft Water Supply Appendix, Volume 1, Table 3-14, page 3-29, dated March 1998.

Footnote 2 - In the most recent history about 515 acres of land are now irrigated in South Shore area of West Mountain and Utah Lake

Footnote 3 - Historically 4,500 acres has been irrigated in Springville.

Footnote 4 - Of the 6,917 acres of land the analysis in this report considered that 515 acres from South Shore and 4,500 acres in Springville were part of this remaining amount. By subtracting the lands South Shore and Springville would leave 1,902 acres remaining to be considered in accounting for all irrigated lands. This information is used in determining the rate of conversion of agricultural lands. For example, The amount of SVP that has historically been associated with the Springville area is 4,500 acre-feet. Subtracting the existing SVP M&I of 1,051 acre-feet from this historical irrigation water would leave a balance of 3,449 acre-feet for the irrigated lands in Springville. This amount was used in projecting the amount of agricultual water that is available for conversion and future use on other SVP lands.

TABLE 2
WEST MOUNTAIN
Amount of Agricultural Acreage City is Projected to Grow Onto

	Acreage Reduction for SVP M&I			Acreage City Expected to Grow Onto			Yield of Water Supply		
	Canal acreage in City Declaration Boundary	Acreageafter reduction for SVP M&I		% of acreage city expected to grow on to	Adjusted acreage	Remaining agriculture lands on which no growth is expected to occur	Average Year Yield	Yield af/ac	
									1,276
Lands with SVP water									
Lakeshore Canal	3,155	3,155		80.00%	2,524	631	1,802	0.57	0.57
	3155	3,155			2,524	631	1802	0.57	
Lands with Spanish Fork River water									2,895
Lakeshore Canal	3,155	3,155		80.00%	2524	631	4,112	1.30	1.30
	3155.25	3,155			2524	631	4112	1.30	
							5914		

TABLE 3
WEST MOUNTAIN
(Computation of Reduction in SVP Acres from Present SVP M&I

Yield of	0	equals	5914	divided by	3155.25	equals	1.87	acre-feet per acre	
Corresponding acreage for		0	equals	0	divided b	1.87	equals	0	

TABLE 4
WEST MOUNTAIN
(Computation of Rate of Urbanization of Agricultural Lands)

		2000	2010	2020	2030	2040	2050
Population		4,372	7,351	12,101	17,016	24,212	31,409
Declaration Boundary Acreage	**7,500**						
Existing Size of City Boundary in Acres	**3,167**						
Historcial Irrigated Acreage in Delcaration Boundary	**3,155**						
Land required for new growth (at 6 people per acre)							
	0.42						
Incremental acreage			139	222	230	336	336
Cumulative acreage			139	361	591	927	1,264

Table 5

WEST MOUNTAIN

Agricultural Lands Urbanized by Canal

(Units in Acres)

(For Analysis Purposes the Growth Was Apportioned

To Be 40% on Lands with SVP Water and 60% To Lands with Spanish Fork River Water)

	SVP	0.40		Spanish Fork	0.60	
Lands with SVP water 1/	**Portion of Lands Converted with SVP water (in acres)**					
		2010	2020	2030	2040	2050
Lakeshore Canal		56	145	236	371	505
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	***56***	***145***	***236***	***371***	***505***
Lands with Spanish Fork River water 2/	**Portion of Lands Converted with Spanish Fork River water (in acres)**					
		2010	2020	2030	2040	2050
Lakeshore Canal		84	217	355	556	758
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	***70***	***181***	***295***	***464***	***632***
	Total acres urbanized	**125**	**325**	**532**	**835**	**1,137**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase

the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 6

WEST MOUNTAIN

Amount of Agricultural Water Resulting from Urbanization

(Yield in Acre-Feet Using Unit Yield in Acre-Feet Per Acre During Dry Year (1961))

Lands with SVP water 1/		SVP water (in acre-feet)				
		2010	2020	2030	2040	2050
Lakeshore Canal		32	83	135	212	289
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	**32**	**83**	**135**	**212**	**289**
Lands with Spanish Fork River water 2/		Spanish Fork River water (in acres)				
		2010	2020	2030	2040	2050
Lakeshore Canal		109	282	462	725	988
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	**109**	**282**	**462**	**725**	**988**
	Total (acre-feet)	**141**	**365**	**597**	**937**	**1277**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

Table 7
WEST MOUNTAIN
Remaining Agricultural Water on Lands Not Urbanized

(Remaining Agricultural Water equals the 1961 Dry Year Yield of 19,968 acre-feet minus the 3,417 AF of SVP M&I minus the Agricultural Conversion shown in Table 4)

Lands with SVP water 1/	Remaining SVP Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Lakeshore Canal		1770	1719	1667	1590	1513
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	***1770***	***1719***	***1667***	***1590***	***1513***

Lands with Spanish Fork River water 2/	Remaining Spanish Fork River Agricultural Water (Units in acre-feet)					
		2010	2020	2030	2040	2050
Lakeshore Canal		4003	3830	3650	3387	3124
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
	Subtotal	***4003***	***3830***	***3650***	***3387***	***3124***
	Total (acre-feet)	**5773**	**5549**	**5317**	**4977**	**4637**

1/ SVP water that becomes available through urbanization reverts back to the Strawberry Water Users Association. This water can then be applied to other agricultural lands under the Strawberry Valley Project to progress towards a firm irrigation water supply.

2/ The most likely scenario for lands that are urbanized which have Spanish Fork River Water is that the city would require developers to purchase the water supply for the canal company for use in outdoor watering of the new subdivisions. Therefore this water would not revert back to other irrigated lands.

TABLE 8
WEST MOUNTAIN
Projected Surplus or Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Lakeshore Canal					
Remaining agricultural Land (acres)	4,068	3,846	3,616	3,280	2,943
Water Diversion Requirement of 3.33 acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	10,495	10,403	10,233	9,691	9,065
Water Supply					
SVP Water from Table 4	32	83	135	212	289
Groundwater	2,550	2,550	2,550	2,550	2,550
Remaining SVP Water (from Table 5)	1,770	1,719	1,667	1,590	1,513
Remaining Spanish Fork River (from Table 5)	4,003	3,830	3,650	3,387	3,124
Surplus of Deficit	-2,140	-2,221	-2,231	-1,953	-1,589
Salem Canal					
Remaining agricultural Land	0	0	0	0	0
Water Diversion Requirement of 3.33 acre-feet acre	0	0	0	0	0
Water Demand	0	0	0	0	0
Water Supply					
SVP Water from Table 4	0	0	0	0	0
Remaining SVP Water (from Table 5)	0	0	0	0	0
Remaining Spanish Fork River (from Table 5)	0	0	0	0	0
Surplus of Deficit	0	0	0	0	0
East Bench Canal					

TABLE 8 (Continued)
WEST MOUNTAIN
Projected Surplus or Deficit on Remaining Agricultural Lands

	2010	2020	2030	2040	2050
CANALS					
Spanish Fork South Canal					
Spanish Fork Southeast Canal					
Spanish Fork Westfield Canal					

TABLE 9
WEST MOUNTAIN
Summary Table

	2,010	2,020	2,030	2,040	2,050
Remaining Lands in acres with SVP Water in West Mountain	4,068	3,846	3,616	3,280	2,943
Water Diversion Requirement of 3.33 acre-feet acre	2.58	2.71	2.83	2.96	3.08
Water Demand	10,495	10,403	10,233	9,691	9,065
Water Supply					
SVP Water from Table 4	32	83	135	212	289
Remaining SVP Water (from Table 5)	1,770	1,719	1,667	1,590	1,513
Remaining Spanish Fork River (from Table 5)	4,003	3,830	3,650	3,387	3,124
Surplus of Deficit	-4,690	-4,771	-4,781	-4,503	-4,139
SVP Water that could be used on other lands	0	0	0	0	0

Central Utah Project Completion Program

Attachment D

October 2004

UTAH RECLAMATION
MITIGATION
AND CONSERVATION
COMMISSION

Attachment D

Table D-1

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
Mona

1/30/2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Area of City Boundaries = 776 acres from Brown and Caldwell Report, September 1999, "2070 Water Demand and Supply Analysis for South Utah County and East Juab County, Utah (Note: see footnote 1 for amount of irrigated acreage)						
Population Projections (State of Utah - Office of Planning and Budget)	850	1,386	1,790	2,139	2,716	3,293
Future Demand With Conservation (12.1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year (footnote 2)	0.291	0.273	0.255	0.242	0.230	0.218
Acre-feet/year (footnote 3)	247	378	456	519	626	719
Potable Demand (gpcd) (footnote 4)	260	244	227	216	206	195
Residential Indoor (footnote 5)	80	80	80	80	80	80
Residential Outdoor (footnote 6)	124	100	80	60	40	20
Commerical, industrial, and institutional (footnote 7)	34	34	34	34	34	34
Non-potable outdoor demand (gpcd) (footnote 8)	22	30	33	42	52	61
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed for M&I**		**Portion of Gross Water Supply Presently Not Developed or Unavailable for M&I**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells (footnote 9)		11		11		0
Springs (footnote 10)		339		339		0
Groundwater Irrigation (footnote 11)						
Historical Average Pumping	5600		0		5600	
North, Pole, Bear Canyon and Willow Creeks	1,000		0		1,000	
Subtotal		1,000		0		1,000
Total		6,950		350		6,600
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**Ag. Irrig. Yield in acre-feet per acre**		1.4	**See footnote 13 on how 1.4 acre-feet acre is computed**		
Agricultural Irrigation Water (footnote 14)	0	126	221	303	439	575
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Culinary indoor demand in acre-feet	227	332	390	418	468	494
Springs	227	332	339	339	339	339
Groundwater wells	0	0	11	11	11	11
Remaining Demand for Culinary Supplies	0	0	40	68	118	144
Secondary (outdoor) demand in acre-feet	21	47	66	101	158	225
Springs	21	7	0	0	0	0
Groundwater wells	0	11	0	0	11	11
Groundwater Irrigation	0	0	0	0	0	0
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	29	66	101	147	214
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Agricultural Irrigation water	0	29	106	169	265	358
Requirements for New Supplies	0	29	106	169	265	358
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	102	98	115	134	163	206
Unavailable Agricultural Water Within Declaration Boundary	6,600	6,474	6,379	6,297	6,161	6,025

FOOTNOTES:

(1) Irrigated acreage equals 4,675 acres, from Table 3-28, page 3-53, SFN System Water Supply Appendix, Volume I, March 1998.
(2) acre-feet per capita computed from line 6. For example, 260 gpcd divided by a factor of 892.7 converts gpcd to 0.291 acre-feet per capita
(3) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.291 acre-feet per capita times 850 = 247 acre-feet
(4) 260 gpcd is the sum of (80 + 124 + 34 + 22)
(5) Residential indoor of 80 gpcd is computed from Table 2, page 27, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources. For example 78.9 acre-feet per year divided by population of 880 (from same table) equals 0.0897 acre-feet per capita. This figure is multiplied by a conversion factor of 892.7 to get 80 gpcd.
(6) Table 2, page 27 from report cited in footnote (5). For example, 122.4 divided by population of 880 times conversion factor of 892.7 eqauls 124 gpcd
(7) Table 2, page 27 from report cited in footnote (5). For example, (33.1 + 0.2 + 0.3) divided by population of 880 times factor of 892.7 eqauls 34 gpcd
(8) Table 3, page 28 from report cited in footnote (5). For example, 21.6 divided by population of 880 times factor of 892.7 equals 22 gpcd
(9) From Utah Division of Water Rights database, October 2001
(10) From Table 1, page 26 of report cited in footnote (5)
(11) Groundwater pumping of 5,600 acre-feet is from Table3-31, page 3-55, SFN System Water Supply Appendix, volume I, March 1998.
(12) Dry year yield in 1961 from Table 24, page 56, SFN System Water Supply Appendix, Volume. II, March 1998.
(13) Dry year yield of 1.4 is computed by dividing the sum of the groundwater yield (5,600 AF) and surface streams (1,000 AF) by irrigated acreage of 4,675 acres.
(14) Amount of agricultural conversion is computed by taking the incremental difference in population and divided by 6 people per acre. This value is then multiplied times the dry year yield of the agricultural water. For example, (1,386 minus 850) divided by 6 times 2.0 equals 179 acre-feet

(NOTE: All units in acre-feet unless otherwise noted)

Table D-2

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
Nephi

1/30/2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Area of City Boundaries = 2,490 acres from Brown and Caldwell Report, September 1999, "2070 Water Demand and Supply Analysis for South Utah County and East Juab County, Utah (see footnote 1 for amount of irrigated acreage)						
Population Projections (State of Utah - Office of Planning and Budget)	4,733	6,506	7,870	9,052	11,002	12,952
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year (footnote 2)	0.300	0.281	0.263	0.250	0.238	0.225
Acre-feet/year (footnote 3)	1,420	1,830	2,066	2,263	2,613	2,914
Potable Demand (gpcd) (footnote 4)	266	251	234	223	212	201
Residential Indoor (footnote 5)	80	80	80	80	80	80
Residential Outdoor (footnote 6)	37	32	26	23	19	15
Commerical, industrial, and institutional (footnote 7)	87	82	76	73	69	65
Non-potable outdoor demand (gpcd) (footnote 8)	62	57	52	47	44	41
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed for M&I**		**Portion of Gross Water Supply Presently Not Developed or Unavailable for M&I**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells (footnote 9)		5,000		5,000		0
Springs (footnote 10)		2,752		2,752		0
Groundwater Irrigation (footnote 11)						
Salt Creek wells, Nephi Irrigation Company	3,400		0		3,400	
Other Irrigation Companies	6,000		0		6,000	
Subtotal		9,400		0		9,400
Local streams (footnote 12)						
Irrigation season Salt Creek (dry year yield)	3,800		0		3,800	
Non - irrigation season Salt Creek (dry year yield)	2,300		0		2,300	
Subtotal		6,100		0		6,100
Total		23,252		7,752		15,500
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**Ag. Irrig. Yield in acre-feet per acre**		1.68	**See footnote 13 on how 1.68 acre-feet/acre is computed**		
Agricultural Irrigation Water (footnote 14)	0	496	878	1,209	1,755	2,301
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Culinary indoor demand in acre-feet	1,082	1,414	1,612	1,779	2,071	2,330
Springs	1,082	1,414	1,612	1,779	2,071	2,330
Groundwater wells	0	0	0	0	0	0
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Secondary (outdoor) demand in acre-feet	338	416	454	484	542	584
Springs	0	0	0	0	0	0
Groundwater wells	338	416	454	484	542	584
Groundwater Irrigation	0	0	0	0	0	0
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Agricultural Irrigation water	0	0	0	0	0	0
Requirements for New Supplies	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	8,632	8,718	8,864	8,998	9,195	9,440
Unavailable Agricultural Water Within Declaration Boundary	13,200	12,704	12,322	11,991	11,445	10,899

FOOTNOTES:

(1) Irrigated acreage equals 7,850 acres, from Table 3-28, page 3-53, SFN System Water Supply Appendix, Volume I, March 1998.

(2) acre-feet per capita computed from line 6. For example, 266 gpcd divided by a factor of 892.7 converts gpcd to 0.300 acre-feet per capita

(3) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.291 acre-feet per capita times 850 = 247 acre-feet

(4) 266 gpcd is the sum of (80 + 37 + 87 + 62)

(5) Residential indoor of 80 gpcd is computed from Table 2, page 27, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources. For example 443.6 acre-feet (from Table 2) per year divided by population of 4,950 (from same table) equals 0.0896 acre-feet per capita. This figure is multiplied by a conversion factor of 892.7 to get 80 gpcd.

(6) Table 2, page 27 from report cited in footnote (5). For example, 207.2 divided by population of 4,950 times conversion factor of 892.7 equals 37 gpcd

(7) Table 2, page 27 from report cited in footnote (5). For example, (224.7 + 123.0 + 136.2) divided by population of 4,950 times factor of 892.7 equals 87 gpcd

(8) Table 3, page 28 from report cited in footnote (5). For example, 344.0 divided by population of 4,950 times factor of 892.7 equals 62 gpcd

(9) Note: Groundwater rights for Nephi City total 10,281 acre-feet from Table 1, page 26 of report cited in footnote (5). For this analysis it was assumed that a reasonalbe safe yield of groundwater in a dry year would be 20,000 acre-feet for both irrigation and M&I. Subtracting the 15,000 acre-feet for irrigation would leave 5,000 AF for M&I.

(10) From Table 1, page 26 of report cited in footnote (5)

(11) Groundwater pumping of 3,430 acre-feet is from page 5-6, SFN System Water Supply Appendix, volume I, March 1998. The amount of other groundwater pumping of 6,000 acre-feet is computed by subtracting both Mona (5,600 AF) and Salt Creek (3,400 AF) from the average historical groundwater pumping of 15,000 AF. The 15,000 AF is referred to on page 5-6 of the SFN System Water Supply Appendix, Volume I, March 1998 and in Table 4-4, page 4-11 of the same report.

(12) Dry year yield in 1961 from page B-9, SFN System Water Supply Appendix, Volume. III - "Flows At Selected Points",March 1998.

(13) Dry year yield of 1.68 is computed by dividing the sum of the groundwater yield (9,400 AF) and surface streams (3,800 AF) by irrigated acreage of 7,850 acres.

(14) Amount of agricultural conversion is computed by taking the incremental difference in population and divided by 6 people per acre. This value is then multiplied times the dry year yield of the agricultural water. For example, (6,506 minus 4,733) divided by 6 times 1.68 equals 496 acre-feet

(NOTE: All units in acre-feet unless otherwise noted)

Table D-3

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
Rocky Ridge

January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Population Projections (State of Utah - Office of Planning and Budget)	403	465	505	540	595	649
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year (footnote 1)	0.080	0.080	0.080	0.080	0.080	0.080
Acre-feet/year (footnote 2)	32	37	40	43	48	52
Potable Demand (gpcd) (footnote 3)	70	70	70	70	70	70
Residential Indoor (footnote 4)	55	55	55	55	55	55
Residential Outdoor (footnote 5)	12	12	12	12	12	12
Commerical, industrial, and institutional (footnote 6)	3	3	3	3	3	3
Non-potable outdoor demand (gpcd) (footnote 7)	0	0	0	0	0	0

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed for M&I		Portion of Gross Water Supply Presently Not Developed or Unavailable for M&I	
Dry Year Yield	(acre-feet)		(acre-feet)		(acre-feet)	
Groundwater Wells (footnote 8)		115		115		0
Springs (footnote 8)		0		0		0
Total		115		115		0
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	Ag. Irrig. Yield in acre-feet per acre		0.0			
Agricultural Irrigation water	0	0	0	0	0	0
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Culinary indoor demand in acre-feet	30	35	38	41	46	50
Springs	0	0	0	0	0	0
Groundwater wells	30	35	38	41	46	50
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Secondary (outdoor) demand in acre-feet	2	2	2	2	2	2
Springs	0	0	0	0	0	0
Groundwater wells	2	2	2	2	2	2
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Requirements for New Supplies	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	83	78	75	72	67	63
Unavailable Agricultural Water Within Declaration Boundary	negligible	negligible	negligible	negligible	negligible	negligible

FOOTNOTES:

(1) acre-feet per capita computed from line 6. For example, 70 gpcd divided by a factor of 892.7 converts gpcd to 0.080 acre-feet per capita

(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.08 acre-feet per capita times 403 = 32 acre-feet

(3) 70 gpcd is the sum of (55 + 12 + 3)

(4) Residential indoor of 55 gpcd is computed from Table 2, page 27, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources. For example 16.2 acre-feet (from Table 2) per year divided by population of 261 (from same table) equals 0.062 acre-feet per capita. This figure is multiplied by a conversion factor of 892.7 to get 55 gpcd.

(5) Table 2, page 27 from report cited in footnote (5). For example, 3.5 divided by population of 261 times conversion factor of 892.7 equals 12 gpcd

(6) Table 2, page 27 from report cited in footnote (5). For example, (0.6 + 0.0 + 0.4) divided by population of 261 times factor of 892.7 equals 3 gpcd

(7) Table 3, page 28 from report cited in footnote (5). Secondary outdoor use equals 0.0 for Rocky Ridge

(NOTE: All units in acre-feet unless otherwise noted)

Table D-4

Elk Ridge

Utah Lake Drainage Basin Water Delivery System

Summary of Available Water Supplies and Demand through Year 2050

March 15, 2004

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 2,057 acres (from Table 2, Brown and Caldwell Report, September 1999) **Irrigated acres = 0 acres** (from JUB Report, Table 10, March 1996)						
Population Projections (State of Utah - Office of Planning and Budget)	1,838	3,093	4,391	5,024	5,512	6,000
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.287	0.274	0.269	0.263	0.258	0.246
Acre-feet/year[2]	527	849	1,181	1,323	1,420	1,479
Total Water Use Gallons per capita per day[3]	256	245	240	235	230	220
Potable Demand (gpcd)	256	245	240	235	230	220
Indoor demand[4]	111	106	103	101	98	93
Outdoor demand[4]	132	127	124	122	119	114
Institutional, Commercial, and Industrial[4]	13	13	13	13	13	13
Non-potable outdoor demand in gpcd	0	0	0	0	0	0

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Well Rights[6]	643			643		0
Springs[7]	0			0		0
Subtotal		643		0		0
South Utah Valley Municipal Water Association (SUVMWA)[8]						0
Share of SUVMWA purchased water from East/South Jordan Canal Company	8.4		8.4		0.0	
Share of SUVMWA CUP M&I	33.4		33.4		0.0	
Subtotal		42		42		0
SVP water[9]						
Highline Canal	0		0		0	
Salem Canal	0		0		0	
Subtotal		0		0		0
Spanish Fork River water[9]						
Highline Canal	0		0		0	
Salem Canal	0		0		0	
Subtotal		0		0		0
Local streams[9]						
(none)	0		0		0	
(none)	0		0		0	
Subtotal		0		0		0
Total		**685**		**685**		0
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**SVP Yield in acre-feet per acre**		0.000	**Spanish Fork River Yield in acre-feet per acre**		0.000
SVP water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	527	849	1,181	1,323	1,420	1,479
Springs	0	0	0	0	0	0
Groundwater wells	485	643	643	643	643	643
SUVMWA	42	42	42	42	42	42
Remaining Demand for Culinary Supplies	0	164	496	638	735	794
Non-potable (outdoor) demand in acre-feet	0	0	0	0	0	0
Springs		0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
SUVMWA	0	0	0	0	0	0
SVP water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
FUTURE SUPPLIES TO BE DEVELOPED TO MEET NEEDS						
Additional Groundwater Wells	0	0	0	0	0	0
SVP Water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Total New Supplies Developed	0	0	0	0	0	0
Remaining Demand Not Met	0	164	496	638	735	794
Total Remaining Available Supplies	158	0	0	0	0	0
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:

(1) Total water use (256 gpcd) divided by a factor of 892.7 converts gpcd to 0.287 acre-feet per capita

(2) Acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.287 acre-feet per capita times population of 1,838 equals 527 acre-feet.

(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.

(4) Gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7

(5) Gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7

(6) From the following reports -

A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"

B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"

C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association

(7) Table 5, page 31 from report cited in footnote (4)

(8) From report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"

(9) There is no water from these sources available to Elk Ridge

Table D-5

Genola

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 9,011 acres Irrigated acres = 5,692 acres (both acreages are from JUB Report, Table 15, March 1996)						
Population Projections (State of Utah, Office of Planning and Budget)	965	1,565	2,392	4,744	11,467	18,191
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050 but limited to 190 gpcd)						
Acre-feet/capita/year[1]	0.262	0.259	0.255	0.252	0.249	0.246
Acre-feet/year[2]	253	405	611	1,196	2,852	4,483
Total Water Use Gallons per capita per day[3]	234	231	228	225	222	220
Potable Demand (gpcd)	147	144	141	138	136	134
Indoor demand[4]	80	78	77	75	74	73
Outdoor demand[4]	43	42	41	40	40	39
Institutional, Commercial, and Industrial[4]	24	24	23	23	22	22
Non-potable outdoor demand in gpcd[5]	87	87	87	87	86	86
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs[6]	2,915			240		2,675
Subtotal		2,915				
Groundwater Wells[7]	161	0		161		0
Subtotal		161				
South Utah Valley Municipal Water Association (SUVMWA)[8]						0
Share of SUVMWA purchased water from East/South Jordan Canal Company	6.0		6.0		0.0	
Share of SUVMWA CUP M&I	23.9		23.9		0.0	
Subtotal		30		30		0
SVP water[9]						
(none)	0		0		0	
(none)	0		0		0	
Subtotal		0		0		0
Spanish Fork River Water[10]						
Highline Canal	219		0		219	
Salem Canal	0		0		0	
Subtotal		219		0		219
Local streams[11]						
(none)	0		0		0	
(none)	0		0		0	
Subtotal		0		0		0
Total		**3,324**		**431**		**2,894**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**SVP Yield in acre-feet per acre**		0.00	**Spanish Fork River Yield in acre-feet per acre (footnote 12)**		0.02
SVP water[9]	0	0	0	0	0	0
Spanish Fork River water[13]	0	2	6	15	42	70
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	159	253	378	735	1,742	2,722
Springs	159	161	161	161	161	161
Groundwater wells	0	92	217	240	240	240
Remaining Demand for Culinary Supplies	0	0	0	334	1,341	2,321
Non-potable (outdoor) demand in acre-feet	94	152	233	460	1,110	1,761
Springs	2	0	0	0	0	0
Groundwater wells	92	122	23	0	0	0
SUVMWA	0	30	30	30	30	30
SVP water (existing)	0	0	0	0	0	0
Spanish Fork River water	0	0	6	15	42	70
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	174	415	1,038	1,661
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	168	735	2,337	2,605
SVP water (Culinary grade requirements)	0	0	0	0	0	0
SVP Water (secondary grade requirements)	0	0	0	0	0	0
Spanish Fork River water	0	0	6	15	42	70
Total New Supplies Developed	0	0	174	750	2379	2675
Remaining Demand Not Met	0	0	0	0	0	1,307
Total Remaining Available Supplies	3,071	2,919	2,713	2,128	472	148
Unavailable Agricultural Water Within Declaration Boundary	219	216	213	203	176	149

FOOTNOTES:

(1) Total water use (234 gpcd) divided by a factor of 892.7 converts gpcd to acre-feet per capita
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.263 acre-feet per capita times population of 965 equals 253 acre-feet.
(3) gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7
(5) gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7
(6) from the following reports -
A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"
C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association
(7) Table 5, page 31 from report cited in footnote (4)
(8) from report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
(9) No SVP water available for Elk Ridge
(10) ~~from Spanish Fork River Commissioner Report, dry year yield for 1961.~~ The amount obtained from this report was reduced by half under the assumption that only half the river water would become available for M&I use.
(11) not applicable
(12) computed by dividing 219 acre-feet of Spanish Fork River water in declaration bloundary acreage (9,011acres) to obtain a yield of 0.02 acre-feet per acre.
(13)Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied by the dry year yield of the agricultural water. Developable SVP supplies are calculated the same way except using the dry year yield of SVP water. Same procedure is completed for each successive 10 year increments with the amount of conversion being accumulated.

Table D-6

Goshen

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 485 acres Irrigated acres = 282 acres (both acreages are from the JUB Report, Table 17, March 1996)						
Population Projections (State of Utah - Office of Planning and Budget)	874	1,249	1,682	1,970	2,611	3,251
Future Demand With Conservation (12.1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.463	0.426	0.381	0.337	0.291	0.246
Acre-feet/year[2]	404	532	640	663	760	800
Total Water Use Gallons per capita per day[3]	413	380	340	300	260	220
Potable Demand (gpcd)	268	236	209	181	154	117
Indoor demand[4]	80	78	77	75	74	72
Outdoor demand[4]	139	110	85	60	35	0
Institutional, Commercial, and Industrial[4]	49	48	47	46	45	44
Non-potable outdoor demand in gpcd[5]	145	144	131	119	106	103
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs[6]	1,086			1,086		0
Subtotal		1,086				
Groundwater Wells[7]	188			188		0
Subtotal		188				
South Utah Valley Municipal Water Association (SUVMWA)[8]						0
Share of SUVMWA purchased water from East/South Jordan Canal Company	4.4		4.4		0.0	
Share of SUVMWA CUP M&I	17.5		17.5		0.0	
Subtotal		22		22		0
SVP water[9]						
(none)	0		0		0	
(none)	0		0		0	
Subtotal		0		0		0
Currant Creek water[10]						
Goshen Irrigation Canal	392		0		392	
(none)	0		0		0	
Subtotal		392		0		392
Local streams[11]						
(none)	0		0		0	
(none)	0		0		0	
Subtotal		0		0		0
Total		**1,687**		**1,296**		**392**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**SVP Yield in acre-feet per acre[12]**		0.00	**Goshen Irrigation Canal Yield in acre-feet per acre[13]**		0.81
SVP water[14]	0	0	0	0	0	0
Goshen Irrigation water[14]	0	0	58	97	392	392
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	262	331	394	400	450	425
Springs	262	331	394	400	450	425
Groundwater wells	0	0	0	0	0	0
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Non-potable demand in acre-feet	142	201	247	263	310	375
Springs	142	179	225	241	288	353
Groundwater wells	0	0	0	0	0	0
SUVMWA	0	22	22	22	22	22
SVP water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies To Be Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
SVP Water	0	0	0	0	0	0
Goshen Irrigation Canal	0	0	0	0	0	0
Total New Supplies Developed	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	1,284	1,155	1,046	1,025	928	887
Unavailable Agricultural Water Within Declaration Boundary	392	392	333	294	-1	-1

FOOTNOTES:

(1) Total water use (413 gpcd) divided by a factor of 892.7 converts gpcd to acre-feet per capita
(2) Acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.463 acre-feet per capita times population of 874 equals 404 acre-feet.
(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) Gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7
(5) Gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7
(6) Table 5, page 31 from report cited in footnote (4)
(7) From the following reports -
  A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
  B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"
  C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association
(8) From report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
(9) From Spanish Fork River Commissioner Report, dry year yield for 1961
(10) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961~~. The amounts obtained from this report were reduced by half under the assumption tht only 1/2 the river water would become available for M&I use.
(11) From water supply records using 1961 dry year yield
(12) No SVP water available for future development
(13) Computed by dividing 392 acre-feet of Goshen Canal irrigation water in declaration bloundary acreage (485 acres) to obtain a yield of 0.81 acre-feet per acre.
(14) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied by the dry year yield of the agricultural water. Developable SVP supplies are calculated the same way except using the dry year yield of SVP water. Same procedure is completed for each successive 10 year increments with the amount of conversion being accumulated.

Table D-7

Mapleton
Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 7,817 acres (from Brown & Caldwell Report, Table 2, September 1999) **Irrigated acres = 4,662 acres** (from JUB Report, Table 1, March 1996)						
Population Projections (State of Utah - Office of Planning and Budget)	5,809	9,403	14,928	20,990	27,507	34,024
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.600	0.502	0.416	0.326	0.291	0.246
Acre-feet/year[2]	3,488	4,718	6,203	6,842	8,014	8,381
Total Water Use Gallons per capita per day[3]	536	448	371	291	260	220
Potable Demand (gpcd)	263	200	148	96	94	92
Indoor demand[4]	80	78	77	75	74	72
Outdoor demand[4]	161	100	50	0	0	0
Institutional, Commercial, and Industrial[4]	22	22	21	21	20	20
Non-potable outdoor demand in gpcd[5]	273	248	223	195	166	128

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	(acre-feet)		(acre-feet)		(acre-feet)	
Springs[6]	1,904			1,904		0
Subtotal		1,904				
Groundwater Wells[7] (water rights equals 7,097 acre-feet)	7,097			5,323		1,774
Subtotal		7097				
South Utah Valley Municipal Water Association (SUVMWA)[8]						0
Share of SUVMWA purchased water from East/South Jordan Canal Company	28.8		28.8		0.0	
Share of SUVMWA CUP M&I	114.5		114.5		0.0	
Subtotal		143		143		0
SVP water[9]						
Mapleton Irrigation Co.	1,613		0		1,613	
East Bench Canal	214		0		214	
Subtotal		1,827		0		1,827
Spanish Fork River water[10]						
Mapleton Irrigation Co.	0		0		0	
East Bench Canal	196		90		106	
Subtotal		196		90		106
Local streams[11]						
Hobble Creek	500		500		0	
Maple Creek	1		1		0	
Subtotal		501		501		0
Total		**11,668**		**7,961**		**3,707**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	SVP Yield In acre-feet per acre[12]		0.234	Spanish Fork River Yield In acre-feet per acre[13]		0.014
SVP water[14]	0	140	355	591	1,827	1,827
Spanish Fork River water[14]	0	8	21	34	106	106
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	1,711	2,106	2,474	2,257	2,899	3,502
Springs	1,711	1,904	1,904	1,904	1,904	1,904
Groundwater wells	0	202	570	353	995	1,598
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Non-potable (outdoor) demand in acre-feet	1,776	2,612	3,729	4,585	5,115	4,879
Springs	193	0	0	0	0	0
Groundwater wells	992	1,714	2,551	2,551	2,448	2,212
SUVMWA	0	143	143	143	143	143
SVP water	0	155	420	1,255	1,827	1,827
Spanish Fork River water	90	99	114	135	196	196
Local front streams	501	501	501	501	501	501
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
SVP Water (Converted to culinary)	0	0	0	0	0	0
SVP Water for outdoor use	0		0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Total New Supplies Developed	0	0	0	0	0	0
Remaining Demand Not Met	1	0	0	0	0	0
Total Remaining Available Supplies	8,181	6,950	5,465	4,826	3,654	3,287
Unavailable Agricultural Water Within Declaration Boundary	1,933	1,785	1,557	1,307	0	0

FOOTNOTES:

(1) Total water use (536 gpcd) divided by a factor of 892.7 converts gpcd to acre-feet per capita
(2) Acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.600 acre-feet per capita times population of 5,809 equals 3,488 acre-feet.
(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) Gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7
(5) gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7
(6) Table 5, page 31 from report cited in footnote (4)
(7) From the following reports -
A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"
C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association
(8) From report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
(9) From Spanish Fork River Commissioner Report, dry year yield for 1961.The amount obtained From this report was amended on Aug 21, 2002, in accordance with the 2000 Federal Notice of Environmental Assessment issued by the Dept. of Interior, which limited SVP to 10,177 ac-ft across the ten cities.
(10) From Spanish Fork River Commissioner Report, dry year yield for 1961. The amounts obtained from this report were reduced by half under the assumption tht only 1/2 the river water
(11) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~ The amounts obtained from this report were reduced by half under the assumption tht only 1/2 the river water
(12) Computed by dividing 1827 acre-feet of SVP water declaration boundary acreage(7817 acres) to obtain a yield of .234 acre-feet per acre
(13) Computed by dividing 196 acre-feet of Spanish Fork River water declaration boundary acreage (7817 acres) to obtain a yield of 0.014 acre-feet per acre.
(14)Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied by the dry year yield of the agricultural water. Developable SVP supplies are calculated the same way except using the dry year yield of SVP water. Same procedure is completed for each successive 10 year increments with the amount of conversion being accumulated.

Table D-8

Payson

Utah Lake Drainage Basin Water Delivery System

Summary of Available Water Supplies and Demand through Year 2050

January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 24,721 acres (from Brown & Caldwell Report, Table 2, September 1999) **Irrigated acres = 10,616 acres** (from JUB Report, Table 13, March 1996).						
Population Projections (State of Utah - Office of Planning and Budget)	12,716	20,606	27,750	30,583	55,673	80,763
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050) Capped at 220 gpcd						
Acre-feet/capita/year[1]	0.308	0.297	0.287	0.277	0.256	0.246
Acre-feet/year[2]	3,921	6,124	7,970	8,480	14,263	19,899
Total Water Use Gallons per capita per day[3]	275	265	256	248	229	220
Potable Demand (gpcd)	150	147	144	142	139	136
Indoor demand[4]	79	78	76	75	73	72
Outdoor demand[4]	1	1	1	1	1	1
Institutional, Commercial, and Industrial[4]	70	69	67	66	65	63
Non-potable outdoor demand in gpcd[5]	125	118	112	106	90	84

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	(acre-feet)		(acre-feet)		(acre-feet)	
Springs[6]		1,448		1,448		0
Groundwater Wells[7]		7,057		3,300		3,757
South Utah Valley Municipal Water Association (SUVMWA)[8]						
Share of SUVMWA purchased water from East/South Jordan Canal Company	80		80		0	
Share of SUVMWA CUP M&I	316		316		0	
Subtotal		396		396		0
SVP water[9]						
Highline Canal	3,758		3,758		0	
Salem Canal	0		0		0	
Subtotal		3,758		3,758		0
Spanish Fork River water[10]						
Highline Canal	0		0		0	
Salem Canal	110		0		110	
Subtotal		110		0		110
Local streams[11]						
Payson (Peteeteneet) Creek	1,440		1,440		0	
Spring Lake	1,400		1,400		0	
Subtotal		2,840		2,840		0
Total		15,609		11,742		3,867

Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	SVP Yield in acre-feet per acre[12]		0.000	Spanish Fork River Yield in acre-feet per acre[13]		0.004
Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
SVP water[14]	0	0	0	0	0	0
Spanish Fork River water[14]	0	6	11	13	32	50

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Potable demand in acre-feet	2,141	3,400	4,488	4,848	8,651	12,300
Springs	1,448	1,448	1,448	1,448	1,448	1,448
Groundwater wells	693	1,952	3,040	3,300	3,300	3,300
Spring Lake	0	0	0	100	1,400	1,400
Unmet Demand for Culinary Supplies	0	0	0	0	2,503	6,152
Non-potable demand in acre-feet	1,781	2,724	3,482	3,631	5,613	7,600
Springs	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
SUVMWA	0	396	396	396	396	396
SVP water (existing)	1,781	1,840	1,840	1,840	3,758	3,758
Spanish Fork River water	0	0	0	0	19	50
Payson (Peteetenet) Creek	0	488	1,246	1,395	1,440	1,440
Unmet Demand for Secondary Supplies	0	0	0	0	0	1,956
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells (culinary use)	0	0	0	0	2,471	3,757
SVP Water (culinary requirements from agricultural conversions)	0	0	0	0	0	0
SVP Water (agriculture conversion)	0	0	0	0	0	0
Spanish Fork River water (agriculture conversion)	0	0	0	0	31	0
Total New Supplies Developed	0	0	0	0	2502	3757
Remaining Demand Not Met	0	0	0	0	0	4,350
Total Remaining Available Supplies	11,687	9,485	7,639	7,130	1,346	60
Unavailable Agricultural Water Within Declaration Boundary	110	104	99	97	78	60

FOOTNOTES:

(1) Total water use (275 gpcd) divided by a factor of 892.7 converts gpcd to acre-feet per capita

(2) Acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.372 acre-feet per capita times population of 12,716 equals 3,921 acre-feet.

(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.

(4) Gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7

(5) Gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7

(6) Table 5, page 31 from report cited in footnote (4)

(7) From the following reports -

A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"

B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"

C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association

(8) From report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"

(9) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~The amount obtained from this report was amended on Aug 21, 2002, in accordance with the 2000 Federal Notice of Environmental Assessment issued by the Dept. of Interior, which limited SVP to 10,177 ac-ft across the ten cities.

(10) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~ The amounts obtained from this report were reduced by half under the assumption that only 1/2 the river water would become available for M&I use.

(11) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~ The amounts obtained from this report were reduced by half under the assumption that only 1/2 the irrigation water would become available for M&I use.

(12) All SVP water is currently available within the city. No developable future supplies exist.

(13) Computed by dividing 110 acre-feet of Spanish Fork River water declaration boundary acreage (27721 acres) to obtain a yield of 0.004 acre-feet per acre.

(14) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied by the dry year yield of the agricultural water. Developable SVP supplies are calculated the same way except using the dry year yield of SVP water. Same procedure is completed for each successive 10 year increments with the amount of conversion being accumulated.

Table D-9

Salem

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Declaration boundary = 7,500 acres (from Brown & Caldwell Report, Table 2, September 1999) **Irrigated acres = 5,865 acres** (from JUB Report, Table 7, March 1996).

Population Projections (State of Utah - Office of Planning and Budget)	4,372	7,351	12,101	17,016	24,212	31,409
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050) limited to 220 gpcd minimum						
Acre-feet/capita/year[1]	0.258	0.255	0.254	0.252	0.250	0.246
Acre-feet/year[2]	1,126	1,877	3,074	4,288	6,053	7,727
Total Water Use Gallons per capita per day[3]	230	228	226	224	222	220
Potable Demand (gpcd)	230	178	99	97	95	93
Indoor demand[4]	80	78	77	75	74	72
Outdoor demand[4]	127	77	0	0	0	0
Institutional, Commercial, and Industrial[4]	23	23	22	22	21	21
Non-potable outdoor demand in gpcd[4]	0	50	127	127	127	127

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs[6]		200		200		0
Groundwater Wells[7]		3,592		3,344		248
South Utah Valley Municipal Water Association (SUVMWA)[8]						
Share of SUVMWA purchased water from East/South Jordan Canal Company	21.6		21.6		0.0	
Share of SUVMWA CUP M&I	85.7		85.7		0.0	
Subtotal		107		107		0
SVP water[9]						
Highline Canal	20		20		0	
Spanish Fork South	5		5		0	
Salem Canal	100		100		0	
Subtotal		125		125		0
Spanish Fork River water[10]						
Highline Canal	0		0		0	
Spanish Fork South	197		137		60	
Salem Canal	227		0		227	
Subtotal		423		137		286
Local streams[11]						
Salem Pond		86	86		0	
Subtotal		0		86		0
Total		**4,533**		**3,999**		**534**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	SVP Yield in acre-feet per acre[13]		0.000	Spanish Fork River Yield in acre-feet per acre[13]		0.038
SVP water[14]	0	0	0	0	0	0
Spanish Fork River water[14]	0	13	33	54	84	115

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

Potable demand in acre-feet	926	1,465	1,841	1,848	2,577	3,276
Springs	200	200	200	200	200	200
Groundwater wells	926	1,265	1,141	1,648	2,377	3,076
SUVMWA	0	0	0	0	0	0
Unmet Demand for Culinary Supplies	0	0	0	0	0	0
Non-potable demand in acre-feet	0	412	1,703	2,440	3,476	4,451
Springs	0	0	0	0	0	0
Groundwater wells	0	64	1,332	1,696	967	268
SUVMWA	0	107	107	107	107	107
SVP water	0	5	38	125	125	125
Spanish Fork River water	0	150	170	191	221	252
Local front streams	0	86	86	86	86	86
Unmet Demand for Secondary Supplies	0	0	0	235	1,970	3,613
FUTURE SUPPLIES TO BE DEVELOPED TO MEET M&I NEEDS						
Additional Groundwater Wells	0	0	0	235	248	248
SVP water (culinary grade)	0	0	0	0	0	0
SVP Water (non-potable outdoor use)	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Total New Supplies Developed	0	0	0	235	248	248
Remaining Demand Not Met	0	0	0	0	1,722	3,365
Total Remaining Available Supplies	3,121	2,383	1,206	13	0	0
Unavailable Agricultural Water Within Declaration Boundary	286	273	253	232	202	171

FOOTNOTES:

(1) Total water use (230 gpcd) divided by a factor of 892.7 converts gpcd to acre-feet per capita
(2) Acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.258 acre-feet per capita times population of 4,372 equals 1,126 acre-feet.
(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) Gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7
(5) Gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7
(6) Table 5, page 31 from report cited in footnote (4). The amount obtained in this report was amended as a result of an ionterview with the City on Aug. 7, 2002
(7) From the following reports -
A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"
C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association
The amount of ground water obtained form the reports above was amended on Aug. 20, 2002 from 5,642 to 3,592 ac-ft as a result of an interview with the City on August 14,
(8) From report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
(9) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~The amount obtained from this report was amended on Aug 21, 2002, in accordance with the 2000 Federal Notice of Environmental Assessment issued by the Dept. of Interior, which limited SVP to 10,177 ac-ft across the ten cities.
(10) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~ The amounts obtained from this report were reduced by half under the assumption that only 1/2 the river
(11) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~ The amounts obtained from this report were reduced by half under the assumption that only 1/2 the irrigation water would become available for M&I use.
(12) All SVP water is currently available within the city. No developable future supplies exist.
(13) Computed by dividing 125 acre-feet of Spanish Fork River water declaration boundary acreage (7500 acres) to obtain a yield of 0.038 acre-feet per acre.
(14) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied by the dry year yield of the agricultural water. Developable SVP supplies are calculated the same way except using the dry year yield of SVP water. Same procedure is completed for each successive 10 year increments with the amount of conversion being accumulated.

Table D-10

Santaquin

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 7,953 acres (from Brown & Caldwell Report, Table 2, September 1999) **Irrigated acres = 1,600 acres***						
Population Projections (State of Utah - Office of Planning and Budget)	4,834	9,822	16,865	24,263	43,442	62,621
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050) but limited to 220 gpcd						
Acre-feet/capita/year[1]	0.385	0.357	0.329	0.301	0.273	0.246
Acre-feet/year[2]	1,863	3,510	5,554	7,311	11,874	15,433
Total Water Use Gallons per capita per day[3]	344	319	294	269	244	220
Potable Demand (gpcd)	154	144	134	124	114	105
Indoor demand[4]	87	76	75	74	73	72
Outdoor demand[4]	58	59	50	41	32	24
Institutional, Commercial, and Industrial[4]	9	9	9	9	9	9
Non-potable outdoor demand in gpcd[5]	190	175	160	145	130	115

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs[6] (Note: 100 gpm goes to Genola or about 17 acre-feet per year)		1,158		1,158		0
Springs[6] (Note: 100 gpm goes to Genola or about 17 acre-feet per year)		3,844		414		3,430
Recent Purchase of East/South Jordan Canal Water[8a]		807		807		0
South Utah Valley Municipal Water Association (SUVMWA)[8]						
Share of SUVMWA purchased water from East/South Jordan Canal Company	21.2		21.2		0.0	
Share of SUVMWA CUP M&I	84.3		84.3		0.0	
Subtotal		106		106		0
SVP water[9]						
Highline Canal	0		0		0	
Salem Canal	0		0		0	
Subtotal		0		0		0
Local Irrigation Companies[10]						
Summit Creek Irrigation Company Well	1,450		0		1,450	
Summit Creek Irrigation Company	1,412		760		652	
East Santaquin Irrigation Company (Well)	385		0		385	
Subtotal		3,247		760		2,487
Total		**9,161**		**3,245**		**5,917**

Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	SVP Yield in Acre-feet per Acre		0	Summit Creek Irrigation Yield in acre-feet per acre[13]		0.313
SVP water[14]	0	0	0	0	0	0
Local Irrigation Companies	0	260	627	1,012	2,012	2,487

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

Potable demand in acre-feet	834	1,584	2,532	3,370	5,548	7,366
Springs	422	1,158	1,158	1,158	1,158	1,158
Groundwater wells	414	414	414	414	414	414
Remaining Demand for Culinary Supplies	0	0	960	1,798	3,976	5,794
Non-potable demand in acre-feet	1,029	1,925	3,023	3,941	6,326	8,067
Springs	1,029	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
SUVMWA	0	106	106	106	106	106
Recent purchase of East/South Jordan Canal Water	0	807	807	807	807	807
SVP Water	0	0	0	0	0	0
Local Irrigation Companies	0	760	760	760	760	760
Remaining Demand for Secondary Supplies	0	252	1,350	2,268	4,653	6,394
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	1,682	3,054	3,430	3,430
SVP Water	0	0	0	0	0	0
Local Irrigation Companies	0	252	627	1,012	2,012	2,487
Total New Supplies Developed	0	252	2,309	4,066	5,442	5,917
Remaining Demand Not Met	0	0	0	0	3,187	6,271
Total Remaining Available Supplies	4,810	3,437	1,747	376	-1	-1
Unavailable Agricultural Water Within Declaration Boundary	2,487	2,227	1,860	1,474	475	-1

FOOTNOTES:

*Irrigated acres from SFN Plan formulation report.

(1) Total water use (344 gpcd) divided by a factor of 892.7 converts gpcd to acre-feet per capita

(2) Present water use was obtained from City Engineer for Sanataquin on October 2, 2001

(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.

(4) Gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7

(5) Gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7

(6) Table 5, page 31 from report cited in footnote (4). The amount obtained in this report was amended as a result of an interview with the City on Aug. 7, 2002

(7) From the following reports -

A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"

B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"

C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association

(8) From report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"

(8a) Information obtained from Santaquin City Engineer on August 7, 2002

(9) No SVP water available for Santaquin

(10) No Spanish Fork River water available for Santaquin. Irrigation Company supply was reduced by 1/2 under the assumption that only half of the irrigation water would become available for M&I use.

(13) Computed by dividing 2487 acre-feet of Summit Creek Irrigation water by declaration boundary acreage of 7953 acres to obtain a yield of 0.313 acre-feet per acre.

(14) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied by the dry year yield of the agricultural water. Developable SVP supplies are calculated the same way except using the dry year yield of SVP water. Same procedure is completed for each successive 10 year increments with the amount of conversion being accumulated.

Table D-11

Spanish Fork

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 17,881 acres (from Brown & Caldwell Report, Table 2, September 1999) **Irrigated acres = 14,226acres** (from JUB Report, Table 4, March 1996)						
Population Projections (State of Utah - Office of Planning and Budget)	20,246	27,693	32,745	35,771	50,900	66,028
Future Demand With Conservation (12.72% by Year 2020 and 25% by Year 2050) - Not Intended to 190 gpcd						
Acre-feet/capita/year[1]	0.261	0.258	0.254	0.251	0.248	0.246
Acre-feet/year[2]	5,284	7,135	8,327	8,976	12,601	16,272
Total Water Use Gallons per capita per day[3]	233	230	227	224	221	220
Potable Demand (gpcd)	203	195	187	179	171	165
Indoor demand[4]	78	77	76	75	74	73
Outdoor demand[4]	75	70	65	60	55	52
Institutional, Commercial, and Industrial[4]	50	48	46	44	42	40
Non-potable outdoor demand in gpcd[5]	30	35	40	45	50	55

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs[6]	1,591		dry yr. yield	1,591		0
Subtotal		1,591				
Spring Creek[6]	4,691			4,691		0
Subtotal		4,691				
Groundwater Wells[7]	10,467			10,467		0
Subtotal		10,467				
South Utah Valley Municipal Water Association (SUVMW)[8]						
Share of SUVMWA purchased water from East/South Jordan Canal Company	108.0		108.0		0.0	
Share of SUVMWA CUP M&I	429.3		429.3		0.0	
Subtotal		537		537		0
SVP water[9]						
Highline Canal	219		219		0	
Mapleton Canal	48		48		0	
East Bench Canal	2,016		2,016		0	
Spanish Fork South Canal (20% of 1,045[9a])	137		137		0	
Southeast Canal (City will not expand onto this land[9a])	0		0		0	
Westfield (80% of 1,920[9a])	1,001		1,001		0	
Subtotal		3,421		3,421		0
Spanish Fork River water[10]						
Highline Canal	6		0		6	
Mapleton Canal	0		0		0	
East Bench Canal	626		626		0	
Spanish Fork South Canal (20% of 2,268)[10a]	227		144		83	
Southeast Canal (city will not expand onto this land[10a]	0		0		0	
Westfield (80% of 8,390 - see footnote 10a)	3,356		100		3,256	
Subtotal	8,429	4,215		870		3,345
Spring Exchange Water[11]						
Mill Race Exchange	238		238		0	
Malcolm Stream	635		635		0	
Spanish Fork City (SVP water)	0		0			
Subtotal	1,745	873		873		0
Total		**25,794**		**22,450**		**3,345**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**SVP Yield in acre-feet per acre**		0.000	**Spanish Fork River Yield in acre-feet per acre**		0.187
SVP water[14]	0	0	0	0	0	0
Spanish Fork River water[14]	0	232	390	484	955	1,427

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

Potable demand in acre-feet	4,604	6,049	6,859	7,173	9,750	12,204
Springs	1,591	1,591	1,591	1,591	1,591	1,591
Spring Creek	3,013	4,458	4,691	4,691	4,691	4,691
Groundwater wells	0	0	577	891	3,468	5,922
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Non-potable demand in acre-feet	680	1,086	1,467	1,803	2,851	4,068
Springs	0	0	0	0	0	0
Spring Creek	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
SUVMWA	537	537	537	537	537	537
SVP water	0	0	0	0	6	440
Spanish Fork River water	143	549	930	1,266	1,930	2,218
Local front streams	0	0	0	0	378	873
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
SVP Water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Total New Supplies Developed	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	20,510	18,659	18,045	17,709	16,661	15,444
Unavailable Agricultural Water Within Declaration Boundary	3,345	3,112	2,955	2,861	2,389	1,918

FOOTNOTES:

(1) Total water use (233 gpcd) divided by a factor of 892.7 converts gpcd to acre-feet per capita
(2) Acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.261 acre-feet per capita times population of 20,246 equals 5,284 acre-feet.
(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) Gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7
(5) Gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7
(6) Table 5, page 31 from report cited in footnote (4). The amount obtained in this report was amended as a result of an interview with the City on Aug. 7, 2002
(7) From the following reports -
A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"
C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association
The amount of ground water obtained form the reports above was amended on Aug. 20, 2002 from 5,642 to 3,592 ac-ft as a result of an interview with the City on August 14,
(8) From report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
(9) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~ The amount obtained from this report was amended on Aug 21, 2002, in accordance with the 2000 Federal Notice of Environmental Assessment issued by the Dept. of Interior, which limited SVP to 10,177 ac-ft across the ten cities.
(10) ~~From Spanish Fork River Commissioner Report, dry year yield for 1961.~~ The amounts obtained from this report were reduced by half under the assumption that only 1/2 the river water would become available for M&I use.
(10a) Percentages were obtained from Richard Heap, Spanish Fork City Engineer on August 7, 2002
(11) From report cited in Footnote 7 c and as amended with discussions with Spanish Fork City.
(12) All SVP water is currently available within the city. No developable future supplies exist.
(13) Computed by dividing the Spanish Fork River water available for future development (3,345 ac-ft) by declaration boundary acreage of 17,881 acres .
(14) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied by the dry year yield of the agricultural water. Developable SVP supplies are calculated the same way except using the dry year yield of SVP water. Same procedure is completed for each successive 10 year increments with the amount of conversion being accumulated.

Table D-12

Springville

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 11,185 acres (from Brown & Caldwell Report, Table 2, September 1999) **Irrigated acres = 4,780 acres**						
Population Projections (State of Utah - Office of Planning and Budget)	20,424	28,866	34,132	37,286	59,658	59,658
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.348	0.336	0.314	0.291	0.269	0.246
Acre-feet/year[2]	7,115	9,701	10,706	10,860	16,039	14,702
Total Water Use Gallons per capita per day[3]	311	300	280	260	240	220
Potable Demand (gpcd)	290	268	186	164	142	120
Indoor demand[4]	80	78	76	74	72	70
Outdoor demand[4]	73	70	0	0	0	0
Institutional, Commercial, and Industrial[4]	137	120	110	90	70	50
Non-potable outdoor demand in gpcd[5]	21	32	94	96	98	100

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs[6]	8,000					0
		8,000		8,000		
Groundwater Wells[7]	10,816					2,570
Subtotal		10,816		8246		
South Utah Valley Municipal Water Association (SUVMWA)[8]						
Share of SUVMWA purchased water from East/South Jordan Canal Company	116.4		116.4		0.0	
Share of SUVMWA CUP M&I	462.7		462.7		0.0	
Subtotal		579		579		0
SVP water[9]						
Springville Irrigation Co. (Mapleton Lateral)	1,051		1,051		0	
(none)	0		0		0	
Subtotal		1,051		1,051		0
Spanish Fork River water[10]						
Spanish Fork River water Mapleton Lateral	0		0		0	
(none)	0		0		0	
Subtotal		0		0		0
Local streams[11]						
Hobble Creek	2,104		2,104		0	
(none)	0		0		0	
Subtotal		2,104		2,104		0
Total		**22,550**		**19,980**		**2,570**

Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	SVP Yield (acre-feet per acre) (footnote 9)		0.000	Hobble Creek Yield (acre-feet per acre) (footnote 9)		0.000
SVP water (footnote 14)	0	0	0	0	0	0
Hobble Creek water (footnote 14)	0	0	0	0	0	0

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Potable demand in acre-feet	6635	8666	7112	6850	9490	8019
Springs	6635	8000	7112	6850	8000	8000
Groundwater wells	0	666	0	0	1490	19
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Non-potable demand in acre-feet	480	1035	3594	4010	6549	6683
Springs	0	0	0	276	0	0
Groundwater wells	0	0	0	0	2815	2949
SUVMWA	0	579	579	579	579	579
SVP water	0	0	911	1051	1051	1051
Hobble Creek water	480	456	2104	2104	2104	2104
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
SVP Water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Total New Supplies Developed	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	15,434	12,849	11,844	11,690	6,511	7,847
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:

(1) acre-feet per capita computed by 311 gpcd divided by a factor of 892.7 converts gpcd to 0.348 acre-feet per capita)
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.348 acre-feet per capita times population of 20,424 equals 7,115 acre-feet.
(3) gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7
(5) gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7
(6) Table 5, page 31 from report cited in footnote (4)
(7) from the following reports -
A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"
C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association
(8) from report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
(9) ~~A value of 4,490 acre-feet for ultimate potential for SVP water was obtained from Carpenter (1996) - report cited in footnote (6) A.~~ The amount obtained from this report was amended on Aug 21, 2002, in accordance with the 2000 Federal Notice of Environmental Assessment issued by the Dept. of Interior, which limited SVP to 10,177 ac-ft across the ten cities.
(10) not applicable
(11) ~~from Carpenter (1996) - report cited in footnote (6) A. The 3,439 includes (Springville Irrigation Company - 3,296 AF, plus Matson Spring Irrigation Company - 10 AF, Wood Spring Irrigation Company - 80 AF, Big Hollow Irrigation Company - 24 AF, Mill Pond Irrigation Company - 29 AF)~~ The amounts obtained from this report were reduced by half under the assumption tht only 1/2 the irrigation water would become available for M&I use.
(12) All SVP water is currently available within the city. No developable future supplies exist.
(13) All Hobble Creek water has already been developed. No developable future supplies exist.
(14)Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied by the dry year yield of the agricultural water. Developable SVP supplies are calculated the same way except using the dry year yield of SVP water. Same procedure is completed for each successive 10 year increments with the amount of conversion being accumulated.

Table D-13

Woodland Hills

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 2,051 acres (from Brown & Caldwell Report, Table 2, September 1999) **Irrigated acres = 0 acres** (from JUB Report, Table 9, March 1996)						
Population Projections (State of Utah - Office of Planning and Budget)	941	1,891	3,247	4,014	4,793	4,793
Future Demand With Conservation (not applicable because gpcd is significantly below 190 gpcd)						
Acre-feet/capita/year[1]	0.169	0.198	0.203	0.208	0.213	0.213
Acre-feet/year[2]	159	375	658	836	1,020	1,020
Total Water Use Gallons per capita per day[3]	151	177	181	186	190	190
Potable Demand (gpcd)	151	177	181	186	190	190
Indoor demand[4]	80	80	78	76	74	72
Outdoor demand[4]	71	67	63	60	58	55
Institutional, Commercial, and Industrial[4]	0	30	40	50	58	63
Non-potable outdoor demand in gpcd[5]	0	0	0	0	0	0

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs (footnote 6)		0		0		0
Subtotal		**0**				
Groundwater Wells (footnote 7)		456		456		0
South Utah Valley Municipal Water Association (SUVMWA) (footnote 8)						0
Share of SUVMWA purchased water from East/South Jordan Canal Company	5.6		5.6		0.0	
Share of SUVMWA CUP M&I	22.3		22.3		0.0	
Subtotal		28		28		0
SVP water						
Highline Canal	0		0		0	
Salem Canal	0		0		0	
Subtotal		0		0		0
Spanish Fork River water						
Highline Canal	0		0		0	
Salem Canal	0		0		0	
Subtotal		0		0		0
Local streams						
(none)	0		0		0	
(none)	0		0		0	
Subtotal		0		0		0
Total		**484**		**484**		**0**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted		0.000				0.000
SVP water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

Potable demand in acre-feet	159	375	658	836	1,020	1,020
Springs	0	0	0	0	0	0
Groundwater wells	159	347	456	456	456	456
SUVMWA		28	28	28	28	28
Remaining Demand for Culinary Supplies	0	0	174	352	536	536
Non-potable demand in acre-feet	0	0	0	0	0	0
Springs	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
SUVMWA	0	0	0	0	0	0
SVP water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
SVP Water	0	0	0	0	0	0
Spanish Fork River water	0	0	0	0	0	0
Total New Supplies Developed	0	0	0	0	0	0
Remaining Demand Not Met	0	0	174	352	536	536
Total Remaining Available Supplies	325	109	0	0	0	0
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:

(1) acre-feet per capita computed by 151 gpcd divided by a factor of 892.7 converts gpcd to 0.169 acre-feet per capita
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.169 acre-feet per capita times population of 941 equals 159 acre-feet.
(3) gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) gallons per capita per day (gpcd) for 1998 was obtained from the report "Municipal and Industrial Water Supply and Uses in Utah and East Juab Counties area", July 2000, by Hansen, Allen, and Luce for the Utah Division of Water Resources. GPCD was computed by multiplying acre-feet per capita from Table 6, page 32 by a conversion factor of 892.7
(5) gpcd for 1998 non-potable use was obtained from report cited in footnote 4 by multiplying acre-feet per capita from Table 7, page 34 (secondary use) by a factor of 892.7
(6) Table 5, page 31 from report cited in footnote (4)
(7) from the following reports -
A. Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"
B. Hansen, Allen, and Luce, July 2000, for Utah Division of Water Resources, "Municipal and Industrial Water Supply and Uses in the Utah and East Juab Counties Area"
C. JUB Engineers, March 1996, "Water Rights Analysis, Future Demands and Needs Inventory" for South Utah Valley Municipal Water Association
The amount obtained from these reports was amended on Aug 21, 2002 from a memo dated Jul 16, 2002 by Tony Fuller, Water rights specialist for the City of Salem
(8) from report by Carl Carpenter, June 1996, "Water Supply Planning Report for South Utah Valley Municipal Water Association"

Table D-14

Goshen Valley

Utah Lake Drainage Basin Water Delivery System

Summary of Available Water Supplies and Demand through Year 2050

January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Approximate Size of Boundary is 20,000 acres Irrigated acres =						
Population Projections (State of Utah - Office of Planning and Budget)	415	1,172	1,731	2,415	25,264	48,114
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.246	0.246	0.246	0.246	0.246	0.246
Acre-feet/year[2]	102	289	426	595	6,226	11,857
Total Water Use Gallons per capita per day[3]	220	220	220	220	220	220
Potable Demand (gpcd)	180	150	130	110	110	110
Indoor demand[4]	90	90	90	90	90	90
Outdoor demand[4]	70	40	20	0	0	0
Institutional, Commercial, and Industrial[4]	20	20	20	20	20	20
Non-potable outdoor demand in gpcd[4]	40	70	90	110	110	110

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs	0			0		0
Subtotal		0				
Groundwater Wells	0			0		0
Subtotal		0				
South Utah Valley Municipal Water Association (SUVMWA)						0
Subtotal		0		0		0
SVP water	0					
Subtotal		0		0		0
Irrigation water	0					
Current Creek Irrigation Company (private lands)	1,248		0		1,248	
Subtotal		1,248		0		1,248
Local streams	0					
Subtotal		0		0		0
Total		**1,248**		**0**		**1,248**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	SVP Yield in acre-feet per acre		0.00	Goshen Irrigation Canal Yield in acre-feet per acre		0.42
SVP water	0	0	0	0	0	0
Irrigation water	0	52	91	139	1,248	1,248
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	84	197	251	298	3,113	5,929
Springs						
Groundwater wells						
Remaining Demand for Culinary Supplies	84	197	251	298	3,113	5,929
Non-potable demand in acre-feet	19	92	175	298	3,113	5,929
Springs						
Groundwater wells						
SUVMWA						
SVP water						
Spanish Fork River water						
Local front streams						
Remaining Demand for Secondary Supplies	19	92	175	298	3,113	5,929
Future Supplies To Be Developed to Meet Population Growth						
Additional Groundwater Wells						
SVP Water						
Current Creek Irrigation Canal (private ownership of agricultural lands)		52	91	139	1,248	1,248
Total New Supplies Developed		52	91	139	1,248	1,248
Remaining Demand Not Met	102	237	335	456	4,978	10,609
Total Remaining Available Supplies	1,248	1,196	1,157	1,109	0	0
Unavailable Agricultural Water Within Declaration Boundary	1,248	1,196	1,157	1,109	0	0

FOOTNOTES:

(1) Total water use of 220 gpcd has been established for all new area in South Utah County and does not reflect actual usage.

(2) Acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.246 acre-feet per capita times population of 415 equals 102 acre-feet.

(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.

(4) An assumed value that was considered to be representative of future use.

Table D-15

West Mountain Area

Utah Lake Drainage Basin Water Delivery System

Summary of Available Water Supplies and Demand through Year 2050

January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = acres Irrigated acres = 4,274						
Population Projections (State of Utah - Office of Planning and Budget)	2,026	5,722	8,452	11,789	13,157	14,525
Future Demand With Conservation (12.4% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.246	0.246	0.246	0.246	0.246	0.246
Acre-feet/year[2]	499	1,410	2,079	2,905	3,242	3,580
Total Water Use Gallons per capita per day[3]	220	220	220	220	220	220
Potable Demand (gpcd)	180	150	130	110	110	110
Indoor demand[4]	90	90	90	90	90	90
Outdoor demand[4]	70	40	20	0	0	0
Institutional, Commercial, and Industrial[4]	20	20	20	20	20	20
Non-potable outdoor demand in gpcd[4]	40	70	90	110	110	110

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	(acre-feet)		(acre-feet)		(acre-feet)	
Springs	0			0		
Subtotal		0				0
Groundwater Wells (assume present demands met by existing wells)	500			500		
Subtotal		500				0
South Utah Valley Municipal Water Association (SUVMWA)	0			0		
Subtotal		0				0
SVP water	0					
Subtotal		0		0		0
Irrigation Company Water	3,086					
Lakeshore Irrigation Company (1961 yield of approx. 3,086 AF) see footnote 5						
Subtotal		3,086		3,086		0
Local streams	0					
Subtotal		0		0		0
Total		**3,586**		**3,586**		**0**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	SVP Yield in acre-feet per acre		0.00	Irrigation Water yield (acre-feet per acre)		0.72
SVP water	0	0	0	0	0	0
Irrigation water (see footnote 6 - assume 80% of growth will be on ag. lands)	0	356	619	940	1,072	1,203
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	409	961	1,227	1,453	1,621	1,790
Springs	0	0	0	0	0	0
Groundwater wells	409	500	500	500	500	500
Remaining Demand for Culinary Supplies	0	461	727	953	1,121	1,290
Non-potable demand in acre-feet	91	449	852	1,453	1,621	1,790
Springs						
Groundwater wells	91					
SUVMWA						
SVP water	0	0	0	0	0	0
Local front streams						
Remaining Demand for Secondary Supplies	0	449	852	1,453	1,621	1,790
Future Supplies To Be Developed to Meet Population Growth						
Additional Groundwater Wells						
SVP Water	0	0	0	0	0	0
Conversion of Lakeshore Irrigation Company	0	356	619	940	1,072	1,203
Total New Supplies Developed	0	356	619	940	1,072	1,203
Remaining Demand Not Met	(1)	554	960	1,465	1,670	1,877
Total Remaining Available Supplies	1	0	0	0	0	0
Unavailable Agricultural Water Within Declaration Boundary	3,086	2,730	2,467	2,146	2,014	1,883

FOOTNOTES:

(1) Total water use of 220 gpcd has been established for all new area in South Utah County and does not reflect actual usage.
(2) Acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.246 acre-feet per capita times population of 2026 equals 499 acre-feet.
(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) An assumed value that was considered to be representative of future use.
(5) Yield of 3,086 acre-feet is the 1961 dry year yield. Information obtained by the Draft Water Supply Appendix, March 1998, Volume 2, Bonneville Unit

Table D-16

West Shore Area (Mosida Area)
Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Approximate Area = 15,000 acres Irrigated acres = 0						
Population Projections (State of Utah, Office of Planning and Budget)	44	124	184	256	6,659	13,061
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.246	0.246	0.246	0.246	0.246	0.246
Acre-feet/year[2]	11	31	45	63	1,641	3,219
Total Water Use Gallons per capita per day[3]	220	220	220	220	220	220
Potable Demand (gpcd)	180	150	130	110	110	110
Indoor demand[4]	90	90	90	90	90	90
Outdoor demand[4]	70	40	20	0	0	0
Institutional, Commercial, and Industrial[4]	20	20	20	20	20	20
Non-potable outdoor demand in gpcd[4]	40	70	90	110	110	110

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs	0			0		0
Subtotal		0				
Groundwater Wells (assume 300 acre-feet of privately owned)	300			0		300
Subtotal		300				
South Utah Valley Municipal Water Association (SUVMWA)	0			0		0
Subtotal		0				
SVP water	0					0
Subtotal		0		0		
Irrigation Company Water	0					0
Subtotal		0		0		
Local streams	0					0
Subtotal		0		0		
Total		**300**		**0**		**300**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**SVP Yield in acre feet per acre**		0.00	**Irrigation Water yield (acre feet per acre)**		0.00
SVP water	0	0	0	0	0	0
Irrigation water	0	0	0	0	0	0
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	9	21	27	32	821	1,609
Springs						
Groundwater wells						
Remaining Demand for Culinary Supplies	9	21	27	32	821	1,609
Non-potable demand in acre-feet	2	10	19	32	821	1,609
Springs						
Groundwater wells						
SUVMWA						
SVP water						
Spanish Fork River water						
Local front streams						
Remaining Demand for Secondary Supplies	2	10	19	32	821	1,609
Future Supplies To Be Developed to Meet Population Growth						
Additional Groundwater Wells						
SVP Water						
Potential purchase of existing groundwater wells	11	31	45	63	300	300
Total New Supplies Developed	11	31	45	63	300	300
Remaining Demand Not Met	0	0	0	0	1,341	2,919
Total Remaining Available Supplies	289	269	255	237	0	0
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:
(1) Total water use of 220 gpcd has been established for all new area in South Utah County and does not reflect actual usage.
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.246 acre-feet per capita times population of 44 equals 11 acre-feet.
(3) Gallons per capita per day is the sum of Total potable use plus Non-potable use.
(4) An assumed value that was considered to be representative of future use.

Table D-17

Other Unincorporated Area

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = acres Irrigated acres =						
Population Projections (State of Utah Office of Planning and Budget)	8,169	6,944	4,861	1,944	1,878	1,811
Future Demand With Conservation: 5 1/2% by Year 2020 and 25% by Year 2050						
Acre-feet/capita/year[1]	0.246	0.246	0.246	0.246	0.246	0.246
Acre-feet/year[2]	2,013	1,711	1,196	479	463	446
Total Water Use Gallons per capita per day[3]	220	220	220	220	220	220
Potable Demand (gpcd)	180	150	130	110	110	110
Indoor demand[4]	90	90	90	90	90	90
Outdoor demand[4]	70	40	20	0	0	0
Institutional, Commercial, and Industrial[4]	20	20	20	20	20	20
Non-potable outdoor demand in gpcd[4]	40	70	90	110	110	110

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	(acre-feet)		(acre-feet)		(acre-feet)	
Springs	0			0		0
Subtotal		0				
Groundwater Wells	0			0		0
Subtotal		0				
South Utah Valley Municipal Water Association (SUVMWA)	0			0		0
Subtotal		0				
SVP water	0					0
Subtotal		0		0		
Irrigation Company Water	0					0
Subtotal		0		0		
Local streams	0					0
Subtotal		0		0		
Total		0		0		0
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	SVP Yield in acre-feet per acre		0.00	Rename this (yield in acre-feet per acre)		0.00
SVP water	0	0	0	0	0	0
Irrigation water	0	0	0	0	0	0

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

Potable demand in acre-feet	1,647	1,167	706	240	231	223
Springs						
Groundwater wells						
Remaining Demand for Culinary Supplies	(1,647)	(1,167)	(706)	(240)	(231)	(223)
Non-potable demand in acre-feet	366	545	490	240	231	223
Springs						
Groundwater wells						
SUVMWA						
SVP water						
Spanish Fork River water						
Local front streams						
Remaining Demand for Secondary Supplies	(366)	(545)	(490)	(240)	(231)	(223)
Future Supplies To Be Developed to Meet Population Growth						
Additional Groundwater Wells						
SVP Water						
Goshen Irrigation Canal						
Total New Supplies Developed	0	0	0	0	0	0
Remaining Demand Not Met	(2,013)	(1,711)	(1,196)	(479)	(463)	(446)
Total Remaining Available Supplies	0	0	0	0	0	0
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

Table D-18

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
Alpine
February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 4,597acres (acreage is from Appendix C-4, page 13, draft report, "North Utah County Water Needs", June 14, 2001						
Population Projections (State of Utah - Office of Planning and Budget)	7,146	9,874	11,752	15,675	18,900	18,900
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.361	0.338	0.316	0.301	0.286	0.271
Acre-feet/year[2]	2,580	3,181	3,722	4,305	4,999	5,596
Total Water Use Gallons per capita per day[3]	322	302	282	269	255	242
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	121	111	101	91	81	71
Indoor demand[4]	51	51	51	51	51	51
Outdoor demand[4]	50	40	30	20	10	0
Institutional, Commercial, and Industrial[4]	20	20	20	20	20	20
Non-potable outdoor demand in gpcd[4]	201	191	181	178	174	171

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	(acre-feet)		(acre-feet)		(acre-feet)	
Groundwater Wells[5]		4,716		4,716		0
Springs[6]		292		292		0
Local Streams (Surface Water)[7]						
Dry Creek (Alpine Irrigation Co.)	1,073		0		1,073	
Fort Creek (Alpine Irrigation Co.)	2,000		0		2,000	
Subtotal		3,073		0		3,073
Canals/Storage Water[7]						
Alpine District (Direct Flow)	70		70		0	
Alpine District (Storage)	51		51		0	
CUP	688		688		0	
Subtotal		809		809		0
Total		**8,890**		**5,817**		**3,073**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**Small urban irrigation lots yield (acre-feet per acre)**		1.53	**(see footnote 8 for explanation of how 1.53 was derived**		
Alpine Irrigation Company Conversion (footnote 9)	0	464	783	1,450	1,998	1,998

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Potable demand in acre-feet	969	1,228	1,330	1,598	1,715	1,503
Springs	292	292	292	292	292	292
Groundwater Wells (footnote 10)	677	936	1,038	1,306	1,423	1,211
Remaining Demand for Potable Supplies	0	0	0	0	0	0
Non-Potable Secondary demand in acre-feet	1,611	1,954	2,392	2,707	3,284	4,093
Springs	0	0	0	0	0	0
Groundwater wells (footnote 10)	1,611	1,650	1,879	1,898	2,475	3,284
Local Streams (Surface Water)	0	0	0	0	0	0
Canals/Storage Water (includes CUP - 688 AF)	0	304	513	809	809	809
.	0	0	0	0	0	0
.	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies To Be Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Alpine Irrigation Company Conversion	0	0	0	0	0	0
.	0	0	0	0	0	0
Total Requirement for New Supplies	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	3,237	3,099	2,878	2,962	2,816	2,219
Unavailable Agricultural Water Within Declaration Boundary	3,073	2,609	2,290	1,623	1,075	1,075

FOOTNOTES:

(1) calculated by dividing total water use by a factor of 892.7
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.361 acre-feet per capita times 7,146 = 2,580 acre-feet
(3) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources (UDWR)
(4) 201 gpcd is a computed value by first dividing year 1999 groundwater pumping 2,525 by year 1999 population of 7,000 which computes to 0.361 acre-feet per capita. By multiplying by 892.7 this converts to 322 gpcd. The second step is to subtract the potable water of 121 gpcd. (322 minus 121 = 201 gpcd)
(5) Table 5, page 10, draft report "North Utah County Water Needs Study", June 14, 2001, by Parsons for the CUWCD and north Utah County cities.
(6)From Table 5, page 31, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area," July 2000 by Hansen, Allen and Luce for UDWR.
(7) From Appendix C-7, page 16, draft report, "North Utah County Water Needs Study", June 14, 2001 by Parsons for the CUWCD and north Utah County cities multiplied times the dry year yield of the agricultural water. For example, (9,400 minus 7,146) divided by 6 times 1.611 equals 605 acre-feet
(8) 1.53 acre-feet per acre is derived by dividing the water supply in line 26 of 3,073 acre-feet by 2,008 acres. The 2,008 acres was derived by assuming that the lot sizes of 40,000 square feet (1 acre) and 217,800 square feet (5) acres which total to 2,008 acres would more nearly represent irrigated agriculture than city lots(from Appendix C-4, draft report, June 14, 2001, "North Utah County Water Needs Study", by Parsons for the CUWCD and north Utah County cities
(9)Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied times the dry year yield of the agricultural water. For example, (9,400 minus 7,146) divided by 6 times 1.611 equals 605 acre-feet
(10) Historical groundwater pumping equals 2,525 ac-ft. The combination of groundwater wells 677 plus 1,848 equals 2,525 acre-feet.

(NOTE: All units in acre-feet unless otherwise noted

Table D-19

American Fork
Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 8,665 acres Irrigated acres = 3,987acres (from draft report, "North Utah County Report, June 14, 2001)						
Population Projections (State of Utah - Office of Planning and Budget)	21,941	27,787	32,573	35,583	46,008	56,433
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.297	0.278	0.260	0.248	0.235	0.223
Acre-feet/year[2]	6,516	8,246	9,447	10,670	12,390	13,872
Total Water Use Gallons per capita per day[3]	265	249	232	221	210	199
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	260	240	215	190	165	140
Indoor demand[4]	75	75	75	75	75	75
Outdoor demand[4]	102	90	70	50	30	10
Institutional, Commercial, and Industrial[4]	88	75	70	65	60	55
Non-potable outdoor demand in gpcd[4]	5	9	17	31	45	59
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells[5]		15,559		15,559		0
Springs[6]		0		0		0
Local Streams (Surface Water)[7]						
American Fork River (irrigation water)	12,653		0		12,653	
Subtotal		12,653		0		12,653
Canals/Storage Water[7]						
Alpine District (Direct Flow)	290		290		0	
Alpine District (Storage)	206		206		0	
CUP	1,990		1,990		0	
Provo River Project (Deer Creek Reservoir)	500		500		0	
Subtotal		2,986		2,986		0
Total		**31,198**		**18,545**		**12,653**
Potential Agricultural Conversion Assuming 1 Acre per 9 People Converted	Irrigation Conversion Yield in 1-Foot per Acre		2.00	An assumed conservative yield of 2.0 acre-feet per acre was used for agricultural conversion		
Irrigation Conversion[8]	0	1,299	2,363	3,032	5,348	7,665
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	6,390	7,470	7,845	7,573	8,504	8,850
Springs	0	0	0	0	0	0
Groundwater wells[9]	6,390	7,470	7,845	7,573	8,504	8,850
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Non-Potable Secondary demand in acre-feet	126	775	1,602	3,096	3,886	5,022
Springs	0	0	0	0	0	0
Groundwater wells[9]	126	775	1,602	3,096	3,886	5,022
Local Streams (Surface Water)	0	0	0	0	0	0
Canals/Storage Water	0	0	0	0	0	0
.	0	0	0	0	0	0
.	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
.	0	0	0	0	0	0
.	0	0	0	0	0	0
Total Requirement for New Supplies	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	12,029	11,599	11,461	10,907	11,503	12,338
Unavailable Agricultural Water Within Declaration Boundary	12,653	11,354	10,290	9,621	7,305	4,988

FOOTNOTES:
(1) calculated by dividing total water use by a factor of 892.7
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.297 acre-feet per capita times 21,941 = 6,516 acre-feet
(3) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources(UDWR) (Note: acre-feet divided by population times 892.7 equals gpcd).
(4) lincludes outddoor potable (Table 6, page 32) and secondary (Table 7, page 34) Hansen, Allen, Luce, June 2000, report for UDWR
(5) Table 5, page 10, draft report, "North Utah County Water Needs Study", June 14, 2001, by Parsons for CUWCD and north Utah County cities.
(6) Table 5, page 31, from reported noted in footnote (3)
(7) Appendix L, page 86, from reported noted in footnote (5)
(8)Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied times the dry year yield of the agricultural water. For example, (29,615 minus 21,941) divided by 6 times 2.0 equals 2,558 acre-feet
(9) Historical groundwater pumping equals 6,188 acre-feet. The combination of groundwater wells 1,843 plus 4,345 equals 6,188 acre-feet.

(NOTE: All units in acre-feet unless otherwise noted

Table D-20

Cedar Fort
Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Population Projections (State of Utah - Office of Planning and Budget)	341	500	632	738	932	1,127
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050 but limited to 220 gpcd)						
Acre-feet/capita/year[1]	0.251	0.235	0.220	0.213	0.213	0.213
Acre-feet/year[2]	86	192	294	454	734	1,181
Total Water Use Gallons per capita per day[3]	224	210	196	190	190	190
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	164	157	150	147	147	147
Indoor demand[4]	69	69	69	69	69	69
Outdoor demand[4]	60	60	60	60	60	60
Institutional, Commercial, and Industrial[4]	35	35	35	35	35	35
Non-potable outdoor demand in gpcd[4]	60	53	46	43	43	43
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells[5]		0		0		0
Springs[6]		62		62		0
Local Streams (Surface Water)[7]						
(none)	0		0		0	
Subtotal		0		0		0
Canals/Storage Water[7]	0		0		0	
Un-named irrigation source	2,268		2,268		0	
Subtotal		2,268		2,268		0
Total		**2,330**		**2,330**		**0**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**From north Utah County Board Cedar Fort has rights to 2,268 acre-feet of irrigation water**					
from un-named irrigation sources	0	0	0	0	0	0
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	63	88	106	122	153	186
Springs	62	62	62	62	62	62
Groundwater Wells	0	0	0	0	0	0
Remaining Demand for Culinary Supplies	1	26	44	60	91	124
Non-Potable Secondary demand in acre-feet	23	104	187	332	580	995
Springs	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
Local Streams (Surface Water)	0	0	0	0	0	0
Canals/Storage Water (presently converted agriculture)	23	26	26	26	26	26
.	0	0	0	0	0	0
.	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	78	161	306	554	969
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells for indoor use (exchange with irrigation conversions)	1	26	44	60	91	124
Irrigation conversions to meet outdoor use	0	78	161	306	554	969
.	0	0	0	0	0	0
Total Requirement for New Supplies	1	104	206	366	646	1,093
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	2,244	2,138	2,036	1,876	1,596	1,149
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:
(1) calculated by dividing total water use by a factor of 892.7
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.184 acre-feet per capita times 341 = 63 acre-feet
(3) Gallons per capita per day (gpcd) are obtained from Table 5, page 31, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources
(4)Includes potable outdoor use (Table 5, page 31) and Secondary use (Table 7, page 34), "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area," July 2000 by Hansen, Allen and Luce for UDWR.
(5) From Table 5, page 31, (same reported as in footnotes (3) and (4)
(6) From Appendix F-5, page 39, draft report , "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.
(7) Unpublished data provided by consultant for study in footnote (6)

(NOTE: All units in acre-feet unless otherwise noted

Table D-21

Cedar Hills

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Population Projections (State of Utah - Office of Planning and Budget)	3,094	6,807	9,663	10,132	12,300	12,300
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050 ultimately to 220 gpcd)						
Acre-feet/capita/year[1]	0.260	0.244	0.228	0.217	0.213	0.213
Acre-feet/year[2]	804	1,659	2,198	2,195	2,617	2,617
Total Water Use Gallons per capita per day[3]	232	218	203	193	190	190
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	232	218	203	193	190	190
Indoor demand[4]	117	110	103	98	96	96
Outdoor demand[4]	105	98	91	86	84	84
Institutional, Commercial, and Industrial[4]	10	10	10	10	10	10
Non-potable outdoor demand in gpcd[4]	0	0	0	0	0	0

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells[5]		2,328		2,328		0
Springs[6]		0		0		0
Local Streams (Surface Water)[7]						
American Fork River	0		0		0	
Battle Creek	0		0		0	
Dry Creek (Alpine Irrigation Co.)	0		0		0	
Fort Creek (Alpine Irrigation Co.)	0		0		0	
Grove Creek	0		0		0	
Subtotal		0		0		0
Canals/Storage Water[7]						
Alpine District (Direct Flow -)	0		0		0	
Alpine District (Storage)	0		0		0	
CUP	675		675		0	
Pleasant Grove Irrigation Stock	608		608		0	
(None)	0		0		0	
(None)	0		0		0	
Subtotal		1,283		1,283		0
Total		3,611		3,611		0
Potential Agricultural Conversion Assuming 1 Acre per 3 People Converted	**Irrigation Conversion Yield (Acre-feet/acre)**		N/A			
(None)	0	0	0	0	0	0

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Potable demand in acre-feet	804	1,659	2,198	2,195	2,617	2,617
Springs	0	0	0	0	0	0
Groundwater wells (footnote 8)	804	1,659	2,198	2,195	2,328	2,328
Remaining Demand for Culinary Supplies	0	0	0	0	289	289
Non-Potable Secondary demand in acre-feet	0	0	0	0	0	0
Springs	0	0	0	0	0	0
Groundwater wells (footnote 8)	0	0	0	0	0	0
Local Streams (Surface Water)	0	0	0	185	140	0
Canals/Storage Water	0	0	0	0	0	0
.	0	0	0	0	0	0
.	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
.	0	0	0	0	0	0
.	0	0	0	0	0	0
Total Requirement for New Supplies	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	289	289
Total Remaining Available Supplies	2,807	1,952	1,413	1,231	1,143	1,283
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:

(1) calculated by dividing total water use by a factor of 892.7
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.260 acre-feet per capita times 3,094 = 804 acre-feet
(3) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources
(4)Includes potable outdoor use (Table 5, page 31) and Secondary use (Table 7, page 34), "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area," July 2000 by Hansen, Allen and Luce for UDWR.
(5) Table 5, page 10, draft report, "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.
(6) Table 5, page 31, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for UDWR
(7) Appendix E-5, page 33 (same reported as noted in footnote (5))
(8) Historical groundwater pumping equals 613 acre-feet (combination of line 27 and line 31 equals 613 in year 2000)

(NOTE: All units in acre-feet unless otherwise noted

Table D-22

Cedar Valley

Utah Lake Drainage Basin Water Delivery System

Summary of Available Water Supplies and Demand through Year 2050

February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = acres Irrigated acres =						
Population Projections (State of Utah, Office of Planning and Budget)	510	1,440	2,128	2,968	18,317	33,666
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.213	0.213	0.213	0.213	0.213	0.213
Acre-feet/year[2]	109	306	453	632	3,899	7,165
Total Water Use Gallons per capita per day[3]	190	190	190	190	190	190
Potable Demand (gpcd)	120	120	120	120	120	120
Indoor demand[4]	80	80	80	80	80	80
Outdoor demand[4]	20	20	20	20	20	20
Institutional, Commercial, and Industrial[4]	20	20	20	20	20	20
Non-potable outdoor demand in gpcd[4]	70	70	70	70	70	70

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs	0			0		0
Subtotal		0				
Groundwater Wells	0			0		0
Subtotal		0				
South Utah Valley Municipal Water Association (SUVMWA)	0					0
Subtotal		0		0		0
SVP water	0					
Subtotal		0		0		0
Irrigation Company Water	0					
Subtotal		0		0		0
Local streams	0					
Subtotal		0		0		0
Total		**0**		**0**		**0**
Potential Agricultural Conversion Assuming 1 Acre per 6 Pabhle Converted	SVP Yield in acre-feet per acre		0.00	Irrigation Water Yield (acre-feet per acre)		0.00
SVP water	0	0	0	0	0	0
Irrigation water	0	0	0	0	0	0
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	69	194	286	399	2,462	4,526
Springs						
Groundwater wells						
Remaining Demand for Culinary Supplies	69	194	286	399	2,462	4,526
Non-potable demand in acre-feet	40	113	167	233	1,436	2,640
Springs						
Groundwater wells						
SUVMWA						
SVP water						
Spanish Fork River water						
Local front streams						
Remaining Demand for Secondary Supplies	40	113	167	233	1,436	2,640
Future Supplies To Be Developed to Meet Population Growth						
Additional Groundwater Wells						
SVP Water						
Goshen Irrigation Canal						
Total New Supplies Developed						
Remaining Demand Not Met	109	306	453	632	3,899	7,165
Total Remaining Available Supplies	0	0	0	0	0	0
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:

(1) Total water use (220 gpcd) divided by a factor of 892.7 converts gpcd to acre-feet per capita

(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.246 acre-feet per capita times population of 510 equals 103acre-feet.

(3) gallons per capita per day is the sum of Total potable use plus Non-potable use.

(4) An assumed value that is considered to be representative of future use.

Table D-23

Eagle Mountain

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
February 3, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Population Projections (State of Utah - Office of Planning and Budget)	2,157	9,758	16,756	22,770	38,207	53,644
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.287	0.269	0.251	0.239	0.227	0.215
Acre-feet/year[2]	619	2,625	4,206	5,442	8,674	11,538
Total Water Use Gallons per capita per day[3]	256	240	224	213	203	192
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	256	240	224	213	203	192
Indoor demand	127	119	111	106	101	95
Outdoor demand	31	31	31	31	31	31
Institutional, Commercial, and Industrial	98	90	82	77	71	66
Non-potable outdoor demand in gpcd	0	0	0	0	0	0
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Springs	0		0			
Subtotal		0		0		0
Groundwater Wells (see footnote 4)	620		620			
Subtotal		620		620		0
Local Irrigation Water						
Sod farm, alfalfa, Cedar Valley Water, MonteVista Ranch (see footnote 5)	8,500		0		8,500	
Howard Ault (see footnote 5)	3,000		0		3,000	
Glade Berry (see footnote 5)	3,000		0		3,000	
	0		0		0	
	0		0		0	
Subtotal		14,500		0		14,500
Canals/Storage Water	0		0		0	
(none)	0		0		0	
(none)	0		0		0	
(none)	0		0		0	
(none)	0		0		0	
(none)	0		0		0	
(none)	0		0		0	
Subtotal		0		0		0
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**Irrigation Conversion Yield in ac-ft per acre**		2.00	**Rename this (yield in acre-feet per acre)**		0.00
Agriculture conversion	0	1,689	3,244	4,581	8,011	11,442
(none)	0	0	0	0	0	0
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	619	2,623	4,204	5,433	8,688	11,538
Springs	0	0	0	0	0	0
Groundwater wells	619	620	620	620	620	620
Remaining Demand for Culinary Supplies	0	0	3,584	4,813	8,068	10,918
Non-Potable Secondary demand in acre-feet	0	0	0	0	0	0
Springs	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
(none)	0	0	0	0	0	0
(none)	0	0	0	0	0	0
(none)	0	0	0	0	0	0
(none)	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Agriculture conversion	0	0	3,244	4,581	8,011	10,918
Purchase of water rights for exchange or water recycling	0	0	340	232	57	0
(none)	0	0	0	0	0	0
Total Requirement for New Supplies	0	0	3584	4813	8068	10918
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	14,501	14,500	10,916	9,687	6,432	3,582
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:

(1) calculated by dividing total water use by a factor of 892.7
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.287 acre-feet per capita times 2,157 = 619 acre-feet
(3) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources
(4) and (5) Information is based on meeting on November 11, 2002 and February 3, 2003 with representatives of Eagle Mountain who stated this water supply would go toward future needs. In addtion the representatives stated that water recycling would help meet future M&I demands.
(NOTE: All units in acre-feet unless otherwise noted

Table D-24

Highland

Utah Lake Drainage Basin Water Delivery System

Summary of Available Water Supplies and Demand through Year 2050

February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = (unknown) acres Irrigated acres = 1,907 acres						
Population Projections (State of Utah - Office of Planning and Budget)	8,172	14,940	20,120	23,564	28,163	28,163
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.270	0.253	0.236	0.228	0.221	0.213
Acre-feet/year[2]	2,206	3,782	4,753	5,383	6,213	5,993
Total Water Use Gallons per capita per day[3]	241	226	211	204	197	190
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	123	115	108	104	101	97
Indoor demand[3]	101	94	88	84	80	76
Outdoor demand[3]	17	17	17	17	17	17
Institutional, Commercial, and Industrial[3]	5	4	3	2	1	0
Non-potable outdoor demand in gpcd[3]	118	110	103	99	96	92

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells[4]		4,006		4,006		0
Springs[5]		0		0		0
Local Streams (Surface Water)[6]			0		0	
American Fork River	0		0		0	
Battle Creek	0		0		0	
Dry Creek (Alpine Irrigation Co.)	0		0		0	
Fort Creek (Alpine Irrigation Co.)	0		0		0	
Grove Creek	0		0		0	
Subtotal		0		0		0
Canals/Storage Water[7]					0	
Alpine District (Direct Flow -)	621		621		0	
Alpine District (Storage)	438		438		0	
CUP	394		394		0	
Provo River Project[8]	5,010		0		5,010	
Subtotal		6,463		1,453		5,010
Total		**10,469**		**5,459**		**5,010**
Potential Agricultural Conversion Assuming 1 Acre per 9 People Converted	**Irrigation conversion yield is not a calculated value. It is an input value from unpublished data for north Utah County (footnote 7)**					
Agriculture conversion[8]	0	474	1,068	1,986	1,986	1,986
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	1,126	1,933	2,433	2,757	3,186	3,075
Springs	0	0	0	0	0	0
Groundwater wells	1,126	1,933	2,433	2,757	3,186	3,075
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Non-Potable Secondary demand in acre-feet	1,080	1,849	2,320	2,625	3,028	2,918
Springs	0	0	0	0	0	0
Groundwater wells	1,080	1,849	1,210	1,172	820	931
Local Streams (Surface Water)	0	0	0	0	0	0
Canals/Storage Water	0	0	1,110	1,453	1,453	1,453
.	0	0	0	0	0	0
	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	755	534
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Agriculture conversion	0	0	0	0	755	534
	0	0	0	0	0	0
Total Requirement for New Supplies	0	0	0	0	755	534
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	3,253	2,151	1,774	2,063	1,231	1,452
Unavailable Agricultural Water Within Declaration Boundary	5,010	4,536	3,942	3,024	3,024	3,024

FOOTNOTES:

(1) calculated by dividing total water use by a factor of 892.7

(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.250 acre-feet per capita times 8,172 = 2,043 acre-feet

(3) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources (UDWR)

(4) Table 7, page 34 (from reported cited in footnote (3)

(5) Table 5, page 10 draft report "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.

(6) From Table 5, page 31, "Municipal and Industrial Water Supply and Uses in utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for UDWR

(7)From Appendix L, page 88 draft report "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.

(8) No information is available for how this water is used. It is carried forward (line item 47) and assumed to be irrigation water for urban lots and agricultural land

(NOTE: All units in acre-feet unless otherwise noted

Table D-25

Lehi
Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 14,092 acres Irrigated acres = 7,921 acres (approximately 2,000 acres served by secondary system)						
Population Projections (State of Utah - Office of Planning and Budget)	19,028	31,302	44,437	48,975	69,036	89,098
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.389	0.354	0.319	0.285	0.250	0.213
Acre-feet/year[2]	7,396	11,080	14,187	13,935	17,245	18,963
Total Water Use Gallons per capita per day[3]	347	316	285	254	223	190
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	78	78	78	78	78	78
Indoor demand[3]	65	65	65	65	65	65
Outdoor demand (residential potable)[3]	0	0	0	0	0	0
Institutional, Commercial, Industrial[3]	13	13	13	13	13	13
Non-Potable outdoor demand (gpcd)[4]	269	238	207	176	145	112
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells[5]		6,429		6,429		0
Secondary Groundwater Wells[4]		5,125		5,125		0
Springs[6]		338		338		0
Local Streams (Surface Water)[7]						
American Fork River (Lehi Irrigation Co.)	4,390		0		4,390	
Dry Creek (Lehi Irrigation Co.)	8,168		0		8,168	
Subtotal		12,558		0		12,558
Canals/Storage Water[7]			0		0	
Alpine District (Direct Flow)	798		798		0	
Alpine District (Storage)	394		394		0	
CUP	1,116		1,116		0	
Provo River Project (Deer Creek Reservoir)	500		500		0	
Subtotal		2,808		2,808		0
Total		**27,258**		**14,700**		**12,558**
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	**Irrigation Conversion Yield (inc-ft per acre)**		2.12	**(see footnote 8 for explanation of 2.12 acre-feet per acre)**		
Agricultural Conversion (footnote 9)	0	2,891	5,985	7,054	11,780	12,558
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	1,663	2,735	3,883	4,279	6,032	7,785
Springs	338	338	338	338	338	338
Groundwater Wells (culinary) (footnote 10)	1,325	2,397	3,545	3,941	5,694	6,429
Remaining Demand for Culinary Supplies	0	0	0	0	0	1,018
Non-Potable Secondary demand in acre-feet	5,734	8,345	10,304	9,656	11,213	11,178
Springs	0	0	0	0	0	0
Secondary Groundwater Wells (footnote 10)	5,466	5,466	5,466	5,466	5,466	5,466
Local Streams (Surface Water)	0	0	0	0	0	0
Canals/Storage Water	268	2,808	2,808	2,808	2,808	2,808
Remaining Demand for Secondary Supplies	0	71	2,030	1,382	2,939	2,904
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Agriculture conversion	0	71	2,030	1,382	2,939	3,922
.	0	0	0	0	0	0
Total Requirement for New Supplies	0	71	2,030	1,382	2,939	3,922
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	7,303	6,511	6,499	7,819	9,235	8,295
Unavailable Agricultural Water Within Declaration Boundary	12,558	9,667	6,573	5,504	778	0

FOOTNOTES:
(1) calculated by dividing total water use by a factor of 892.7
(2) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources
(3) From the UDWR - Hansen, Allen, Luce Study - 2000 and the north Utah County Study of 2001
Lehi has a secondary system that historically supplies 5,125 acre-feet to residents, commerical, and includes 2,000 acres of urban irrigated farm lands.
(4) Table 7, page 34,UDWR - Hansen, Allen, Luce -2000 the amount of secondary use for 1998 was 5,125 acre-feet. Based on population of 17,000 in 1998 the per capita water water use rate would be 269 gpcd.
(5) Table 5, page 10, total grounwater pumping 11,554 acre-feet (6,429 plus 5,125) "North Utah County Study", June 2001, by Parsons for the CUWCD and north Utah County cities
(6) From Table 5, page 31, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources
(7) Appendix L, page 86, "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.
(8) The number 2.12 is derived by dividing volume of water in line 18 (12,558 acre-feet) by irrigated acreage of (7921 acres -2000 acres) 5,921 acres
(9) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre. This value is then multiplied times the dry year yield of the agricultural water. For example, (31,302 minus 19,028) divided by 6 times 2.12 acre-feet per acre equals 4,337 acre-feet.
(10) From unpublished data "north Utah County Water Needs Study", June 2001, the amount of historical groundwater pumping equals 6,429 acre-feet. groundwater pumping in line 35 is obtained by subtracting 6,429 minus 1,325 (line 31) which equals 5,466 acre-feet

(NOTE: All units in acre-feet unless otherwise noted

Table D-27

Saratoga Springs
Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 15,169 acres Irrigated acres = 4,987 acres						
Population Projections (State of Utah - Office of Planning and Budget)	1,003	8,993	18,005	23,450	38,606	53,762
Future Demand With Conservation						
Acre-feet/capita/year[1]	0.451	0.347	0.250	0.240	0.227	0.215
Acre-feet/year[2]	453	3,123	4,498	5,621	8,779	11,563
Total Water Use Gallons per capita per day[3]	403	310	223	214	203	192
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	403	105	87	87	87	87
Indoor demand[3]	67	67	67	67	67	67
Outdoor demand (residential potable)[4]	254	0	0	0	0	0
Institutional, Commercial, Industrial[3]	82	38	20	20	20	20
Non-Potable outdoor demand (gpcd)[3]	0	205	136	127	116	105
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells[5]		1,598		1,598		0
Springs[6]		0		0		0
Local Streams (Surface Water)[7]	0		0		0	
American Fork River	0.0		0.0		0.0	
Battle Creek	0.0		0.0		0.0	
Dry Creek		0		0		0
Fort Creek						
Grove Creek	0		0		0	
Subtotal		0		0		0
Canals/Storage Water[7]						
Alpine District (Direct Flow -)	0		0		0	
Alpine District (Storage)	0		0		0	
CUP	0		0		0	
Provo River Project (Deer Creek Reservoir)		0		0		0
Welby Jacob Canal	2,168		0		2,168	
Utah Lake Distributing Canal	6,243		342		5,901	
Subtotal		8,411		342		8,069
Total		**10,009**		**1,940**		**8,069**
Potential Agricultural Conversion Assuming 1 Acre per 8 People Converted	**Irrigation Conversion Yield in acre-ft per acre**		1.687	**(see footnote 8 for explanation of 1.687 acre-feet per acre)**		
Agricultural Conversion	0	1,498	3,187	4,208	7,048	8,069
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	453	1,058	1,755	2,285	3,762	5,239
Springs	0	0	0	0	0	0
Groundwater wells (footnote 9)	453	1,058	1,598	1,598	1,598	1,598
Remaining Demand for Culinary Supplies	0	0	157	687	2,164	3,641
Non-Potable Secondary demand in acre-feet	0	2,065	2,743	3,336	5,017	6,324
Springs	0	0	0	0	0	0
Groundwater wells (footnote 9)	0	225	0	0	0	0
Canals/Storage Water	0	342	342	342	342	342
(not applicable)	0	0	0	0	0	0
(not applicable)	0	0	0	0	0	0
(not applicable)	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	1,498	2,401	2,994	4,675	5,982
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells from Local Agricultural Exchange (see footnote 10)	0	0	157	687	2,087	2,087
Agricultural Conversion (see footnote 11)	0	1,498	2,401	2,994	4,675	5,982
Additional Purchased Water Exchanged to Wells	0	0	0	0	77	1,554
Total Requirement for New Supplies	0	1,498	2,558	3,681	6,839	9,623
Remaining Demand Not Met	0	0	0	0	Footnote 12	Footnote 12
Total Remaining Available Supplies	1,145	315	629	527	209	0
Unavailable Agricultural Water Within Declaration Boundary	8,411	6,571	4,882	3,861	1,021	0

FOOTNOTES:
(1) calculated by dividing total water use by a factor of 892.7
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.451 acre-feet per capita times 1,003 = 457 acre-feet
(3) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources (UDWR)
(4) Table 7, page 34 from report cited in footnote (3)
(5) Table 5, page 10 draft report, "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.
(6) Table 5, page 31, from report cited in footnote (3)
(7) From Appendix K-5, page 82-83, from report cited in footnote (5)
(8) The number 1.687 is derived by dividing volume of water in line 20 (8,411 acre-feet) by irrigated acreage of 4,987 acres
(9) Historical groundwater pumping equals 453 acre-feet.
(10) The assumption was made that Saratoga Springs would be able to purchase a water supply from other sources and exchange that supply to groundwater pumping.
(11) The assumption was made that through a minimum treatment process the Utah Lake agricultural water could be treated to an acceptable standard for outdoor use.
(12) There is a demand for 77 acre-feet in year 2040 and 1,554 acre-feet in year 2050. As an example, this demand could be met through the purchase of another entities Utah Lake water rights and then exchange this right for groundwater pumping
(NOTE: All units in acre-feet unless otherwise noted

Table D-26

Pleasant Grove

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = (unknown) acres Irrigated acres = 2,642 acres						
Population Projections (State of Utah - Office of Planning and Budget)	23,468	27,334	30,415	30,226	40,700	40,700
Future Demand With Conservation (12.1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year[1]	0.190	0.190	0.190	0.190	0.190	0.190
Acre-feet/year[2]	4,469	5,205	5,792	5,756	7,751	7,751
Total Water Use Gallons per capita per day[3]	170	170	170	170	170	170
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	170	170	170	170	170	170
Indoor demand[3]	71	71	71	71	71	71
Outdoor demand[3]	24	24	24	24	24	24
Institutional, Commercial, and Industrial[3]	75	75	75	75	75	75
Non-potable outdoor demand in gpcd[3]	0	0	0	0	0	0
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells[4]		14,716		14,716		0
Springs[5]		1,234		1,234		0
Local Streams (Surface Water)[6]						
American Fork River	4,652		0		4,652	
Battle Creek	2,000		0		2,000	
Grove Creek	2,000		0		2,000	
Subtotal		8,652		0		8,652
Canals/Storage Water[6]						
Alpine District (Storage)	826		826		0	
CUP	1,539		1,539		0	
Provo River Project (Deer Creek Reservoir)	1,011		1,011		0	
Subtotal		3,376		3,376		0
Total		**27,978**		**19,326**		**8,652**
Potential Agricultural Conversion Assuming 1 Acre per 9 People Converted	**Irrigation conversion Yield in ac-ft per acre**		Variable			
Agricultural conversion[4]	0	1,110	2,130	2,809	2,809	2,809
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	4,469	5,205	5,792	5,756	7,751	7,751
Springs	1,234	1,234	1,234	1,234	1,234	1,234
Groundwater wells	3,235	3,971	4,558	4,522	6,517	6,517
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Non-Potable Secondary demand in acre-feet	0	0	0	0	0	0
Springs	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
Local Streams (Surface Water)	0	0	0	0	0	0
Canals/Storage Water	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
Total Requirement for New Supplies	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	14,857	15,231	15,664	16,379	14,384	14,384
Unavailable Agricultural Water Within Declaration Boundary	8,652	7,542	6,522	5,843	5,843	5,843

From North Utah County Study - 2001
Historical groundwater usage = 7,653 acre-feet
Surface water supply = 2,282 acre-feet

FOOTNOTES:
(1) calculated by dividing total water use by a factor of 892.7
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.304 acre-feet per capita times 23,468 = 7,134 acre-feet
(3) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources (UDWR)
(4) Table 5, page 10, draft report, "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.
(5) Table 5, page 31, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000, Hansen, Allen, Luce for UDWR
(6) From Appendix J-7, page 74 draft report, "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.

(NOTE: All units in acre-feet unless otherwise noted

Table D-28

Draper

Utah Lake Drainage Basin Water Delivery System

Summary of Available Water Supplies and Demand through Year 2050

February 1, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Declaration boundary = 15,169 acres Irrigated acres = 4,987 acres						
Population Projections (State of Utah - Office of Planning and Budget)	0	4,758	7,833	10,448	14,000	14,000
Future Demand With Conservation						
Acre-feet/capita/year[1]	0.000	0.213	0.213	0.213	0.213	0.213
Acre-feet/year[2]	0	1,013	1,668	2,225	2,982	2,982
Total Water Use Gallons per capita per day[3]	0	190	190	190	190	190
Potable Demand (gpcd) (equals the sum of line 8, line 9, and line 10)	0	190	190	190	190	190
Indoor demand[3]	0	96	96	96	96	96
Outdoor demand (residential potable)[4]	0	84	84	84	84	84
Institutional, Commercial, Industrial[3]	0	10	10	10	10	10
Non-Potable outdoor demand (gpcd)[3]	0	0	0	0	0	0

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Dry Year Yield	**(acre-feet)**		**(acre-feet)**		**(acre-feet)**	
Groundwater Wells[5]		0		0		0
Springs[6]		0		0		0
Local Streams (Surface Water)[7]	0		0		0	
American Fork River	0.0		0.0		0.0	
Battle Creek	0.0		0.0		0.0	
Dry Creek		0		0		0
Fort Creek						
Grove Creek	0		0		0	
Subtotal		0		0		0
Canals/Storage Water[7]						
Alpine District (Direct Flow -)	0		0		0	
Alpine District (Storage)	0		0		0	
CUP	0		0		0	
Provo River Project (Deer Creek Reservoir)		0		0		0
Welby Jacob Canal	0		0		0	
Utah Lake Distributing Canal	0		0		0	
Subtotal		0		0		0
Total		0		0		0

Potential Agricultural Conversion Assuming 1 Acre per 9 People Converted	Irrigation Conversion Yield in acre-feet per acre		0.000	(see footnote 8 for explanation of 1.687 acre-feet per acre)		
Agricultural Conversion	0	0	0	0	0	0
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Potable demand in acre-feet	0	1,013	1,667	2,224	2,980	2,980
Springs	0	0	0	0	0	0
Groundwater wells (footnote 9)	0	0	0	0	0	0
Remaining Demand for Culinary Supplies	0	1,013	1,667	2,224	2,980	2,980
Non-Potable Secondary demand in acre-feet	0	0	0	0	0	0
Springs	0	0	0	0	0	0
Groundwater wells (footnote 9)	0	0	0	0	0	0
Canals/Storage Water	0	0	0	0	0	0
(not applicable)	0	0	0	0	0	0
(not applicable)	0	0	0	0	0	0
(not applicable)	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Agricultural Conversion	0	0	0	0	0	0
(not applicable)	0	0	0	0	0	0
Total Requirement for New Supplies	0	0	0	0	0	0
Remaining Demand Not Met	0	1,013	1,667	2,224	2,980	2,980
Total Remaining Available Supplies	0	0	0	0	0	0
Unavailable Agricultural Water Within Declaration Boundary	0	0	0	0	0	0

FOOTNOTES:

(1) calculated by dividing total water use by a factor of 892.7

(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.451 acre-feet per capita times 1,221 = 551 acre-feet

(3) Gallons per capita per day (gpcd) are obtained from Table 6, page 32, "Municipal and Industrial Water Supply and Uses in Utah & Juab Counties Area, July 2000 by Hansen, Allen, and Luce for the Utah Division of Water Resources (UDWR)

(4) Table 7, page 34 from report cited in footnote (3)

(5) Table 5, page 10 draft report, "North Utah County Water Needs Study", June 2001, by Parsons for the CUWCD and north Utah County cities.

(6) Table 5, page 31, from report cited in footnote (3)

(7) From Appendix K-5, page 82-83, from report cited in footnote (5)

(8) The number 1.687 is derived by dividing volume of water in line 20 (8,411 acre-feet) by irrigated acreage of 4,987 acres

(9) Historical groundwater pumping equals 294 acre-feet. The combination of groundwater wells 204 (line 27) plus 90 (line 31) equals 294 acre-feet for year 2000.

(NOTE: All units in acre-feet unless otherwise noted

Table D-29

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050

Metropolitan Water District of Salt Lake and Sandy
(Sandy City Service Area)

Item	Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
1	**Declaration Boundary = Sandy City Water Service Area 16,102 acres, Sandy City Corporate Boundaries 14,496 acres**						
2	**Irrigated acres within declaration boundary = Minimal**						
3	**Municipal water rights = See Items 10 through 26**						
4	Population Projections - Sandy City Service Area (State of Utah - Office of Planning and Budget) (footnote 1)	122,734	140,228	143,424	146,546	172,978	197,558
4a	Population Projections - Sandy City (State of Utah - Office of Planning and Budget) (footnote 1)	88,418	118,161	121,032	124,030	146,724	167,204
5	Future Demand With Conservation (12 1/2 % by Year 2020 and 25% by Year 2050)						
6	Acre-Feet per capita per year (footnote 2)	0.285	0.267	0.2494	0.2375	0.2256	0.2138
7	Acre-Feet per year (footnote 3)	34,979	37,467	35,766	34,803	39,030	42,228
8	Gallons per capita per day (gpcd) (footnote 4)	254	239	223	212	201	191
9	CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
10	**Sources of Water**	**Dry Year Yield (Units:acre-feet)**		**Dry Year Yield (Units:acre feet)**		**Dry Year Yield (Units:acre-feet)**	
11	**Water Year Conditions**	**Dry**		**Dry**		**Dry**	
12	**Wells -** (footnote 5)		14,740		14,740		0
13	**Springs**		0		0		0
14	**Surface Water** (footnote 5)						
15	Useable Rights in Little Cottonwood Creek	7,450		7,450			0
16	Undeveloped Rights in Bell Canyon	874		0			874
17			8,324		7,450		0
18	**Wholesale Water Purchases** (footnote 5)						
19	Metropolitan Water District of Salt Lake and Sandy - Preferred Rights	7,940		7,940			0
20	Metropolitan Water District of Salt Lake and Sandy - Surplus	0		0			0
21	Jordan Valley Water Conservancy District	315		315			0
22			8,255		8,255		
23	Total Dependable Water Supply		31,319		30,445		874
24	SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET NEEDS (Dry Year)						
25	Sandy City does not have a separate secondary system for outdoor demand. Hence, the total demand has not been divided between indoor and outdoor demand.						
26		YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
27	**Total Demand (indoor and outdoor)**	34,979	37,467	35,766	34,803	39,030	42,228
28	Groundwater wells	14,740	14,740	14,740	14,740	14,740	14,740
29	Surface Water - Little Cottonwood Creek	7,450	7,450	7,450	7,450	7,450	7,450
30	Wholesale - Metropolitan Water District of Salt Lake and Sandy - Preferred Rights	7,940	7,940	7,940	7,940	7,940	7,940
31	Wholesale - Jordan Valley Water Conservancy District	315	315	315	315	315	315
32	*Remaining Demand - Dry Year*	4,534	7,022	5,321	4,358	8,585	11,783
33	FUTURE SUPPLIES TO MEET POPULATION GROWTH						
34	Treatment of Bell Canyon water at Little Cottonwood Water Treatment Plant	0	874	874	874	874	874
35							
36							
37	*Sutotal of Future Supplies*	0	874	874	874	874	874
38	**Remaining Demands Not Met**	4,534	6,148	4,447	3,484	7,711	10,909
39	**Total Remaining Available Supplies**	0	0			0	0
40	**Unavailable Agricultural Water Within Service Boundaries**	0	0	0	0	0	0

FOOTNOTES:
(1) GOPB projections were provided for Sandy City for 2000 to 2050. Projections for the Sandy City service area were provided by Bowens-Collins & Assoicates, consultant for Sandy City.
(2)acre-feet per capita is computed from line 8. For example, 254 gpcd divided by a factor of 892.7 converts gpcd to 0.2845 acre-feet per capita in line 6.
(3) Water demand in acre-feet in line 7 is obtained by multiplying 0.2845 times the population in line 6. For example, 0.2845 times 122,734 equals 34,979 acre-feet.
(4) Gallons per capita per day of 254 was provided by Bowens-Collins & Associates, consultant for Sandy City.
(5) Information was provided by Bowens-Collins and Assoicates, consultant for Sandy City.

Metropolitan Water District of Salt Lake and Sandy

Sandy City Service Area

Table D-30

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050

Metropolitan Water District of Salt Lake and Sandy
(Salt Lake City Service Area)

Item	Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
1	**Declaration Boundary = Salt Lake City Water Service Area acres**						
2	**Irrigated acres within declaration boundary = Minimal**						
3							
4	**Population Projections - Salt Lake City Service Area (State of Utah Office of Planning and Budget)** (footnote 1)	296,251	261,753	296,197	335,235	393,149	452,013
5	**Synthetic Salt Lake Population** (see footnote 2)	341,431	301,672	341,369	386,360	453,107	520,948
6	**Future Demand With Conservation (12.1/2 % by Year 2020 and 25% by Year 2050 but limited to 199 gpcd)**						
7	Acre-Feet per capita per year (footnote 3)	0.281	0.264	0.246	0.234	0.223	0.211
8	Acre-Feet per year (footnote 4)	96,000	79,520	83,985	90,527	100,858	109,856
9	Gallons per capita per day (gpcd) (footnote 5)	251	235	220	209	199	188
10	Domestic (footnote 6)	148	143	137	133	130	126
11	Combined commercial, industrial, and other similar uses (footnote 6)	103	93	83	76	69	62
13	**CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS**						
14	**Sources of Water**	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Utilized Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
15	**Water Year Conditions**	**Dry Year Yield (Units:acre-feet)**		**Dry Year Yield (Units:acre feet)**		**Dry Year Yield (Units:acre-feet)**	
16	**Wells** (footnote 7)						
17	Salt Lake City	18,911		18,911		0	
18	Subtotal Groundwater wells		18,911		18,911		0
19	**Springs**		0		0		0
20	**Surface Water (local streams)** (footnote 7)						
21	Salt Lake City						
22	Little Dell	3,100		3,100	0	0	
23	Big Cottonwood Creek	20,028		20,028		0	
24	City Creek	4,690		4,690		0	
25	Little Cottonwood Creek	13,212		13,212		0	
26	Subtotal Surface Water (local streams)		41,030		41,030		0
27	**Wholesale Water Purchases** (footnote 7)						
28	Deer Creek Reservoir	50,000		50,000		0	
29	Jordanelle Reservoir (Jordanelle comes on line in year 2010)	22,800		22,800		0	
30	Minus Conveyance Losses	(1,600)		(1,600)		0	
31	Less Sandy City's allocation of 7,940	(7,940)		(7,940)		0	
32	Subtotal for Wholesale Water		63,260		63,260		0
33							
34	Total Dependable Water Supply		123,201		123,201		0
35	**SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET NEEDS (Dry Year)**						
36							
37		**YR 2000**	**YR 2010**	**YR 2020**	**YR 2030**	**YR 2040**	**YR 2050**
38	**Total Demand (indoor and outdoor)**	96,000	79,520	83,985	90,527	100,858	109,856
39	Wells	18,911	18,911	18,911	18,911	18,911	18,911
40	Surface Water (local streams)	41,030	41,030	41,030	41,030	41,030	41,030
41	Wholesale Water Purchases (Jordanelle comes on line in 2010)	36,059	19,579	24,044	30,586	40,917	49,915
42							
43	*Remaining Demand - Dry Year*	0	0	0	0	0	0
44	**FUTURE SUPPLIES TO MEET POPULATION GROWTH**						
45							
46	*Sutotal of Future Supplies*						
47	**Remaining Demands Not Met**	0	0	0	0	0	0
48	**Total Remaining Available Supplies**	27,201	43,681	39,216	32,674	22,343	13,345
49	**Unavailable Agricultural Water Within Service Boundaries**						
50							

51 **FOOTNOTES:**

52 (1) GOPB projections were provided for 2010 to 2035. A regression analysis was performed using growth patterns from Midvale, Murray, Taylorsville, West Jordan and
53 West Valley City to estimate population in the Salt Lake City service area for 2040 and 2050.

54 (2) A synthetic population was calculated to account for commuters to Salt Lake Service Area. The synthetic population in 2000 was calculated from
55 the quotient of the known delivered water volume and the known per capita water use (96,000 ac-ft / 0.281 ac-ft per capita). The synthetic population allowed
56 the known water use of 0.281 ac-ft per capita to be maintained as well as the known water delivery of 96,000 ac-ft. The synthetic population projections
57 from 2010 to 2050 mirror the growth rate exhibited by the GOPB population projections in Line 4.

61 (3)acre-feet per capita in line 7 is computed from line 9. For example, 251 gpcd divided by a factor of 892.7 converts gpcd to 0.281 acre-feet per capita in line 7.

63 (4) The initial water use rate of 96,000 ac-ft per year was given by Metropolitan Water of Salt Lake and Sandy. The water use rate for 2010 to 2050 is calculated by
64 multiplying the synthetic population (Line 5) by the per capita water use rate (Line 7).

66 (5) Gallons per capita per day is the sum of line 10, line 11, and line 12 and has conservation measures imposed at a 12.5% and 25% reduction of water use
67 by the years 2020 and 2050, respectively.

68 (6) Information is average of reported water use as found in Utah Division of Water Rights database for 1997, 1998, and 1999.

69 (7) Information was provided by Bowens-Collins and Assoicates, consultant for Metropolitan Water District of Salt Lake and Sandy.

Metropolitan Water District of Salt Lake and Sandy

Salt Lake City Service Area

Table D-31

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050

JORDAN VALLEY WATER CONSERVANCY DISTRICT
SUMMARY OF WATER SUPPLIES AND DEMANDS

Item	Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
1	**Declaration Boundary = approximately 144 square miles**						
2	Population Projections - Salt Lake City Service Area (State of Utah Office of Planning and Budget) (footnote 1)	464,763	578,510	730,636	844,755	993,415	1,141,974
3	Future Demand With Conservation (12 1/2 % by Year 2020 and 25% by Year 2050)						
4	Acre-Feet per capita per year (see footnote 2	0.2863	0.2684	0.2505	0.2386	0.227	0.2147
5	Acre-Feet per year	133,061	155,275	183,033	201,535	225,170	245,209
6	Gallons per capita per day (gpcd)(see footnote 3)	256	240	224	213	202	192
7	CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
8	**Sources of Water**	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Utilized Developed (Year 2002)**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
9	**Water Year Conditions**	**Dry Year Yield (Units:acre-feet)**		**Dry Year Yield (Units:acre-feet)**		**Dry Year Yield (Units:acre-feet)**	
	Water Supply of Member Agencies	67,000		57,394		9,606	
			67,000		57,394		9,606
	Wells						
11	High Quality	25,000		19,097		5,903	
12							
13	Subtotal Groundwater wells		25,000		19,097		5,903
14	**Springs**	360		0		360	360
15	**Surface Water**		360		0		
16	High Quality (SLCo mountain streams)	2,670		2,670		0	
17	High Quality (Weber/Provo Rivers, Welby Jacob Exchange)	15,500		15,500		0	
18	High Quality (CUP petition from Jordanelle Res.)	50,000		38,400		11,600	
19	Subtotal Surface Water		68,170		56,570		11,600
21	Total Dependable Water Supply		160,530		133,061		27,469
22	SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET NEEDS (Dry Year)						
23	Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
24	**Total Demand (indoor and outdoor)**	133,061	155,275	183,033	201,535	225,170	245,209
25	Water supply of member agencies	57,394	57,394	57,394	57,394	57,394	57,394
	Wells	19,097	19,097	19,097	19,097	19,097	19,097
	Surface Water	56,570	56,570	56,570	56,570	56,570	56,570
27	*Remaining Demand - Dry Year*	0	22,214	49,972	68,474	92,109	112,148
28	FUTURE SUPPLIES TO MEET POPULATION GROWTH						
30	Springs	0	360	360	360	360	360
	Wells (member agencies)	0	4,351	9,606	9,606	9,606	9,606
	Wells		5,903	5,903	5,903	5,903	5,903
	High Quality Salt Lake County Mountain Streams	0	0	0	0	0	0
32	Remainder of CUP Petition Water	0	11,600	11,600	11,600	11,600	11,600
33	Provo River (PRWUC share purchases less return flows)	0	0	0	0	0	0
34	*Subtotal of Future Supplies*	0	22,214	27,469	27,469	27,469	27,469
35							
36	**Remaining Demands Not Met**	0	0	22,503	41,005	64,640	84,679
37	**Total Remaining Available Supplies**	0	0	0	0	0	0

FOOTNOTES:
(1) GOPB projections were provided for 2000 to 2020 and 2050. 2030 and 2040 projections are straight-line interpolations.
(2) 0.2863 is computed by dividing present water utilized of 158,349 acre-feet by 2000 population of 553,181
(3) 256 gpcd computed by multiplying 0.2863 acre-feet per capita by conversion factor of 892.7

NOTE: Data supplied by Jordan Valley Water Conservancy District 12/21/2001

Table D-32

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
Charleston

January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Population Projections (State of Utah, Office of Planning and Budget)	378	871	1,354	2,106	3,500	5,482
Future Demand With Conservation 11 1/2% by Year 2020 and 25% by Year 2050						
Acre-feet/capita/year (footnote 1)	0.336	0.315	0.294	0.280	0.266	0.252
Acre-feet/year (footnote 2)	127	274	398	590	931	1,381
Gallons per capita per day (gpcd) (footnote 3)	300	281	262	250	237	225
Indoor demand (footnote 4)	80	80	80	80	80	80
Combined outdoor, commercial, industrial and similar uses (footnote 4)	220	201	182	170	157	145
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water (footnote 5)	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Groundwater Wells		228		228		0
Springs		180		180		0
CUP water						
	0		0		0	
Subtotal		0		0		0
Provo River water						
	50		0		50	
Subtotal		50		0		50
Local streams						
	0		0		0	
Subtotal		0		0		0
Total		458		408		50
Potential Agricultural Conversion Assuming 1 Acre per 5 People Converted	Ag Irrig. Yield in acre-feet per acre (footnote 6)		3.0			
Charleston Irrigation Company (footnote 7)	0	247	488	864	1,561	2,552
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Culinary indoor demand in acre-feet (footnote 8)	34	78	121	189	314	491
Springs	34	78	121	180	180	180
Groundwater wells	0	0	0	9	134	228
Remaining Demand for Culinary Supplies	0	0	0	0	0	83
Secondary (outdoor) demand in acre-feet (footnote 9)	93	196	277	401	617	890
Springs	93	102	59	0	0	0
Groundwater wells	0	94	218	219	94	0
CUP water	0	0	0	0	0	0
Provo River water	0	0	0	0	0	0
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	182	523	890
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Agricultural Irrigation water	0	0	0	132	523	973
Provo River water	0	0	0	50	0	0
Requirements for New Supplies	0	0	0	182	523	973
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	281	381	498	682	1,038	1,579
Unavailable Agricultural Water Within Declaration Boundary	unknown	unknown	unknown	unknown	unknown	unknown

Footnotes:

(1) acre-feet per capita computed from line 6. For example, 300 gpcd divided by a factor of 892.8 converts gpcd to 0.336 acre-feet per capita

(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.336 acre-feet per capita times 378 = 127 acre-feet

(3) Gallons per capita per day (gpcd) are obtained from page B1-10, "Wasatch County Water Efficiency Study, Preliminary Planning Report" by James M. Montgomery, February 1993

(4) 80 gpcd indoor use was assumed as an average indoor water demand

(5) Water rights information obtained from page B1-6 and Table B-5A, "Wasatch County Water Efficiency Study, Preliminary Planning Report" by James M. Montgomery, February 1993, and additional sources obtained from Utah Division of Water Rights

(6) From JMM 1993 report

(7) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre then multiplying by the agricultural irrigation yield. For example, (871 minus 378) divided by 6 times 3.0 equals 247 acre-feet

(8) Calculated by multiplying Indoor Demand (line 7) by the Population Projection (line 2) and converting to acre-feet

(9) Outdoor demand is the difference between Gallons per Capita per Day (line 6) and Indoor Demand (line 26)

Table D-33

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
Heber

January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Population Projections (State of Utah - Office of Planning and Budget)	7,291	8,552	10,496	12,880	16,320	20,697
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year (footnote 1)	0.392	0.368	0.343	0.327	0.310	0.294
Acre-feet/year (footnote 2)	2,858	3,143	3,600	4,207	5,065	6,085
Gallons per capita per day (gpcd) (footnote 3)	350	328	306	292	277	262
Indoor demand (footnote 4)	80	80	80	80	80	80
Combined outdoor, commercial, industrial and similar uses (footnote 4)	270	248	226	212	197	182

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water (footnote 5)	Gross Amount of Water Available within Declaration Boundary		Portion of Gross Water Supply Presently Developed		Portion of Gross Water Supply Presently Not Developed or Unavailable	
Groundwater Wells		3,929		3,929		0
Springs		3,519		3,519		0
CUP water						
	0		0		0	
Subtotal		0		0		0
Provo River water						
	0		0		0	
Subtotal		0		0		0
Local streams						
	0		0		0	
Subtotal		0		0		0
Total		7,448		7,448		0
Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	Ag. Irrig. Yield in acre-feet per acre (footnote 6)		3.0			
Agricultural Irrigation conversion (footnote 7)	0	631	1,603	2,795	4,515	6,703

SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS

	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Culinary indoor demand in acre-feet (footnote 8)	653	766	941	1,154	1,463	1,855
Springs	653	766	941	1,154	1,463	1,855
Groundwater wells	0	0	0	0	0	0
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Secondary (outdoor) demand in acre-feet (footnote 9)	2,205	2,376	2,660	3,053	3,602	4,230
Springs	2,205	2,376	2,578	2,365	2,056	1,664
Groundwater wells	0	0	82	688	1,546	2,566
N/A	0	0	0	0	0	0
CUP water	0	0	0	0	0	0
Provo River water	0	0	0	0	0	0
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	0	0	0	0	0
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Agricultural Irrigation water	0	0	0	0	0	0
Provo River water	0	0	0	0	0	0
Requirements for New Supplies	0	0	0	0	0	0
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	4,590	4,936	5,450	6,036	6,898	8,066
Unavailable Agricultural Water Within Declaration Boundary	unknown	unknown	unknown	unknown	unknown	unknown

Footnotes:

(1) acre-feet per capita computed from line 6. For example, 350 gpcd divided by a factor of 892.8 converts gpcd to 0.392 acre-feet per capita

(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.392 acre-feet per capita times 7,291 = 2,858 acre-feet

(3) Gallons per capita per day (gpcd) are obtained from page B1-10, "Wasatch County Water Efficiency Study, Preliminary Planning Report" by James M. Montgomery, February 1993

(4) 80 gpcd indoor use was assumed as an average indoor water demand

(5) Water rights information obtained from page B1-3 and Table B-5A, "Wasatch County Water Efficiency Study, Preliminary Planning Report" by James M. Montgomery, February 1993, and additional sources obtained from Utah Division of Water Rights

(6) From JMM 1993 report

(7) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre then multiplying by the agricultural irrigation yield. For example, (8,552 minus 7,291) divided by 6 times 3.0 equals 631 acre-feet

(8) Calculated by multiplying Indoor Demand (line 7) by the Population Projection (line 2) and converting to acre-feet

(9) Outdoor demand is the difference between Gallons per Capita per Day (line 6) and Indoor Demand (line 26)

Table D-34

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
Midway
January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Population Projections (State of Utah - Office of Planning and Budget)	2,121	3,681	4,755	6,143	8,449	11,095
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year (footnote 1)	0.633	0.593	0.554	0.528	0.501	0.475
Acre-feet/year (footnote 2)	1,343	2,184	2,634	3,240	4,234	5,267
Gallons per capita per day (gpcd) (footnote 3)	565	530	494	471	447	424
Indoor demand (footnote 4)	80	80	80	80	80	80
Combined outdoor, commercial, industrial and similar uses (footnote 4)	485	450	414	391	367	344

CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS

Source of Water (footnote 5)	Gross Amount of Water Available within Declaration Boundary	Portion of Gross Water Supply Presently Developed	Portion of Gross Water Supply Presently Not Developed or Unavailable
Groundwater Wells	455	455	0
Springs	1,564	1,564	0
CUP water			
	0	0	0
Subtotal	0	0	0
Provo River water			
	0	0	0
Subtotal	0	0	0
Local streams			
Snake Creek, Provo River, Ontario Tunnel	900	900	0
Subtotal	900	900	0
Total	2,919	2,919	0

Potential Agricultural Conversion Assuming 1 Acre per 6 People Converted	Ag. Irrig. Yield in acre-feet per acre (footnote 6)		3.0			
Agricultural Irrigation Conversion (footnote 7)	0	780	1,317	2,011	3,164	4,487
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Culinary indoor demand in acre-feet (footnote 8)	190	330	426	551	757	994
Springs	190	330	426	551	757	994
Groundwater wells	0	0	0	0	0	0
Remaining Demand for Culinary Supplies	0	0	0	0	0	0
Secondary (outdoor) demand in acre-feet (footnote 9)	1,153	1,855	2,208	2,690	3,477	4,273
Springs	1,153	1,234	1,138	1,013	807	570
Groundwater wells	0	455	455	455	455	455
N/A	0	0	0	0	0	0
CUP water	0	0	0	0	0	0
Provo River water	0	0	0	0	0	0
Local front streams	0	165	615	900	900	900
Remaining Demand for Secondary Supplies	0	0	0	321	1,315	2,348
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Agricultural Irrigation water	0	0	0	0	0	0
Provo River water	0	0	0	321	1,315	2,348
Requirements for New Supplies	0	0	0	321	1315	2348
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	1,576	1,515	1,602	1,690	1,849	2,139
Unavailable Agricultural Water Within Declaration Boundary	unknown	unknown	unknown	unknown	unknown	unknown

Footnotes:
(1) acre-feet per capita computed from line 6. For example, 565 gpcd divided by a factor of 892.8 converts gpcd to 0.633 acre-feet per capita
(2) acre-feet per year is computed by multiplying acre-feet per capita times population. For example, 0.633 acre-feet per capita times 2,121 = 1,343 acre-feet
(3) Gallons per capita per day (gpcd) are obtained from page B1-10, "Wasatch County Water Efficiency Study, Preliminary Planning Report" by James M. Montgomery, February 1993
(4) 80 gpcd indoor use was assumed as an average indoor water demand
(5) Water rights information obtained from page B1-4 and Table B-5A, "Wasatch County Water Efficiency Study, Preliminary Planning Report" by James M. Montgomery, February 1993, and additional sources obtained from Utah Division of Water Rights
(6) From JMM 1993 report
(7) Amount of agricultural conversion is computed by taking the incremental difference in population and dividing by 6 people per acre then multiplying by the agricultural irrigation yield. For example, (3,681 minus 2,121) divided by 6 times 3.0 equals 780 acre-feet
(8) Calculated by multiplying Indoor Demand (line 7) by the Population Projection (line 2) and converting to acre-feet
(9) Outdoor demand is the difference between Gallons per Capita per Day (line 6) and Indoor Demand (line 26)

Table D-35

Utah Lake Drainage Basin Water Delivery System
Summary of Available Water Supplies and Demand through Year 2050
Unincorporated (Jordanelle Special Service District)

January 30, 2003

Year	YR 2000	YR 2010	YR 2020	YR 2030	YR 2040	YR 2050
Population Projections (footnote 1)	0	663	2,034	3,705	6,207	9,246
Future Demand With Conservation (12 1/2% by Year 2020 and 25% by Year 2050)						
Acre-feet/capita/year (footnote 2)	0.254	0.238	0.222	0.212	0.201	0.191
Acre-feet/year (footnote 3)	0	158	452	784	1,248	1,761
Gallons per capita per day (gpcd) (footnote 4)	0	213	198	189	180	170
Indoor demand (footnote 5)	0	80	80	80	80	80
Combined outdoor, commercial, industrial and similar uses (footnote 4)	0	133	118	109	100	90
CAPABILITY OF EXISTING WATER SUPPLIES TO MEET NEEDS						
Source of Water (footnote 6)	**Gross Amount of Water Available within Declaration Boundary**		**Portion of Gross Water Supply Presently Developed**		**Portion of Gross Water Supply Presently Not Developed or Unavailable**	
Groundwater Wells		0		0		0
Springs		0		0		0
CUP water						
	1,500		0		1,500	
Subtotal		1,500		0		1,500
Exchange Water						
Beaver and Shingle Creek Irrigation Co.	700		0		700	
Salt Lake City Corp.	1,700		0		1,700	
Davis/ Weber	3,000		0		3,000	
Subtotal		5,400		0		5,400
Local Water						
United Park City Mine Co.	1,900		0		1,900	
Ontario Tunnel	2,000		0		2,000	
Wells and Misc.	1,000		0		1,000	
Subtotal		4,900		0		4,900
Total		11,800		0		11,800
Potential Water Source Development to Meet Demands						
Water Source Development	0	158	452	784	1,248	1,761
SUMMARY OF EXISTING M&I WATER SUPPLIES TO MEET DEMANDS						
Culinary indoor demand in acre-feet	0	59	182	332	556	829
Springs	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
Remaining Demand for Culinary Supplies	0	59	182	332	556	829
Secondary (outdoor) demand in acre-feet	0	98	270	452	692	933
Springs	0	0	0	0	0	0
Groundwater wells	0	0	0	0	0	0
N/A	0	0	0	0	0	0
CUP water	0	0	0	0	0	0
Provo River water	0	0	0	0	0	0
Local front streams	0	0	0	0	0	0
Remaining Demand for Secondary Supplies	0	98	270	452	692	933
Future Supplies Developed to Meet Population Growth						
Additional Groundwater Wells	0	0	0	0	0	0
Local Water	0	158	452	784	1,248	1,761
CUP water	0	0	0	0	0	0
Exchange Water						
Requirements for New Supplies	0	158	452	784	1,248	1,761
Remaining Demand Not Met	0	0	0	0	0	0
Total Remaining Available Supplies	0	0	0	0	0	0
Unavailable Agricultural Water Within Declaration Boundary	unknown	unknown	unknown	unknown	unknown	unknown

Footnotes:

(1) Assumed no population in 2000 and used conservative population growth equal to entire growth in Wasatch County unicorporated areas.

(2) Calculated from correspondence dated April 26, 2001 (1.B.02.029.B0.114) to Mark Breitenbach, CUWCD Project Manager, from Michael K. Davis, Director of Water Resource Department in Wasatch County, which states that State requirment for Wasatch County is 0.9 acre-feet per culinary hook-up and 3.54 people per hook-up. This results in a usage of 0.9 acre-feet per hook-up divided by 3.54 people per hook-up equals 0.254 acre-feet per capita.

(3) Product of Population Projection (line 2) and Acre-feet/capita/year (line 5)

(4) Conversion of Acre-feet/capita/year (line 4) by multiplying by conversion factor 892.7 gpcd/afpc

(5) 80 gpcd indoor use was assumed as an average indoor water demand

(6) From modified Figure 9, page 53 of ""