

Utilities

THANKSGIVING POINT AREA PLAN

CULINARY WATER (Amended)

Introduction

Lehi City performed a water model analysis of the Thanksgiving Point Area. The provided information and documents represent a water system analysis specific to the amended Thanksgiving Point Area plan. For this analysis the following assumptions have been made:

1. Water source from connection to existing Lehi City water system
2. Future water source of Lehi City connection to Central Utah Water Conservancy District (CWP) pipeline.
3. Tank elevation of 4762 (Sand Pit Tank)

Design Criteria

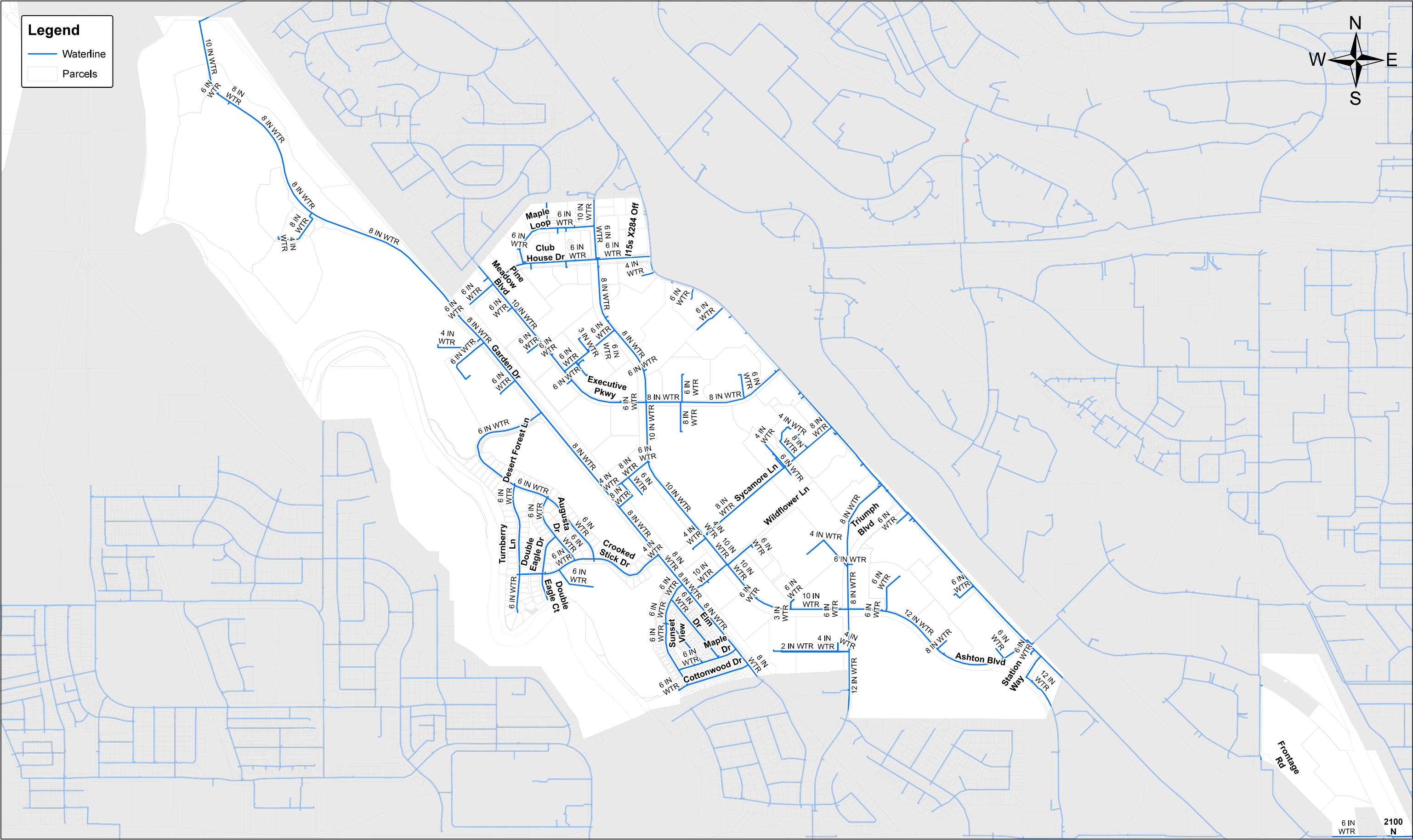
- Minimum Pipe Size 6" Pipe (Roughness Coefficient = 130)
- ERU (Capita per Unit) = 3.8
- Average Flow 100 gallons per day per person
- Peak Instantaneous Flow 400 gallons per day per person (Peaking Factor = 4)
- Peak Hourly Flow 0.8 GPM/ERU
- Storage 400 gallons per day per connection ERU
- Source 800 gallons per day per connection or ERU
- Minimum Pressure 50 psi at peak flow at Junction J8892

Summary of Results

- Design Peak Hourly Flow = 1,600 gallons per minute
- Source Required 1,111 gallons per minute
- Storage Required, Tank 800,000 gallons (2.45 ac-ft)

Peak Instantaneous flow

Minimum Pressure 50.0 psi @ Junction 8892

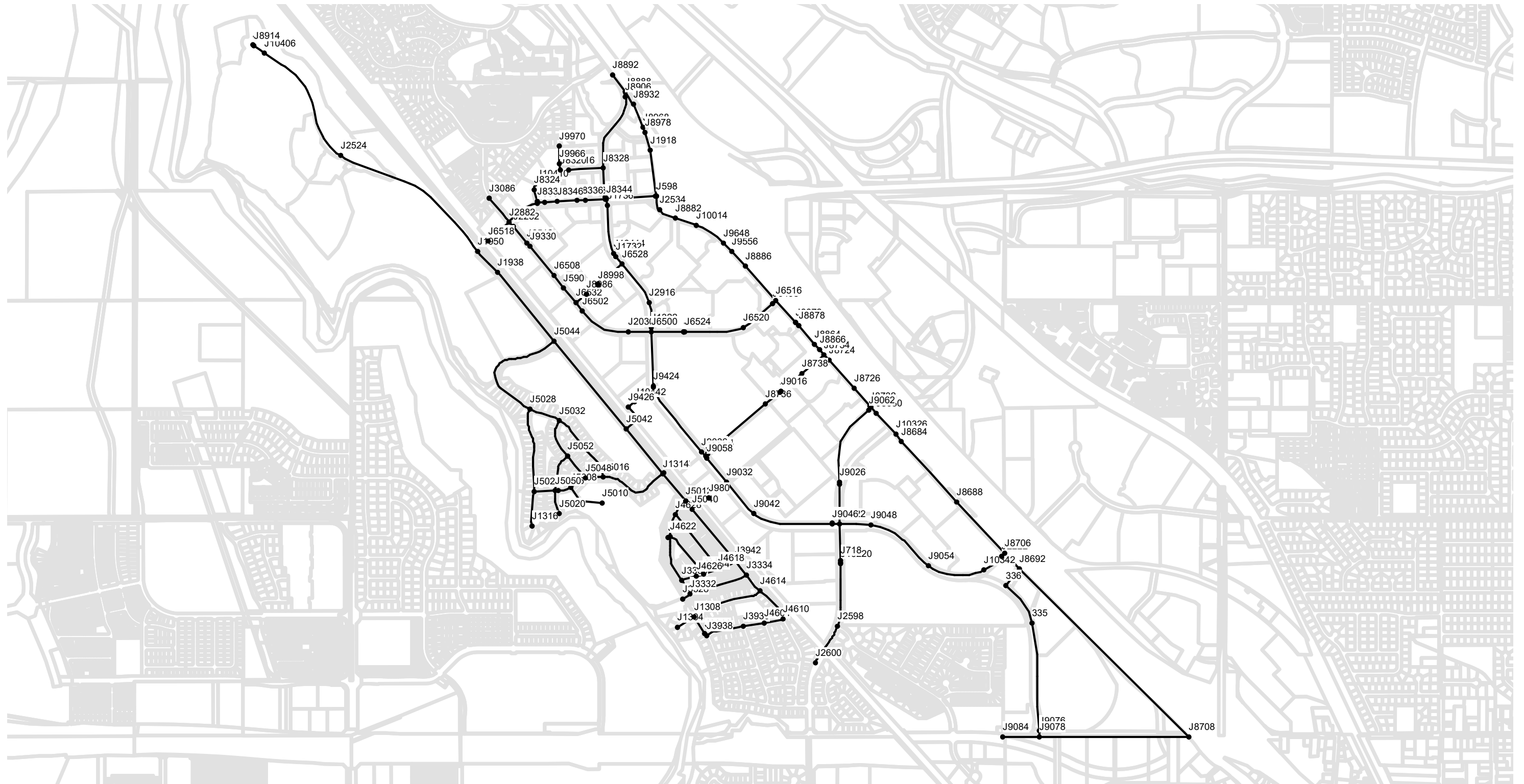


THANKSGIVING POINT

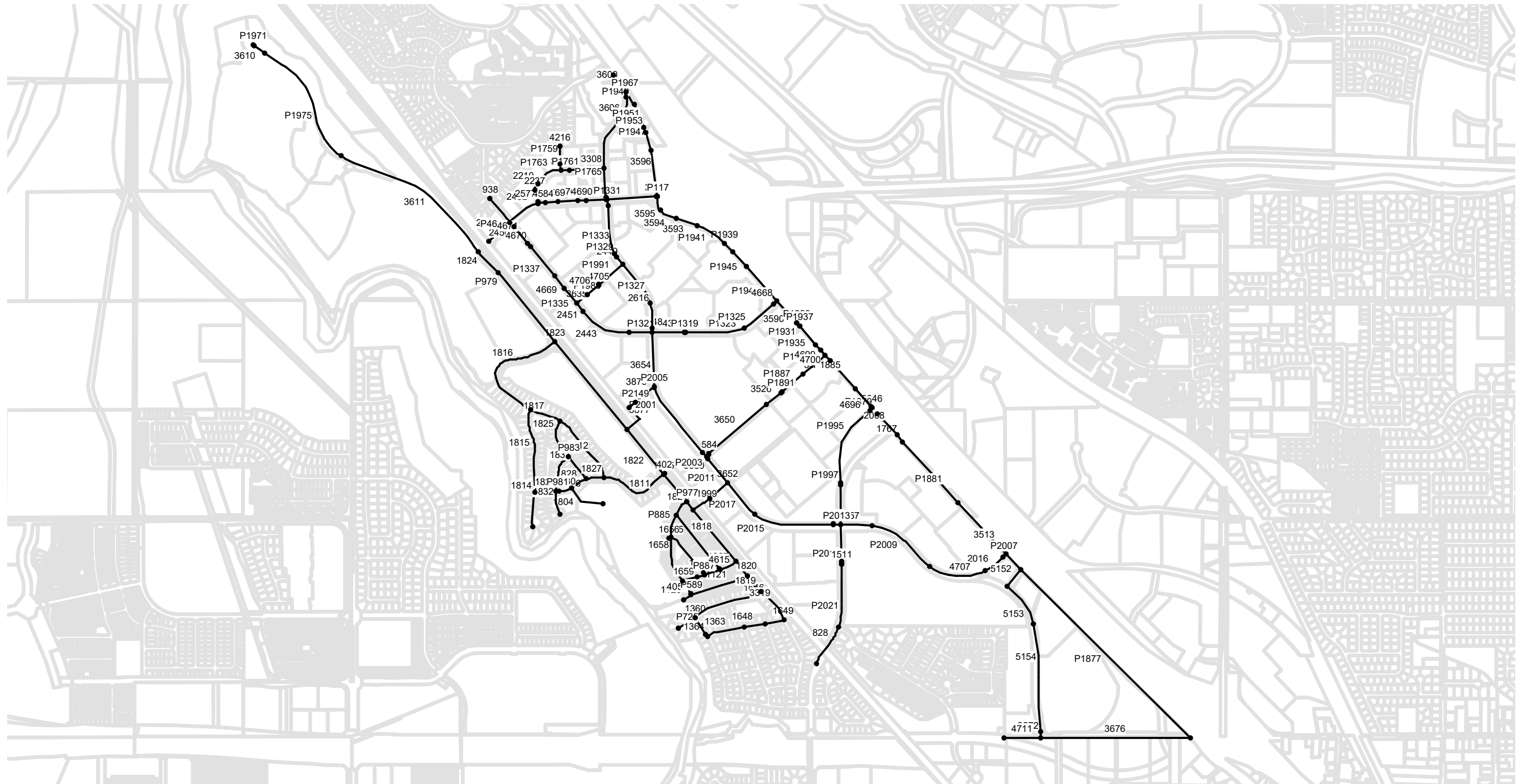
EXISTING CULINARY WATER SYSTEM

0 250 500 1,000 1,500 Feet
1 inch = 500 feet

CULINARY JUNCTION MAP



CULINARY PIPES MAP



CULINARY SYSTEM PRESSURE TABLE

Node ID	Elevation	Base Demand	Pressure	Node ID	Elevation	Base Demand	Pressure
	(ft)	(gpm)	(psi)		(ft)	(gpm)	(psi)
Junc J10014	4611.45	0.00	62.51	Junc J6518	4574.08	0.00	78.43
Junc J10216	4552.17	0.00	90.76	Junc J6520	4590.85	1.07	71.68
Junc J10220	4552.17	0.00	90.76	Junc J6524	4567.19	0.00	81.91
Junc J10326	4595.14	0.00	67.71	Junc J6528	4567.59	0.00	81.5
Junc J10342	4566.76	0.00	80.01	Junc J6532	4552.43	0.00	88.07
Junc J10406	4580.05	0.00	75.57	Junc J6534	4566.04	0.00	81.92
Junc J10410	4570.01	0.00	80.19	Junc J718	4552.30	0.00	90.69
Junc J10414	4568.47	1.42	81.09	Junc J8316	4581.96	0.14	75
Junc J10442	4547.24	0.04	91.17	Junc J8320	4578.87	0.00	76.34
Junc J1304	4524.67	0.44	103	Junc J8322	4587.11	0.00	72.77
Junc J1308	4526.71	2.50	102.12	Junc J8324	4568.04	1.23	81.05
Junc J1312	4550.13	0.00	90.33	Junc J8328	4591.73	7.32	70.75
Junc J1314	4549.57	0.68	90.57	Junc J8332	4577.59	0.00	76.99
Junc J1316	4508.23	1.50	108.23	Junc J8336	4575.10	0.84	78.06
Junc J1322	4559.02	0.00	85.34	Junc J8338	4565.75	0.00	82.05
Junc J1732	4568.18	0.00	81.23	Junc J8342	4584.55	0.00	74.01
Junc J1736	4583.10	1.19	74.66	Junc J8344	4585.24	0.00	73.72
Junc J1892	4548.98	0.00	90.08	Junc J8346	4569.68	0.00	80.38
Junc J1894	4548.95	0.00	90.09	Junc J8680	4599.05	0.00	66.02
Junc J1918	4623.52	0.00	57.06	Junc J8684	4594.00	0.00	68.21
Junc J1938	4563.12	0.00	83.89	Junc J8688	4583.04	0.00	72.95
Junc J1942	4580.09	0.82	75.52	Junc J8692	4573.75	0.00	76.98
Junc J1950	4572.87	0.00	79.57	Junc J8706	4574.38	0.00	76.71
Junc J2030	4556.00	0.00	86.68	Junc J8708	4568.60	0.00	79.22
Junc J2034	4550.85	0.00	89.57	Junc J8710	4599.97	0.00	68.24
Junc J2160	4531.10	0.27	99.27	Junc J8724	4608.50	0.00	64.31
Junc J2222	4573.10	0.00	77.26	Junc J8726	4603.35	0.00	66.68
Junc J2252	4561.78	0.00	83.77	Junc J8732	4600.30	0.03	68.09
Junc J2524	4566.01	25.41	81.98	Junc J8734	4609.71	0.00	63.76
Junc J2534	4606.92	4.98	64.37	Junc J8736	4569.09	0.00	81.36
Junc J2538	4567.26	0.00	81.4	Junc J8738	4589.07	0.02	72.71
Junc J2598	4544.85	0.00	94.39	Junc J8864	4611.68	0.00	62.87
Junc J2600	4522.41	0.00	104.43	Junc J8866	4610.70	0.00	63.32
Junc J2878	4568.73	2.54	80.66	Junc J8870	4615.32	0.00	61.19
Junc J2882	4562.40	0.17	83.49	Junc J8872	4615.16	0.00	61.26
Junc J2916	4562.86	1.65	83.63	Junc J8876	4614.57	0.00	61.53
Junc J3086	4568.64	0.29	80.7	Junc J8878	4614.50	0.00	61.56
Junc J3324	4524.41	0.00	102.23	Junc J8882	4607.22	0.00	64.29
Junc J3328	4518.11	0.37	104.96	Junc J8886	4615.52	0.00	60.9
Junc J3330	4525.75	0.82	101.6	Junc J8888	4638.58	0.00	50.42
Junc J3332	4524.48	0.00	102.21	Junc J8892	4640.68	0.00	49.42
Junc J3334	4539.86	1.19	95.74	Junc J8906	4636.02	0.00	51.53
Junc J3916	4524.87	0.10	103.02	Junc J8914	4580.54	0.00	75.33

Junc J3936	4531.43	2.18	100.2	Junc J8932	4637.14	1.39	51.07
Junc J3938	4524.80	0.92	103.06	Junc J8968	4631.10	3.49	53.73
Junc J3940	4536.84	1.50	96.79	Junc J8978	4629.66	0.78	54.36
Junc J3942	4541.24	1.03	94.95	Junc J8982	4556.04	2.15	86.51
Junc J3944	4531.30	1.23	99.19	Junc J8986	4556.10	0.00	86.48
Junc J4604	4535.89	1.16	98.24	Junc J8990	4559.78	0.00	84.89
Junc J4610	4540.06	0.94	96.34	Junc J8994	4559.71	0.00	84.91
Junc J4614	4540.45	0.70	95.81	Junc J8998	4559.71	0.00	84.91
Junc J4618	4536.88	2.02	96.77	Junc J9006	4577.20	0.00	77.85
Junc J4620	4524.87	0.29	101.92	Junc J9012	4576.54	0.00	78.14
Junc J4622	4524.80	5.14	101.95	Junc J9016	4577.17	0.00	77.87
Junc J4626	4528.38	0.34	100.45	Junc J9020	4562.11	0.00	85.71
Junc J4628	4536.29	1.94	96.88	Junc J9022	4554.59	32.00	89.43
Junc J4630	4548.52	0.13	91.38	Junc J9026	4563.48	1.04	85.08
Junc J5008	4528.51	0.50	99.45	Junc J9032	4547.51	0.00	91.85
Junc J5010	4499.31	0.04	112.11	Junc J9036	4547.90	0.00	91.41
Junc J5012	4548.52	0.31	91.38	Junc J9038	4547.64	0.00	91.56
Junc J5016	4533.73	0.90	97.22	Junc J9042	4549.67	0.00	91.12
Junc J5020	4516.63	0.60	104.59	Junc J9044	4554.66	0.00	89.36
Junc J5022	4520.01	1.04	103.12	Junc J9046	4554.23	0.00	89.55
Junc J5028	4538.65	3.26	95.02	Junc J9048	4555.81	0.00	84.75
Junc J5032	4539.14	1.98	94.84	Junc J9054	4558.07	0.00	83.77
Junc J5036	4525.72	0.12	100.66	Junc J9058	4547.57	0.04	91.6
Junc J5040	4546.46	1.42	92.31	Junc J9062	4598.39	0.00	68.98
Junc J5042	4543.64	0.00	92.8	Junc J9076	4558.53	0.00	83.57
Junc J5044	4549.11	0.00	90.25	Junc J9078	4556.92	0.00	84.27
Junc J5046	4530.61	2.37	98.54	Junc J9084	4553.87	0.00	85.58
Junc J5048	4531.92	1.44	97.98	Junc J9330	4558.96	0.97	85.05
Junc J5050	4525.46	0.53	100.77	Junc J9424	4550.92	0.00	89.54
Junc J5052	4530.61	1.94	98.54	Junc J9426	4548.72	0.00	90.54
Junc J590	4553.31	0.00	87.64	Junc J9556	4614.93	0.00	61.1
Junc J592	4607.94	0.00	63.9	Junc J9648	4614.24	0.00	61.38
Junc J594	4607.91	0.00	63.91	Junc J980	4545.01	0.00	92.93
Junc J596	4607.91	0.00	63.91	Junc J9966	4581.99	0.00	74.99
Junc J598	4607.94	0.00	63.9	Junc J9970	4587.11	1.81	72.77
Junc J640	4584.42	0.00	74.06	Junc 335	4564.00	1.03	81.2
Junc J642	4584.38	0.00	74.07	Junc 336	4566.00	0.00	80.34
Junc J6488	4566.83	0.00	82.06				
Junc J6490	4566.70	1.54	82.12				
Junc J6492	4566.86	0.00	82.05				
Junc J6494	4566.86	0.00	82.05				
Junc J6498	4614.57	0.00	61.42				
Junc J6500	4558.60	288.00	85.62				
Junc J6502	4552.89	0.48	87.9				
Junc J6508	4554.89	2.01	86.92				
Junc J6512	4559.38	0.00	84.86				
Junc J6516	4616.60	0.00	60.54				

THANKSGIVING POINT AREA PLAN

Pressure Irrigation (Amended)

Introduction

Lehi City performed a water model analysis of the Thanksgiving Point Area. The provided information and documents represent a Pressure Irrigation system analysis specific to the amended Thanksgiving Point Area plan amendment. For this analysis the following assumptions have been made:

1. Water source from connection to existing Lehi City Pressure Irrigation system.
2. Pond elevation of 4750 (Sand Pit Reservoir)

Design Criteria

- Minimum Pipe Size: 8" Pipe (Roughness Coefficient = 130)
- Average Daily Flow: 3.5 gallons per minute per acre
- Peak Hourly Flow: 7 gallons per minute per acre (Peaking Factor = 2)
- Fire Flow: 1500 gallons per minute
- Storage: 5040 gallons per acre
- Source: 3.5 gallons per minute per acre
- Minimum Pressure: 50 psi at peak flow, 20 psi at peak flow with fire flow .

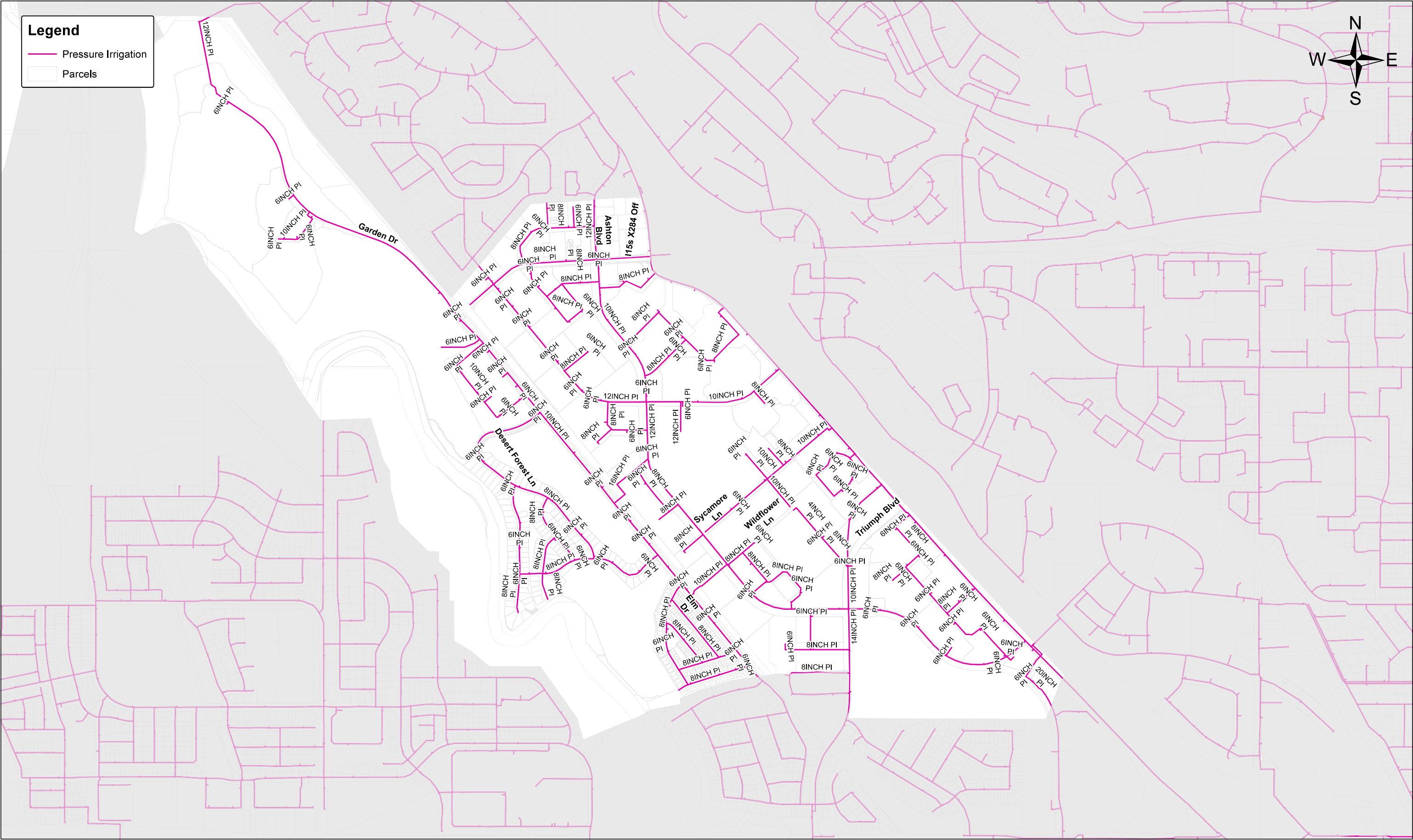
Summary of Results

- Design Peak Hourly Flow: 2729 gallons per minute
- Source Required: 70 gallons per minute
- Storage Required: Tank 105,840 gallons + 180,000 gallons fire storage = 258,840 gallons (0.88 ac-ft)

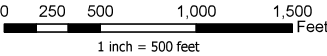
Model: Peak Hourly with 1500 GPM Fire Flow
Minimum Pressure 43.6 psi at JuncJ13782

Notes

1: All other areas outside the amendment descriptions to remain as currently defined with the original area plan. Some areas such as the North American Museum of Ancient Life (NAMAL) were defined with the approval of the individual building.



THANKSGIVING POINT
EXISTING PRESSURIZED IRRIGATION SYSTEM



[illegible]

PI Nodes

Node ID	Elevation (ft)	Demand (gpm)	Pressure (psi)	Node ID	Elevation	Demand	Pressure
Junc J12688	4587.4	16.5	65.0	Junc J2370	4541.7	1.6	83.0
Junc J13056	4574.1	2.6	71.3	Junc J2372	4541.5	1.6	83.1
Junc J13058	4573.9	0.0	71.4	Junc J2374	4534.9	1.4	85.9
Junc J13060	4578.9	1.6	69.2	Junc J2376	4534.5	0.0	86.1
Junc J13064	4566.1	4.6	74.7	Junc J2964	4551.5	0.0	79.5
Junc J13066	4566.5	0.0	74.6	Junc J2966	4550.9	0.0	79.8
Junc J13068	4589.1	1.4	64.8	Junc J2968	4548.3	0.0	80.5
Junc J13070	4588.5	2.3	65.1	Junc J2970	4547.9	0.0	80.7
Junc J13072	4584.8	4.1	66.6	Junc J2972	4550.4	0.0	79.8
Junc J13074	4591.6	4.0	63.8	Junc J2974	4549.8	0.0	80.1
Junc J13076	4575.5	4.0	70.6	Junc J3222	4559.7	0.0	75.2
Junc J13078	4575.2	0.7	70.7	Junc J3224	4561.0	0.0	74.7
Junc J13080	4555.2	12.7	78.6	Junc J3324	4572.7	7.8	72.1
Junc J13082	4555.1	0.0	78.6	Junc J3326	4572.8	0.0	72.1
Junc J13084	4553.7	0.0	79.1	Junc J3350	4557.0	1.3	77.2
Junc J13086	4553.5	5.8	79.2	Junc J3352	4556.3	0.0	77.5
Junc J13088	4553.3	0.0	79.2	Junc J3368	4588.9	0.0	64.2
Junc J13090	4551.1	0.0	80.3	Junc J3370	4589.0	0.0	64.2
Junc J13092	4554.6	0.0	78.8	Junc J3562	4543.0	2.8	80.5
Junc J13094	4552.1	7.4	79.9	Junc J3564	4542.3	0.0	80.8
Junc J13568	4587.5	0.0	65.3	Junc J3790	4564.5	5.8	75.2
Junc J13570	4588.4	0.0	64.9	Junc J3792	4564.3	26.5	75.3
Junc J13572	4593.0	0.0	62.8	Junc J3794	4565.9	0.0	74.6
Junc J13574	4593.7	0.0	62.5	Junc J3796	4566.1	0.0	74.5
Junc J13576	4577.5	0.0	70.0	Junc J3798	4566.3	0.0	74.4
Junc J13578	4576.8	0.0	70.3	Junc J3800	4565.2	0.0	74.9
Junc J13580	4574.2	0.0	71.5	Junc J3818	4564.0	0.0	75.6
Junc J13582	4568.6	0.0	71.6	Junc J3820	4564.3	0.0	75.4
Junc J13584	4599.8	0.0	59.6	Junc J3822	4564.8	0.0	75.2
Junc J13586	4582.9	0.0	67.4	Junc J3824	4567.7	2.8	73.9
Junc J13588	4568.6	0.0	71.5	Junc J3826	4567.3	5.2	74.2
Junc J13620	4605.1	0.0	57.3	Junc J3828	4565.9	4.9	74.7
Junc J13622	4606.0	0.0	56.9	Junc J3830	4564.5	0.0	75.3
Junc J13624	4609.5	0.0	55.4	Junc J3832	4577.6	0.0	69.6
Junc J13626	4599.0	0.0	59.9	Junc J3834	4564.9	0.0	75.1
Junc J13628	4598.4	0.0	60.2	Junc J3836	4564.4	0.0	75.4
Junc J13630	4568.6	0.0	73.1	Junc J3838	4575.1	1.8	70.7
Junc J13632	4579.8	0.0	68.2	Junc J3840	4574.3	0.0	71.1
Junc J13634	4578.6	0.0	68.7	Junc J3842	4563.0	0.0	76.0
Junc J13758	4611.2	0.0	54.6	Junc J3844	4563.8	14.2	75.6
Junc J13760	4611.7	0.0	54.4	Junc J3846	4562.5	0.0	76.2
Junc J13762	4611.3	7.0	54.9	Junc J3848	4562.7	0.0	76.1
Junc J13764	4611.4	0.0	54.8	Junc J3850	4588.3	5.7	64.9
Junc J13766	4606.7	0.0	56.9	Junc J3852	4606.9	0.0	56.9
				Junc J3854	4599.1	0.0	60.3

PI Nodes

Node ID	Elevation	Demand	Pressure	Node ID	Elevation	Demand	Pressure
Junc J13768	4607.1	0.0	56.7	Junc J3856	4599.7	0.0	60.0
Junc J13770	4613.1	0.0	54.0	Junc J3954	4544.9	0.0	79.8
Junc J13772	4614.2	0.0	53.5	Junc J440	4614.4	2.1	53.2
Junc J13774	4614.5	0.5	53.3	Junc J442	4614.8	0.0	53.1
Junc J13776	4615.5	0.0	52.9	Junc J4440	4587.4	0.1	65.3
Junc J13778	4608.6	3.9	56.2	Junc J4442	4585.5	1.6	65.8
Junc J13780	4608.9	0.0	56.1	Junc J4444	4588.6	0.0	64.5
Junc J13782	4638.5	0.0	43.6	Junc J4446	4588.9	16.0	64.4
Junc J13784	4607.9	0.0	56.5	Junc J4448	4588.8	0.0	64.4
Junc J13786	4607.9	0.4	56.5	Junc J4468	4566.3	0.0	74.6
Junc J13810	4635.7	0.0	44.9	Junc J4470	4566.0	0.0	74.7
Junc J13812	4635.2	0.0	45.1	Junc J4514	4562.4	0.0	76.4
Junc J13814	4603.3	2.3	58.8	Junc J4594	4584.1	17.4	66.4
Junc J13816	4602.9	1.5	59.0	Junc J4596	4584.3	0.0	66.3
Junc J13818	4580.3	0.0	70.0	Junc J4598	4578.1	0.0	68.9
Junc J13820	4580.5	0.0	69.9	Junc J4600	4577.7	0.0	69.1
Junc J13822	4568.3	133.2	73.7	Junc J4602	4562.1	0.0	75.8
Junc J13824	4568.2	0.0	73.8	Junc J4604	4586.4	0.0	65.4
Junc J13848	4630.8	1.9	46.9	Junc J5262	4537.0	0.4	83.2
Junc J13850	4634.6	1.1	45.3	Junc J5264	4536.8	0.3	83.3
Junc J13856	4628.6	0.9	47.8	Junc J5266	4533.2	2.0	85.0
Junc J13858	4629.8	0.0	47.3	Junc J5268	4532.9	3.2	85.1
Junc J13862	4552.3	7.5	80.2	Junc J5270	4525.7	3.4	88.4
Junc J13864	4559.5	13.3	77.1	Junc J5272	4525.6	0.3	88.5
Junc J13866	4559.7	11.9	77.0	Junc J5274	4525.7	3.1	88.6
Junc J13868	4552.6	0.0	80.1	Junc J5276	4524.7	0.1	88.9
Junc J13870	4552.7	8.5	80.1	Junc J5278	4540.0	0.2	81.9
Junc J13872	4551.4	0.4	79.6	Junc J6086	4524.8	1.2	86.6
Junc J13874	4551.8	28.3	79.4	Junc J6088	4524.9	2.4	86.6
Junc J13876	4553.9	0.0	79.4	Junc J6110	4531.3	3.0	83.8
Junc J13878	4553.7	0.0	79.5	Junc J6112	4524.8	3.7	86.6
Junc J13880	4554.7	0.0	79.0	Junc J6114	4537.5	0.5	83.5
Junc J13882	4554.7	0.0	79.0	Junc J6116	4537.2	0.2	83.6
Junc J13884	4556.7	0.0	78.6	Junc J6118	4536.8	0.1	83.8
Junc J13886	4556.9	0.0	78.5	Junc J6120	4541.3	0.3	81.8
Junc J13888	4560.2	10.5	77.2	Junc J6122	4531.4	2.2	86.1
Junc J13890	4559.4	10.4	77.5	Junc J7174	4540.9	0.0	80.1
Junc J13892	4562.5	2.4	76.4	Junc J7176	4540.9	2.6	80.1
Junc J13894	4562.3	0.9	76.4	Junc J7186	4536.4	2.6	81.7
Junc J13896	4548.9	0.0	80.6	Junc J7188	4536.1	1.9	81.8
Junc J13898	4549.0	0.0	80.6	Junc J7194	4540.4	1.2	80.8
Junc J13900	4554.6	0.0	77.6	Junc J7196	4540.2	1.9	80.9
Junc J13902	4554.1	0.0	77.8	Junc J7198	4529.6	3.6	85.0
Junc J13904	4548.8	0.0	80.1	Junc J7200	4529.7	3.7	85.0
Junc J13906	4547.8	0.0	80.5	Junc J7214	4536.0	1.6	81.8

PRESSURE IRRIGATION PIPE SEGMENTS

Link ID	Diameter (in)	Flow (gpm)	Link ID	Diameter (in)	Flow (gpm)
Pipe 10000	8	-130.5	Pipe 5069	6	-6.4
Pipe 10033	8	-130.5	Pipe 5070	6	0.0
Pipe 10034	8	0.0	Pipe 5071	8	15.7
Pipe 10035	6	0.0	Pipe 5072	8	14.1
Pipe 10036	6	0.0	Pipe 5073	8	14.1
Pipe 10039	6	0.0	Pipe 5074	6	0.0
Pipe 10041	10	617.5	Pipe 5075	6	0.0
Pipe 10057	16	634.5	Pipe 5076	14	-1928.8
Pipe 1016	6	0.0	Pipe 5077	8	24.5
Pipe 10225	10	-497.6	Pipe 5090	16	3429.6
Pipe 1054	6	0.0	Pipe 5091	6	0.0
Pipe 1061	6	-1.3	Pipe 5092	10	124.0
Pipe 1067	6	0.0	Pipe 5095	12	-2010.4
Pipe 11200	6	0.0	Pipe 5278	10	-124.0
Pipe 115	6	-2.1	Pipe 5310	16	482.4
Pipe 1150	6	-2.8	Pipe 5431	8	3.4
Pipe 1229	6	-5.8	Pipe 5466	8	-106.4
Pipe 1230	6	0.0	Pipe 5467	8	16.0
Pipe 1231	10	32.3	Pipe 5483	6	-14.7
Pipe 1237	6	0.0	Pipe 587	6	0.0
Pipe 1238	8	68.0	Pipe 599	6	-6.0
Pipe 1239	8	-109.3	Pipe 600	6	-165.4
Pipe 1240	6	-4.9	Pipe 601	6	0.0
Pipe 1241	8	92.3	Pipe 610	6	-2.3
Pipe 1242	6	0.0	Pipe 624	6	-1.6
Pipe 1243	6	-1.8	Pipe 625	6	-1.4
Pipe 1244	6	0.0	Pipe 7601	6	-3.6
Pipe 1245	6	0.0	Pipe 9007	8	-269.2
Pipe 1246	8	-42.5	Pipe 9008	6	-8.4
Pipe 1247	6	0.0	Pipe 9009	14	-1689.4
Pipe 1281	14	2273.5	Pipe 9010	12	321.1
Pipe 1437	8	36.7	Pipe 9011	6	0.0
Pipe 1438	6	-0.1	Pipe 9012	6	-10.3
Pipe 1439	8	-90.4	Pipe 9013	8	-10.3
Pipe 1440	6	-16.0	Pipe 9014	8	-249.1
Pipe 1450	6	0.0	Pipe 915	6	0.0
Pipe 1494	6	-17.4	Pipe 916	6	0.0
Pipe 1495	6	0.0	Pipe 917	6	0.0
Pipe 1496	8	-119.4	Pipe 9500	8	137.8
Pipe 1513	8	41.2	Pipe 9501	6	0.0
Pipe 1730	6	-0.4	Pipe 9502	6	0.0
Pipe 1731	6	-2.0	Pipe 9503	6	-17.7
Pipe 1732	6	-3.4	Pipe 9511	6	0.0
Pipe 1733	8	251.6	Pipe 9512	8	86.4

Link ID	Diameter (in)	Flow (gpm)
Pipe 1734	8	248.1
Pipe 196	6	-1.3
Pipe 198	6	-2.5
Pipe 199	6	0.0
Pipe 2032	6	2.4
Pipe 2038	8	-9.6
Pipe 2040	8	-43.9
Pipe 2041	6	-0.5
Pipe 2042	8	0.9
Pipe 2043	8	-4.4
Pipe 230	6	6.7
Pipe 2419	6	0.0
Pipe 2422	6	-2.6
Pipe 2424	6	-1.2
Pipe 2425	6	3.7
Pipe 2430	6	-3.4
Pipe 2432	8	-302.4
Pipe 2434	8	157.6
Pipe 2435	8	304.3
Pipe 244	6	0.0
Pipe 2440	10	-760.9
Pipe 2441	6	-1.0
Pipe 2442	6	-0.1
Pipe 2443	6	0.3
Pipe 2444	8	141.3
Pipe 2445	8	-111.3
Pipe 2446	6	-1.5
Pipe 2447	8	209.5
Pipe 2448	8	530.5
Pipe 2449	6	-1.4
Pipe 245	6	0.0
Pipe 2450	8	-113.4
Pipe 2646	6	-0.2
Pipe 2647	6	-5.8
Pipe 2648	6	-2.8
Pipe 2649	6	2.2
Pipe 2650	6	5.2
Pipe 2651	6	-50.6
Pipe 2652	6	-2.0
Pipe 2653	6	-1.1
Pipe 2654	6	-1.7
Pipe 2655	6	-0.6
Pipe 2656	6	-1.8
Pipe 2657	6	-6.6
Pipe 2658	6	-1.8

Link ID	Diameter (in)	Flow (gpm)
Pipe 9912	8	-83.9
Pipe 9913	12	-607.9
Pipe 9914	14	-1545.0
Pipe 9916	6	-17.5
Pipe 9984	8	137.8
Pipe 9996	6	-20.6
Pipe 9998	6	-11.9
Pipe P1107	12	730.5
Pipe P1129	8	-30.6
Pipe P1131	8	-119.4
Pipe P1133	8	-47.9
Pipe P1149	8	27.1
Pipe P1151	8	27.1
Pipe P1153	8	27.1
Pipe P1363	8	244.3
Pipe P1365	8	239.1
Pipe P1669	8	-54.0
Pipe P1671	8	196.0
Pipe P2089	8	-198.5
Pipe P2091	8	-309.7
Pipe P2093	8	-326.3
Pipe P2095	8	-323.1
Pipe P2097	8	299.8
Pipe P2105	10	-763.6
Pipe P2107	8	-113.2
Pipe P2109	8	202.1
Pipe P2111	8	206.1
Pipe P2115	8	143.9
Pipe P2117	8	320.4
Pipe P2293	10	-1090.2
Pipe P2295	10	-852.2
Pipe P2297	10	-35.1
Pipe P2299	10	-659.6
Pipe P2301	10	-452.0
Pipe P2303	10	-35.3
Pipe P2307	10	-29.5
Pipe P2309	10	-35.3
Pipe P2311	10	-565.8
Pipe P2313	8	-214.0
Pipe P2317	8	-31.0
Pipe P2319	8	-27.7
Pipe P2321	8	-81.6
Pipe P2323	8	-112.4
Pipe P2325	8	-71.8
Pipe P2327	8	-73.3

THANKSGIVING POINT AREA PLAN

Sewer System (Amended)

Design Criteria

- Minimum Pipe Size = 8" dia.
- Minimum Pipe Slope = 0.4%
- ERU = 3.8
- Design Flow:

Residential –	100 gallons per person per day 3.8 per Capita/Unit Peak Factor of 4
Commercial/Office -	30 gallons per person per day 1 person per 250 sqft of building floor area Peak Factor of 4

Summary of Results

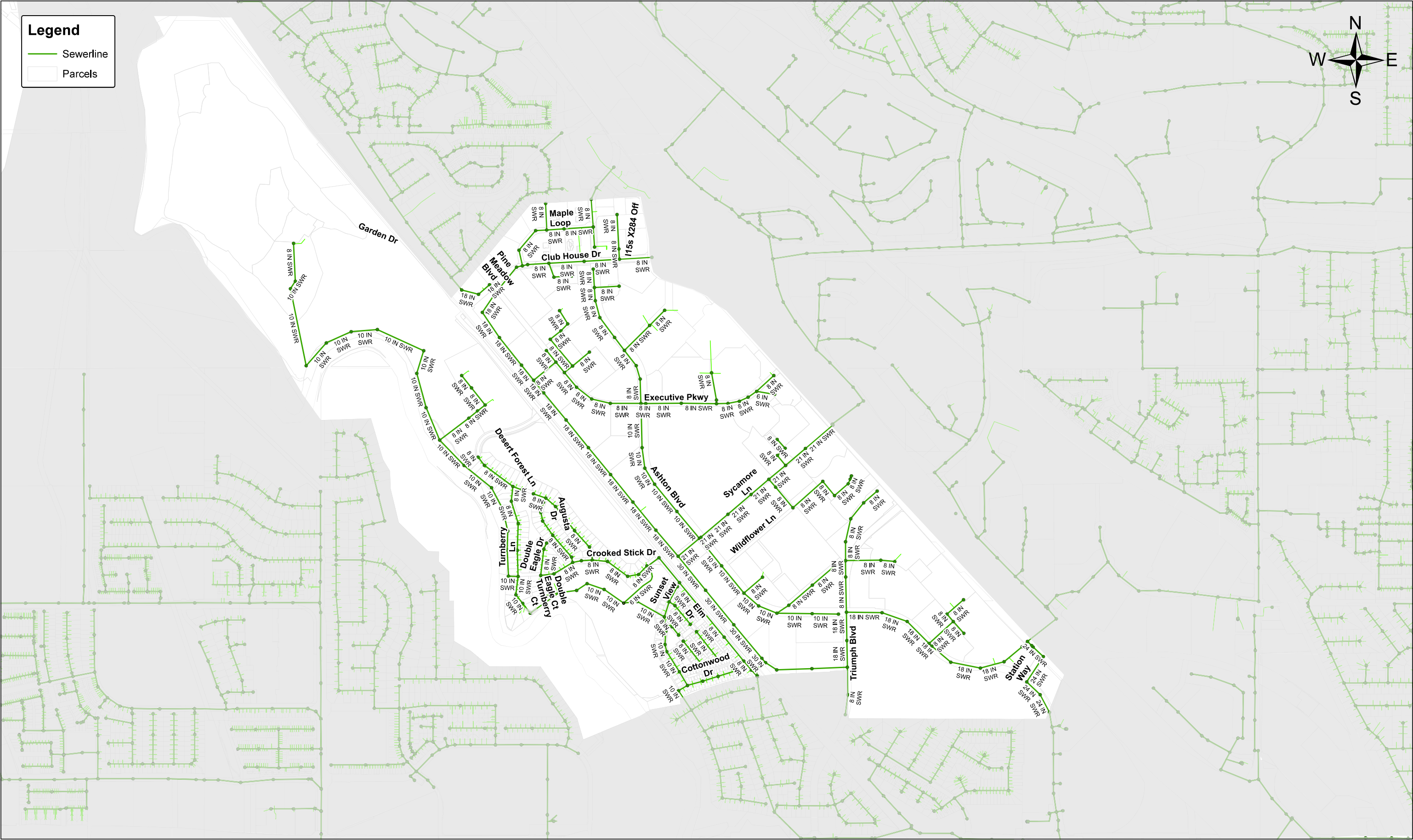
Area #1- Cornbelly's area to connect to existing 21" main in Sycamore Lane.
Flow = 1502 gpm, (3.35cfs), Capacity 10" min. @ 3.0% min. slope

Area #2- Areas North of Executive Parkway to connect to existing 8" main in Executive
Flow = 200 gpm

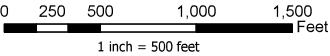
Area #3- UTA area to connect to existing 10" main in Ashton Blvd.
Flow = 307 gpm Capacity

The sewer system for the area that is included in the Thanksgiving Point Area Plan amendment has adequate capacity for the proposed amendments including the additional residential. The offsite system located at the southwest area of the City is in need of upgrades to accommodate the future master planned development along the west side of the City.

The project will contribute the impact fees generated to the West Side sewer main project located at the southwest area of the City as outlined in the Lehi City Sewer System Master Plan.



THANKSGIVING POINT
EXISTING SEWER SYSTEM



THANKSGIVING POINT AREA PLAN

Storm Drainage System (Amended)

Design Criteria

- Minimum Pipe Size = 12" dia.
- All grading plans for development will require the approval of Lehi City prior to construction. In addition to the requirements in the Area Plan, all parcels will be required to comply with Lehi City ordinances and specifications.
- Each lot will be required to have detention located on the lot and allow a limited amount of storm water to leave the site. Each lot will be required to detain with a release rate of 0.2 cfs per acre.
- The design is based on information from the Lehi City Drainage Study and compiled from as-built and design drawings within the Thanksgiving Point area.
- Use the 10-year design flow for flows in pipes and roadways: use the 100-year design flow for storm water detention.

Summary of Results

The area that is included in the Thanksgiving Point Area Plan amendment was re-evaluated for the master storm drain plan and for the existing and proposed developments. The overall areas are separated into 3 sub-basins based on development area and the existing storm drain outfall lines that are located under the railroad tracks to provide drainage to the west. (See sub-basin map) The areas included are both private and public development areas. The areas break down as follows:

Master Storm Drain Sub-Basin Areas

Sub-Basin	Development Area (acres)	Road Right-of-Way Area (acres)	Total Area (acres)
Area 1	157.8	12.0	169.8
Area 2	72.8	9.0	81.8
Area 3	102.3	9.5	111.8
Totals	332.9	30.5	363.5

The Design for each sub-basin along with the recommendations/conclusions for that area is as follows:

Area 1

- The flow from Area 1 flows into the existing 48" storm drain line along the back of the lots along the tracks and connects to the existing 60" drain that directs the water under the tracks and to the Thanksgiving Point Golf Course Pond.
- Public Roads = 12 acres
- Development Property = 157.8
- Total Flow Required = 45 cfs

Recommendation/Conclusion – Each lot will be required to detain storm water on the lot at a release rate of 0.2 cfs per acre. The roadway is being detained along the back of the lots along the railroad tracks. These basins need to be cleaned up and reconstructed to original designs.

Area 2

- The flow from Area 2 flows into the existing private storm drain system owned and maintained by Thanksgiving Point, under the railroad tracks and into the irrigation pond.
- Public Roads = 9 acres
- Development Property = 72.8 acres
- Existing 18" dia. pipe flow available = 12.9

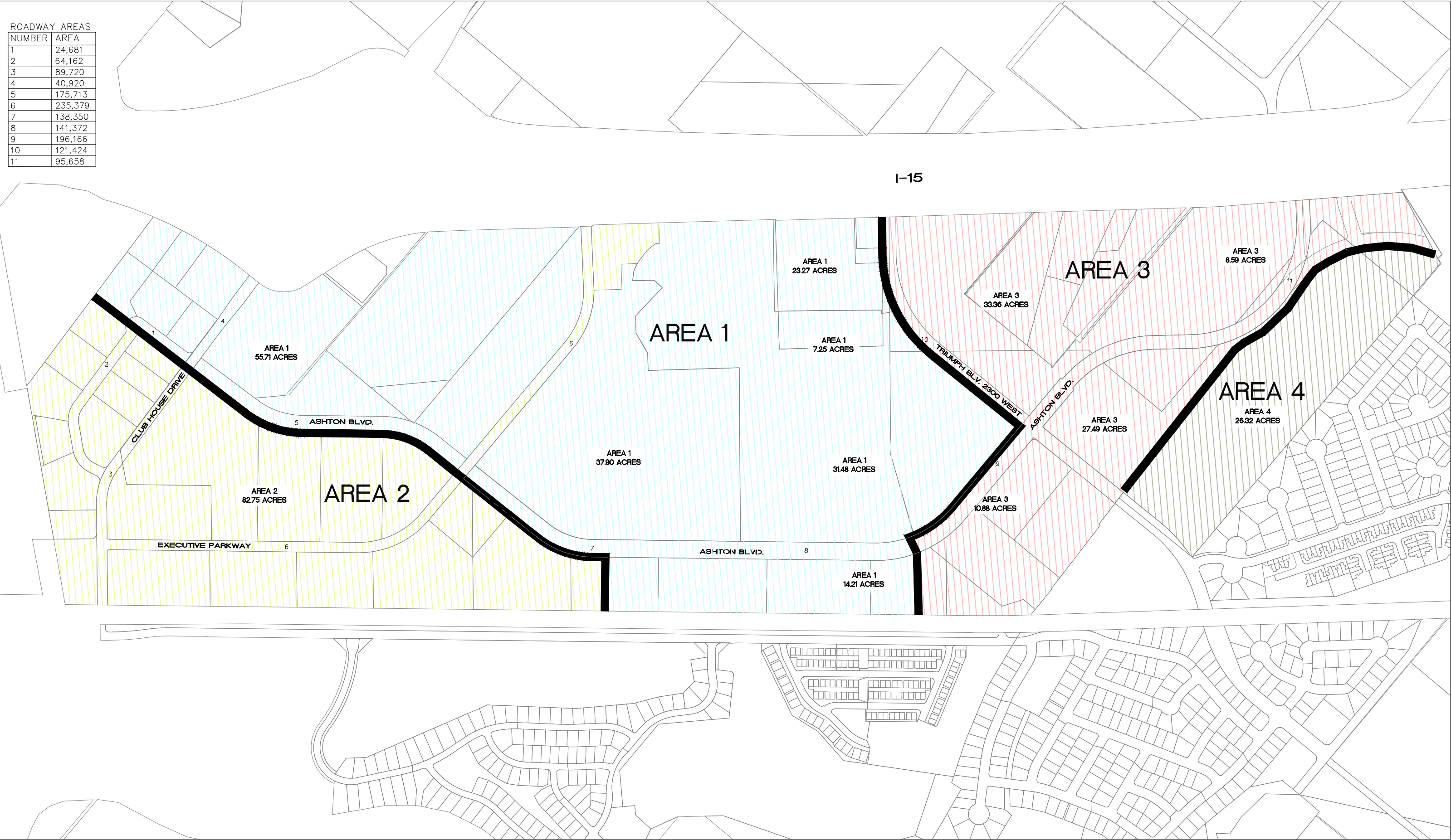
Recommendation/Conclusion – Each lot will be required to detain storm water on the lot at a release rate of 0.2 cfs per acre. The drainage for the UTA site can be coordinated with the expansion of the future TOD to install an additional pipe under the tracks for the Trax Station. The additional piping could take the storm drain flow to the existing pond on the west side of the tracks. The station could also install additional detention within the TOD area to accommodate the detained flows and will be calculated at the time of development.

Area 3

- The drainage from this area will flow into the existing storm drain along Ashton Blvd. and ultimately into the existing 60" dia. storm drain pipe that goes under the tracks. This area is also serving flows from the freeway and areas to the east including tail water from the Lehi Irrigation System. The flow then dumps into the Thanksgiving Point Golf Course Pond.
- Public Roads within the area = 9.5 acres
- Development Property = 102.3 acres
- Anticipated Flow Required = 26.51 cfs

Recommendation/Conclusion – The property will be required to provide detention on each parcel for the lots and allow 0.2 cfs/acre to drain into the system. The roads will drain into the lots along the tracks and be detained within the easement areas as defined by the subdivision plat for those lots. The resulting flow (26.51 cfs) will flow into the existing 60" pipe and be directed to the golf course pond.

THANKSGIVING POINT STORM DRAIN SUB BASIN AREAS AND ROADWAY AREAS



THANKSGIVING POINT EXISTING STORM DRAIN FOR REMAINING DEVELOPMENT AREAS

