

SPRINGVILLE CITY

**PRESSURE IRRIGATION SYSTEM
IMPACT FEE FACILITIES PLAN**

February 11, 2014

J-U-B #50-12-007

Prepared by:



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This certifies that the attached Impact Fee Facilities plan:

1. includes only the costs of public facilities that are:
 - a. allowed in the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within 6 years after the day on which each impact fee is paid;
2. does not include:
 - a. costs of operation and maintenance of public facilities;
 - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
 - c. an expense for overhead, unless the expense is calculated pursuant to the methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursements; and
3. complies with each and every relevant respect with the Impact Fees Act.

Marty Beaumont, P.E.
J-U-B Engineers, Inc.

Date

IMPACT FEE FACILITIES PLAN

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PRESSURE IRRIGATION IMPACT FEE FACILITIES PLAN

1.0 INTRODUCTION

Springville City has Master Planned for a pressure irrigation system in the West Fields portion of the City. The West Fields area of the city is approximately the area that is west of 400 West. As of the date of this Impact Fee Facilities Plan, funding has been secured to install what is called the “Startup” system. The Startup system will provide pressure irrigation service to approximately 155 acres of irrigable land through approximately 955 service boxes for both residential and commercial properties. This initial Startup system is anticipated to be constructed and in operation by the spring of 2016.

This plan identifies a projected area (see Figure 1-2 in Appendix B) of growth anticipated within the West Fields through a 10 year horizon window (year 2023) and the necessary system improvements to provide pressure irrigation service to all new connections. In addition to pipelines that will be installed during this 10 year horizon window, additional recommended improvements will also include a connection to a water source at the Swenson Irrigation Diversion on Hobble Creek with a pump station and associated piping, and the installation of a large diameter pipeline in the Highline Ditch in order to allow for additional water to enter the Bartholomew Pond. The recommendations herein are based on conclusions that were reached using growth projections and computer modeling of the system.

In August of 2010 J-U-B Engineers, Inc. (J-U-B) prepared a Pressure Irrigation, Feasibility Study for the West Fields area of Springville City. It is anticipated, as indicated in that Feasibility Study, that funding for the startup system infrastructure will be provided through a combination of grant monies and City funding. Figure 1.1 in Appendix B shows the improvements. The Table in Appendix A shows estimated costs of these improvements. These improvements will be funded by a Central Utah Water Conservancy District (CUWCD, (AKA: CUP Phase 1)) Water Conservation Credit Program Grant in the amount of \$9.0 million and by City funds in an approximate amount of \$861,000. It is anticipated that a portion of the City funded portion of these improvements will be reimbursed to the City over time using impact fees.

2.0 SERVICE AREA

Figure 1-2 in Appendix B shows the service area boundary for the projected area of growth within the West Fields over the next 10 years. This area was identified by the City as the area where growth is most likely to occur due to its proximity to existing utilities, roadways, etc. It should be noted that this 10 year IFFP boundary is based on an anticipated growth area and does not show additional growth that could occur in other areas of the West Fields.

3.0 SYSTEM MODELING AND EVALUATION

Both the Startup and 10 year condition scenarios identified in this report were evaluated using a computer hydraulic model. System demands were evaluated using the outdoor water use component of the Utah Division of Drinking Water Rule R309-510-5(3) with a peak day demand of 4.00 GPM for outdoor use. A peaking factor of 2 was used to calculate a peak instantaneous flow rate of 2.76 CFS for the System Startup condition and a peak instantaneous flow rate of 11.07 CFS for the 10 year condition. The projected peak instantaneous flow rate when the system is entirely built out is 33.01 CFS.

There are approximately 155 acres of irrigable land within the initial reach of the project to be serviced with the Startup system. The 10 year condition adds 466 acres of irrigable land for a total of 621 acres of irrigable area within 10 years. The total estimated irrigable land when the system is built out is 1852 acres.

4.0 LEVEL OF SERVICE

Springville City's Pressure Irrigation Master Plan identifies the level of service provided for with the system. The necessary system improvements listed in this plan will allow the City to provide new users with the same level of service as the initial system users at project startup as identified in the Pressure Irrigation Master Plan. Since the pressure irrigation system will be newly constructed, the City has no need to increase the level of service to system users and therefore does not plan to do so. The defined level of service within the system is described as follows:

A. Minimum Pressure at Peak Demands

The distribution system was designed with the ability to maintain a minimum pressure of 40 psi during peak instantaneous demand (8.00 gpm per irrigated acre).

B. Minimum Storage

The system storage facility was designed to the State of Utah standard for outdoor watering needs of 4.00 GPM per irrigated acre for peak day demand.

C. Ability of the System to Meet Peak Demands

The overall system was designed to meet peak demands. This was accomplished by appropriately sizing pipes to meet peak demands while maintaining a maximum velocity to avoid damage to the system infrastructure. The maximum velocity for water in the pipes used for modeling the system was 5 feet per second.

5.0 PROJECTED GROWTH AREA

Based on growth estimates by Springville City, they anticipate that the projected area of growth shown in Figure 1.2 in Appendix B (IFFP Boundary (10YR)) is the most likely area where the majority of growth

will occur within the next 10 years. All necessary system improvements within that anticipated growth area will need to be installed in order to provide service to new users added to the system.

6.0 PROJECTS

Necessary improvement projects required within the next 10 years are broken into several categories for ease of evaluation. They include: Source Improvements; Storage Improvements; and Distribution Improvements.

6.1 SOURCE IMPROVEMENTS

At system start up, the pressure irrigation system will have adequate source to provide flows to those users connected to the system, regardless of the type of water year that is experienced. As the system begins to experience growth within the 10 year boundary, the system will begin to experience source deficiencies especially during dry water years. As growth occurs in the projected growth area, two additional sources will be needed to provide sufficient source water. Figure 1.2 in Appendix B shows the two necessary source improvement projects. They are: 1.) The Highline Ditch Pipeline, and 2.) The Swenson Pump Station and Pipeline

- 1.) The piping of the Highline Ditch with a large diameter pipeline will allow for a significant amount of additional water to enter the system, mainly when flows are high in Hobble Creek. Currently the capacity of the Highline ditch is around 6 cfs, however, the water in the highline ditch needs to be split into 3 different locations: irrigation water on the east bench, water to Springville Irrigation Company and water to the City's pressure irrigation system. Currently the capacity of the ditch can meet these demands. However, as growth occurs and demand increases on the pressure irrigation system it will become critical that the increased system demands are met with water from Hobble Creek through the Highline Ditch. This is especially true in the early parts of the irrigation season (April, May & possibly June). This will require an increase in capacity of the ditch. The reason this is so critical is due to the need to preserve storage water from Strawberry Reservoir that is delivered through the Mapleton/Springville Lateral. Preserving the Strawberry Reservoir water will allow it to be used later in the season when there are little flows available in Hobble Creek. A dry water year greatly intensifies the need for this project, but a normal water year would still require this increased capacity as demands increase in the system. It is recommended that the capacity of the ditch be increased to approximately 30 cfs, keeping in mind that not all of that 30 cfs is dedicated to the City's pressure irrigation system. There will still be 3 different locations where that water will be diverted, as described above. A preliminary estimate of cost for the Highline Ditch Pipeline is shown in Table 1 below. Depending on the actual rate of development it is anticipated that the Highline Ditch Pipeline project will need to be constructed in the 3-4 year time frame (approximately 2017-2018) in order to provide sufficient early in the year source water to meet the projected demands at that time.

Springville City Pressure Irrigation				
Preliminary Opinion of Cost - Highline Ditch Piping				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
Mobilization	LS	1	\$25,000.00	\$25,000.00
Pipe				
30" Corrugated HDPE	LF	3,600	\$48.00	\$172,800.00
30" Corrugated HDPE Bedding Material	LF	3,600	\$8.00	\$28,800.00
Construction Access	LF	3,600	\$10.00	\$36,000.00
SUBTOTAL PIPE AND FITTINGS				\$237,600.00
Canyon Road Crossing				
30" Pipe Crossing Canyon Road	EA.	1	\$5,000.00	\$5,000.00
SUBTOTAL CANYON ROAD CROSSING				\$5,000.00
Diversion Structures/Flow Meter				
Connect to Ex. Hobble Creek Diversion	EA.	1	\$25,000.00	\$25,000.00
Connection to Ex. Highline Diversion	EA.	1	\$10,000.00	\$10,000.00
Flow Meter	EA.	1	\$10,000.00	\$10,000.00
SUBTOTAL DIVERSION STRUCTURE/FLOW METER				\$45,000.00
SUBTOTAL OF CONSTRUCTION COSTS				\$312,600.00
Misc. Costs (Engineering, Surveying, Geotechnical & Contingency)				
Design and Construction Engineering (20% of construction costs)				\$62,520.00
Surveying				\$25,000.00
Geotechnical Engineer (Geotechnical Report and Construction Testing)				\$10,000.00
Contingency Costs (20% of construction costs)				\$62,520.00
SUBTOTAL OF MISC. COSTS				\$160,040.00
TOTAL OPINION OF COST FOR NEW CONSTRUCTION IMPROVEMENTS				\$472,640.00

TABLE 1. PRELIMINARY OPINION OF COST FOR HIGHLINE DITCH PIPING

- 2.) The Swenson Pump Station and Pipeline is expected to provide an additional flow of approximately 7 cfs into the pressure irrigation system. Due to the higher costs of pumping water vs. gravity flow, the Swenson Pump Station will generally provide source water into the system during the latter part of the irrigation season (July, Aug, Sept & Oct) when the flows in Hobble Creek have generally diminished. A preliminary opinion of cost for the Swenson Pump Station and Piping is shown in Table 2 below. Depending on the actual rate of development it is anticipated that the Swenson Pump Station and Pipeline project will need to be constructed in the 5-7 year time frame (approximately 2018-2020) in order to provide sufficient late in the year source water to meet the projected system demands.

It should be noted that these two sources of water are not expected to be used concurrently during the irrigation season. Therefore, adding these two additional sources will not have a cumulative effect on source available for the system. Because of the operational dynamics of how SIC operates their system and because of the need to preserve as much Strawberry Reservoir water delivered through the Mapleton/Springville Lateral to as late in the year as possible, these two sources will be used at different periods of the irrigation season. The increased capacity added by piping of the highline ditch will be used during the early part of the irrigation season (April, May & possibly June). In the later part of the irrigation season, when flows in Hobble Creek have diminished, the Swenson Diversion & pumps will be

used along with the Mapleton/Springville Lateral to provide needed water for the system. One hundred percent of the costs for these two source improvements are attributable to future growth as the startup system will have sufficient capacity to serve the initial number of users.

Springville City Pressure Irrigation				
Preliminary Opinion of Cost - Swenson Pump Station & Piping				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
Mobilization	LS	1	\$60,000.00	\$60,000.00
Pipe and Fittings				
24" HDPE Pipe	LF	1,800	\$50.00	\$90,000.00
36" x 16" HDPE Tee	EA	1	\$6,500.00	\$6,500.00
Connect to Existing Manhole and Install 24" Headgate	EA	1	\$3,000.00	\$3,000.00
Miscellaneous Fittings	EA	1	\$10,000.00	\$10,000.00
SUBTOTAL Pipe and Fittings				\$109,500.00
Right of Way Improvements				
Remove and Dispose of Existing Concrete Sidewalk	LF	8	\$20.00	\$160.00
Remove and Dispose of Existing Curb and Gutter	LF	8	\$20.00	\$160.00
Install 6' Sidewalk	LF	8	\$30.00	\$240.00
Install 2' Curb and Gutter	LF	8	\$30.00	\$240.00
Sawcut Asphalt	LF	1,400	\$1.00	\$1,400.00
Remove and Dispose of Existing Asphalt	SF	5,600	\$1.00	\$5,600.00
SUBTOTAL Right of Way Improvements				\$7,800.00
Valves				
16" Valve	EA	2	\$4,000.00	\$8,000.00
SUBTOTAL VALVES				\$8,000.00
Trenching				
3" Asphalt	TON	109	\$130.00	\$239.00
Pipe embedment	TON	700	\$20.00	\$14,000.00
5" Road Base	TON	180	\$20.00	\$3,600.00
Final Backfill	TON	600	\$20.00	\$12,000.00
SUBTOTAL TRENCHING				\$29,839.00
Swenson Pump Station/Sedimentation Basin				
Pump Station, Property, and Controls	EA	1	\$ 495,000.00	\$495,000.00
Sedimentation Basin and Traveling Screen	EA	1	\$ 75,000.00	\$75,000.00
SUBTOTAL Pump Station/Sedimentation Basin				\$570,000.00
SUBTOTAL OF CONSTRUCTION COSTS				\$785,139.00
Misc. Costs (Engineering, Surveying, Geotechnical & Contingency)				
Design and Construction Engineering (20% of construction costs)				\$157,027.80
Surveying				\$20,000.00
Geotechnical Engineer (Geotechnical Report and Construction Testing)				\$7,500.00
Contingency Costs (20% of construction costs)				\$157,027.80
SUBTOTAL OF MISC. COSTS				\$341,555.60
TOTAL OPINION OF COST FOR NEW CONSTRUCTION IMPROVEMENTS				\$1,126,694.60

TABLE 2. PRELIMINARY OPINION OF COST FOR SWENSON PUMP STATION AND PIPING

6.2 STORAGE IMPROVEMENTS

The West Fields pressure irrigation system at startup (See Figure 1-3 in Appendix B) will have no storage deficiencies. The construction of the Bartholomew Pond in the CUP Phase I project will have approximately 34 acre-feet of volume. This pond was oversized because the pond is planned to be used as both a recreation facility and a pressure irrigation reservoir. The amount of the volume that is intended to be used for the West Fields pressure irrigation system at system build-out is 14 acre-ft. The volume needed at system startup is only 2 acre-ft. In 10 years approximately 5 acre-feet will be needed.

6.3 DISTRIBUTION SYSTEM IMPROVEMENTS

The startup system will have no distribution system deficiencies. As the number of users being serviced at system startup is relatively small, there will be excess capacity available for future use in most of the distribution system. Table 3 below lists the startup system pipes that are 8" or larger that will have excess capacity available. The 8" pipe size is used because Springville City requires development to install pressure irrigation pipes up to 6" in diameter without the expectation for reimbursement from the City for upsizing. The table also shows the excess capacity and the amount of that excess capacity that will be depleted during the next 10 years for each of the pipes. A preliminary opinion of cost is also shown for each pipe in the table. Figure 1.2 in Appendix B shows a map of these pipes.

Table 3 below is divided into 3 sections. The first section of Table 3 "PHASE I PIPELINES" lists those pipes that will be installed as part of phase one. The second section of Table 3 "EXISTING PIPELINE IMPROVEMENTS INSTALLED BY DEVELOPERS" lists pipes that were previously installed by developers. No reimbursement of costs is being sought for the pipes that were installed by developers. The third section of Table 3 "FUTURE PIPELINE IMPROVEMENTS TO BE INSTALLED BY DEVELOPERS" lists pipes 8" and larger that will need to be installed within the next 10 years to accommodate growth.

Springville City Pressure Irrigation										
Distribution System Piping - Impact Fee Related Pipes Only										
PIPE ID	LENGTH	DIAMETER	Startup Q	10 Year Q	Build Out Q	STATUS	Startup	10 Year	Linear Cost	Total Cost
	FT	IN	CFS	CFS	CFS		PCT	PCT	\$/FT	\$
PHASE I PIPELINES - INSTALLED BY CITY (8-INCH AND LARGER)										
P1	5,438	18	5.00	18.40	18.40	PHASE 1	27%	100%	\$109.34	\$594,590.92
P2	18,222	36	2.76	11.88	33.01	PHASE 1	8%	36%	\$304.26	\$5,544,225.72
P3	2,728	36	2.76	11.84	26.46	PHASE 1	10%	45%	\$304.26	\$830,021.28
P5	447	12	1.21	2.07	3.77	PHASE 1	32%	55%	\$80.62	\$36,037.14
P12	86	12	0.03	0.10	0.94	PHASE 1	3%	11%	\$80.62	\$6,933.32
P33	1,781	8	0.70	0.35	0.02	PHASE 1	100%	100%	\$44.52	\$79,290.12
P34	2,629	8	0.29	0.18	0.73	PHASE 1	40%	40%	\$44.52	\$117,043.08
									TOTAL	\$7,208,141.58
EXISTING PIPELINE IMPROVEMENTS INSTALLED BY DEVELOPERS										
P4	621	20	1.37	2.50	4.25	EXISTING	32%	59%	\$77.97	\$48,419.37
P6	2,263	12	0.89	1.68	3.14	EXISTING	28%	54%	\$51.87	\$117,381.81
P11	1,381	12	0.14	0.22	0.85	EXISTING	16%	26%	\$51.87	\$71,632.47
P16	422	16	0.00	0.50	6.08	EXISTING	0%	8%	\$65.88	\$27,801.36
P19	2,655	10	0.07	0.10	0.10	EXISTING	70%	100%	\$42.46	\$112,731.30
P20	3,763	10	0.44	0.42	0.31	EXISTING	100%	100%	\$42.46	\$159,776.98
P26	1,424	8	0.00	0.83	1.23	EXISTING	0%	67%	\$31.64	\$45,055.36
P28	2,081	8	0.94	0.45	0.68	EXISTING	100%	100%	\$31.64	\$65,842.84
P29	2,653	8	0.29	0.20	0.22	EXISTING	100%	100%	\$31.64	\$83,940.92
P31	3,610	8	0.24	0.09	0.22	EXISTING	100%	100%	\$31.64	\$114,220.40
P32	7,393	8	0.18	0.07	0.14	EXISTING	100%	100%	\$31.64	\$233,914.52
									TOTAL	\$1,080,717.33
FUTURE PIPELINE IMPROVEMENTS TO BE INSTALLED BY DEVELOPERS (Linear Cost Represents the Estimated Installed Cost for the Pipe Minus the Estimated 6" Installed Cost (\$26.90/FT))										
P7	67	12	0.00	1.02	2.45	FUTURE	0%	42%	\$24.97	\$1,672.99
P8	1,331	30	0.00	8.11	20.54	FUTURE	0%	39%	\$133.18	\$177,262.58
P9	1,297	30	0.00	7.91	20.01	FUTURE	0%	40%	\$133.18	\$172,734.46
P10	1,973	10	0.00	1.04	1.45	FUTURE	0%	72%	\$15.56	\$30,699.88
P13	1,237	30	0.00	5.69	17.81	FUTURE	0%	32%	\$133.18	\$164,743.66
P14	4,675	20	0.00	2.49	8.85	FUTURE	0%	28%	\$51.07	\$238,752.25
P15	424	16	0.00	0.64	6.91	FUTURE	0%	9%	\$38.98	\$16,527.52
P17	1,720	16	0.00	0.43	5.81	FUTURE	0%	7%	\$38.98	\$67,045.60
P18	1,526	20	0.00	2.80	8.63	FUTURE	0%	32%	\$51.07	\$77,932.82
P21	1,057	20	0.00	1.43	7.39	FUTURE	0%	19%	\$51.07	\$53,980.99
P22	4,838	20	0.00	0.93	7.01	FUTURE	0%	13%	\$51.07	\$247,076.66
P23	2,255	18	0.00	0.51	5.66	FUTURE	0%	9%	\$34.37	\$77,504.35
P24	3,439	30	0.00	30.00	30.00	FUTURE	0%	100%	\$133.18	\$458,006.02
P25	557	8	0.00	0.56	1.01	FUTURE	0%	55%	\$4.74	\$2,640.18
P27	1,387	8	0.00	0.44	1.11	FUTURE	0%	40%	\$4.74	\$6,574.38
P30	652	8	0.00	0.62	0.18	FUTURE	0%	100%	\$4.74	\$3,090.48
									TOTAL	\$1,796,244.82

TABLE 3. DISTRIBUTION SYSTEM PIPING

Several major roadway or railroad crossings are also necessary within the next 10 years. Those crossings include: 1) a 20" pipeline crossing under the Union Pacific Railroad tracks at 900 South, 2) a 16" pipeline crossing under the Union Pacific Railroad tracks at Center Street, 3) a 20" pipeline crossing under I-15 at 900 South and 4) a 16" pipeline crossing under I-15 at Center Street. Preliminary opinion of costs for these major crossings are shown below in Tables 4, 5 & 6.

Springville City Pressure Irrigation				
Preliminary Opinion of Cost - Railroad Crossings				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
Mobilization	LS	1	\$25,000.00	\$25,000.00
Pipe and Fittings				
16" Pipe Crossing West Tracks	LF	295	\$544.00	\$160,480.00
20" Pipe Crossing West Tracks	LF	76	\$680.00	\$51,680.00
SUBTOTAL PIPE AND FITTINGS				\$212,160.00
SUBTOTAL OF CONSTRUCTION COSTS				\$237,160.00
Misc. Costs (Engineering, Surveying, Potholing, & Contingency)				
Design and Construction Engineering (20% of construction costs)				\$47,432.00
Surveying and Potholing				\$8,000.00
Contingency Costs (20% of construction costs)				\$47,432.00
SUBTOTAL OF MISC. COSTS				\$102,864.00
TOTAL OPINION OF COST FOR NEW CONSTRUCTION IMPROVEMENTS				\$340,024.00

TABLE 4. RAILROAD CROSSINGS

Springville City Pressure Irrigation				
Preliminary Opinion of Cost - I-15 Crossing South				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
Mobilization	LS	1	\$30,000.00	\$30,000.00
Pipe and Fittings				
20" Pipe Crossing I-15	LF	240	\$680.00	\$163,200.00
SUBTOTAL PIPE AND FITTINGS				\$163,200.00
SUBTOTAL OF CONSTRUCTION COSTS				\$193,200.00
Misc. Costs (Engineering, Surveying, Potholing, & Contingency)				
Design and Construction Engineering (20% of construction costs)				\$38,640.00
Surveying and Testing Costs				\$21,000.00
Geotechnical Engineer (Geotechnical Report and Construction Testing)				\$25,000.00
Contingency Costs (20% of construction costs)				\$38,640.00
SUBTOTAL OF MISC. COSTS				\$123,280.00
TOTAL OPINION OF COST FOR NEW CONSTRUCTION IMPROVEMENTS				\$316,480.00

TABLE 5. I-15 CROSSING SOUTH

Springville City Pressure Irrigation				
Preliminary Opinion of Cost - I-15 Crossing North				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
Mobilization	LS	1	\$30,000.00	\$30,000.00
Pipe and Fittings				
16" Pipe Crossing I-15	LF	240	\$544.00	\$130,560.00
SUBTOTAL PIPE AND FITTINGS				\$130,560.00
SUBTOTAL OF CONSTRUCTION COSTS				\$160,560.00
Misc. Costs (Engineering, Surveying, Potholing, & Contingency)				
Design and Construction Engineering (20% of construction costs)				\$32,112.00
Surveying and Testing Costs				\$21,000.00
Geotechnical Engineer (Geotechnical Report and Construction Testing)				\$25,000.00
Contingency Costs (20% of construction costs)				\$32,112.00
SUBTOTAL OF MISC. COSTS				\$110,224.00
TOTAL OPINION OF COST FOR NEW CONSTRUCTION IMPROVEMENTS				\$270,784.00

TABLE 6. I-15 CROSSING NORTH

Table 7 below lists several major roadway, railroad and Hobbie Creek crossings that will be completed as part of the Phase I improvements. Preliminary opinion of costs for these crossings is listed in the Phase 1 costs in Appendix A. The crossings listed in Table 7 are not part of the pipes or crossings listed in Tables 3 thru 6. They are separate and are not accounted for in more than one table.

Springville City Pressure Irrigation
Phase I Crossings
DESCRIPTION
Railroad/Hobbie Creek/State Street Crossings
36" Pipe East Tracks Crossing at 700 South
36" Pipe Middle Tracks Crossing at 700 South
36" Pipe West Tracks Crossing at 700 South
36" Pipe State Street Crossing at 700 South
36" Pipe Hobbie Creek Crossing at 900 South
10" Pipe West Tracks Crossing at 1600 South
8" Pipe East Tracks Crossing at 1600 South

TABLE 7. PHASE I CROSSINGS

7.0 PRIORITIZATION

Prioritization of the necessary improvement projects listed above will be required as development occurs.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Our recommendations are as follows:

1. The City should pursue a plan that will provide funding for these projects. This plan will include the adoption of impact fees and conducting regular updates to this plan and adjustments to impact fees.
2. The City Council and Mayor need to be appraised often of these projects and their need. This may include an annual update while working on the budget.
3. The City should secure a consultant who can take the information from this study and calculate the legally acceptable impact fees that could then be adopted by the City.
4. We recommend that Springville City share this plan with Cities, Utilities and Agencies within the Boundary in order to coordinate projects that may affect several entities.
5. We recommend that the City establish a fund for at least the purchase of right-of-way as properties change hands in accordance with this plan
6. The City Attorney may need to confirm these recommendations and follow up with any Resolutions.
7. We recommend that these projects and fees be reviewed at least every other year, to keep them current with City needs.

APPENDIX A – PHASE I COSTS

DRAFT

Springville City Pressure Irrigation				
Preliminary Opinion of Cost - Phase I				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
Pipe, Valves and Trenching				
6"	LF	3112	\$ 36.57	\$ 113,809.94
8"	LF	4410	\$ 44.52	\$ 196,333.20
12"	LF	533	\$ 80.62	\$ 42,970.46
18"	LF	5438	\$ 109.34	\$ 594,590.92
36"	LF	20950	\$ 304.26	\$ 6,374,247.00
SUBTOTAL PIPE AND FITTINGS				\$ 7,321,951.52
Services				
Service cost	EA	29	\$ 1,200.00	\$ 34,800.00
SUBTOTAL SERVICES				\$ 34,800.00
Railroad/Hobble Creek/State Street Crossings				
36" Pipe East Tracks Crossing at 700 South	LF	70	\$ 1,246.42	\$ 87,249.36
36" Pipe Middle Tracks Crossing at 700 South	LF	70	\$ 1,246.42	\$ 87,249.36
36" Pipe West Tracks Crossing at 700 South	LF	100	\$ 1,246.42	\$ 124,641.94
36" Pipe State Street Crossing at 700 South	LF	80	\$ 1,246.42	\$ 99,713.56
36" Pipe Hobble Creek Crossing at 900 South	LF	80	\$ 1,246.42	\$ 99,713.56
10" Pipe West Tracks Crossing at 1600 South	LF	70	\$ 470.87	\$ 32,960.87
8" Pipe East Tracks Crossing at 1600 South	LF	100	\$ 415.47	\$ 41,547.31
SUBTOTAL RAILROAD/HOBBLE CREEK/STATE STREET CROSSINGS				\$ 573,075.96
Bartholomew Pond				
34 acre-foot Reservoir	LS	1	\$ 1,840,966.74	\$ 1,840,966.74
SUBTOTAL BARTHOLOMEW POND				\$ 1,840,966.74
Inlet Structure				
PI System Inlet Structure	LS	1	\$ 69,245.52	\$ 69,245.52
SUBTOTAL INLET STRUCTURE				\$ 69,245.52
Overflow Structure				
Ditch #1 Overflow Structure	LS	1	\$ 20,773.66	\$ 20,773.66
SUBTOTAL OVERFLOW STRUCTURE				\$ 20,773.66
TOTAL PRELIMINARY OPINION OF COST FOR PHASE I				\$ 9,860,813.40

APPENDIX B – MAPS

DRAFT

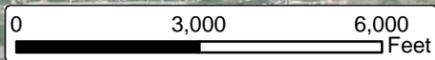
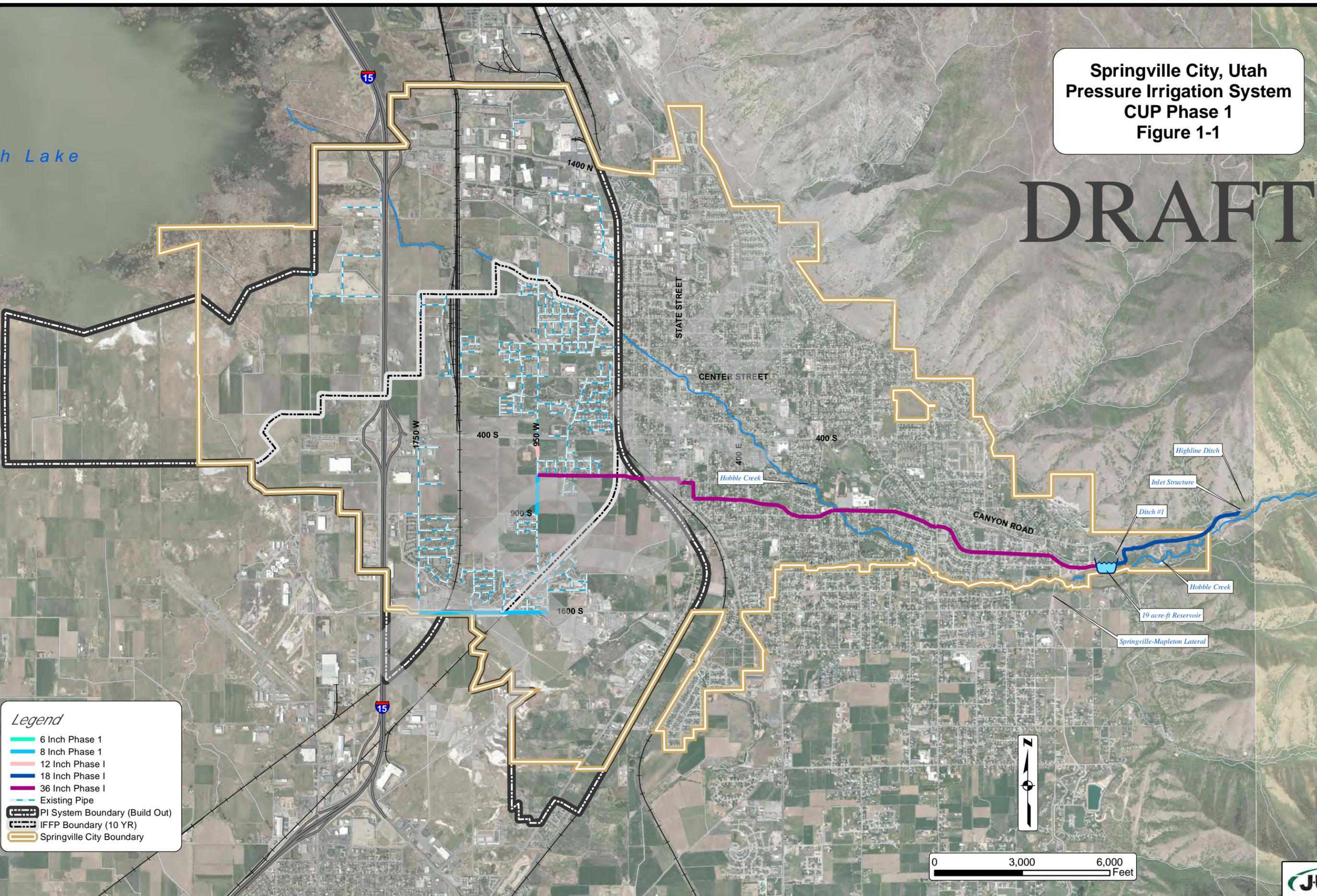
Springville City, Utah
 Pressure Irrigation System
 CUP Phase 1
 Figure 1-1

DRAFT

Utah Lake

Legend

- 6 Inch Phase 1
- 8 Inch Phase 1
- 12 Inch Phase I
- 18 Inch Phase I
- 36 Inch Phase I
- - - Existing Pipe
- PI System Boundary (Build Out)
- IFFP Boundary (10 YR)
- Springville City Boundary

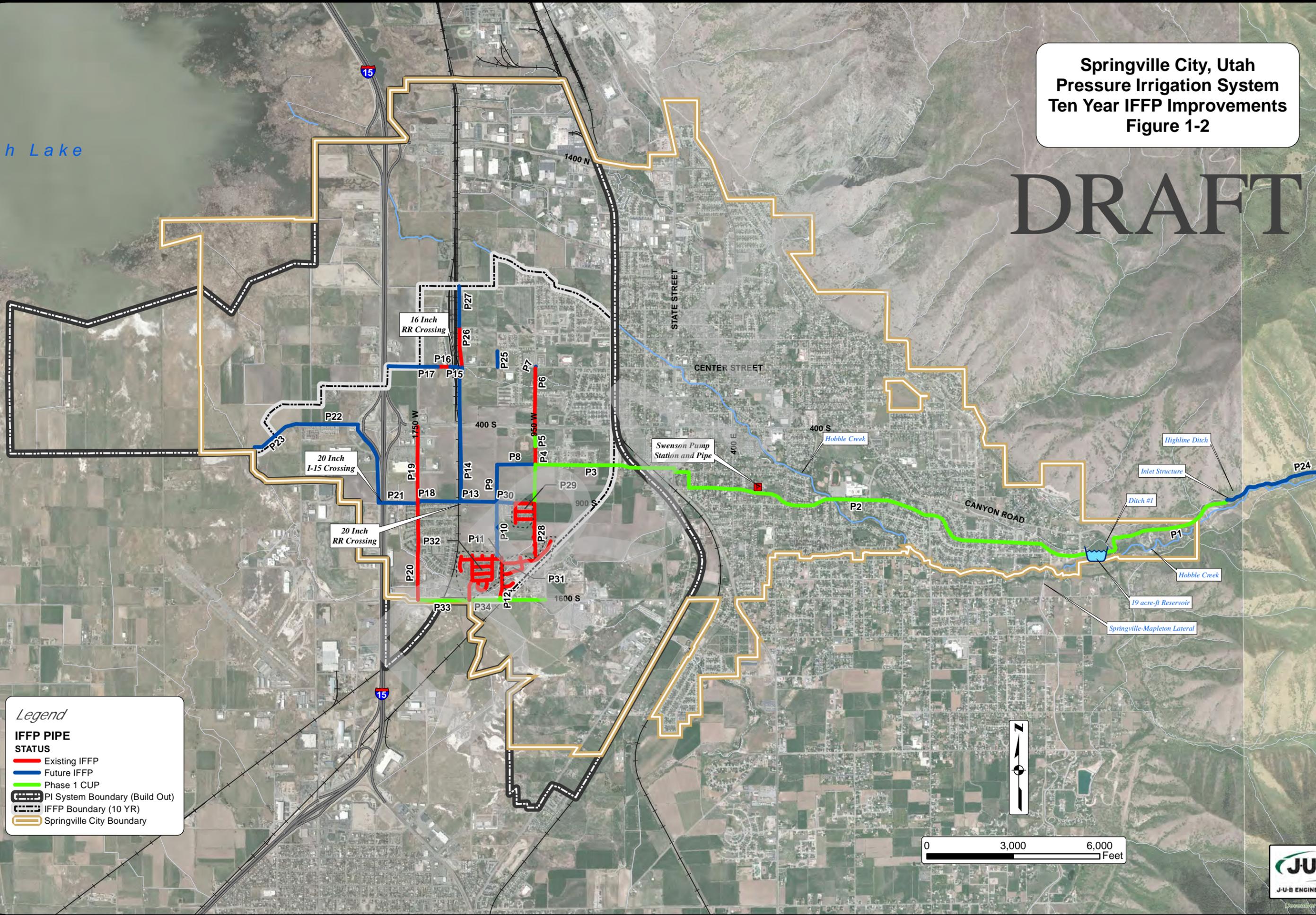


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Springville City, Utah
 Pressure Irrigation System
 Ten Year IFFP Improvements
 Figure 1-2

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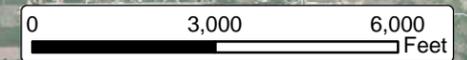
Utah Lake



Legend

IFFP PIPE STATUS

- Existing IFFP
- Future IFFP
- Phase 1 CUP
- PI System Boundary (Build Out)
- IFFP Boundary (10 YR)
- Springville City Boundary

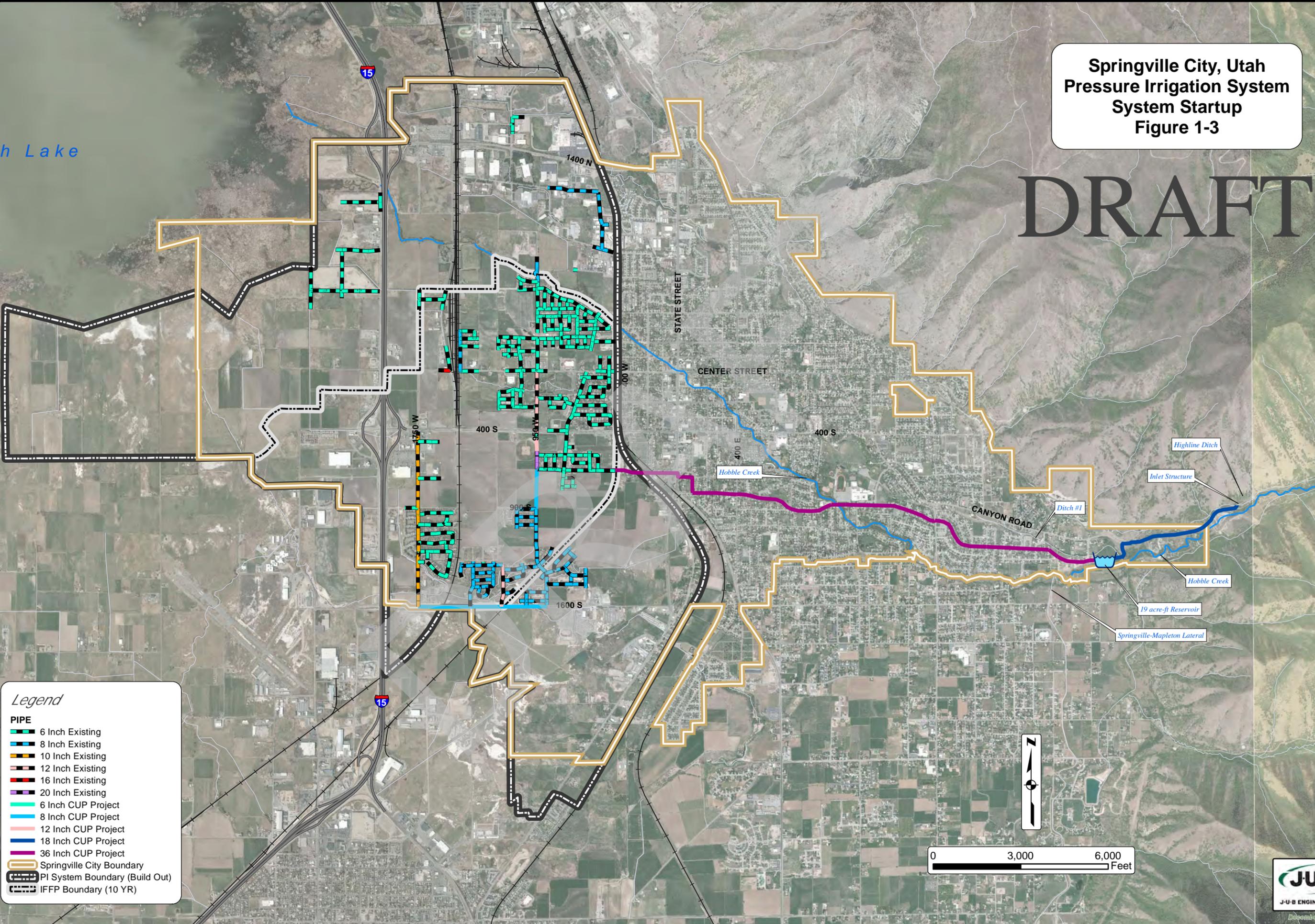


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Springville City, Utah
 Pressure Irrigation System
 System Startup
 Figure 1-3

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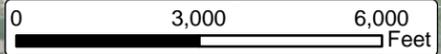
Utah Lake



Legend

PIPE

- 6 Inch Existing
- 8 Inch Existing
- 10 Inch Existing
- 12 Inch Existing
- 16 Inch Existing
- 20 Inch Existing
- 6 Inch CUP Project
- 8 Inch CUP Project
- 12 Inch CUP Project
- 18 Inch CUP Project
- 36 Inch CUP Project
- Springville City Boundary
- PI System Boundary (Build Out)
- IFFP Boundary (10 YR)



- Highline Ditch
- Inlet Structure
- Ditch #1
- Hubble Creek
- 19 acre-ft Reservoir
- Springville-Mapleton Lateral

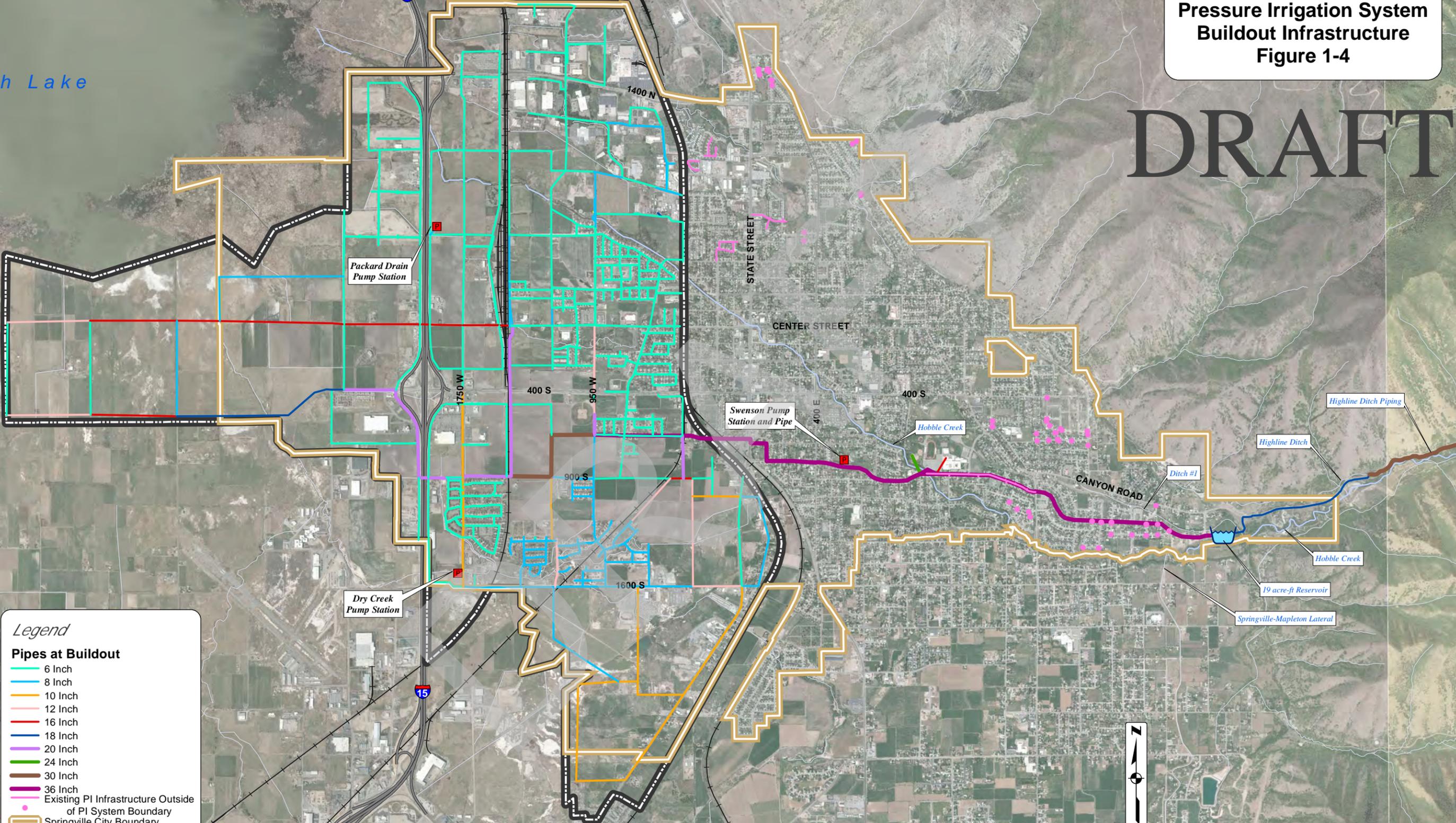


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Springville City, Utah
 Pressure Irrigation System
 Buildout Infrastructure
 Figure 1-4

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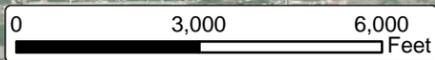
Utah Lake



Legend

Pipes at Buildout

- 6 Inch
- 8 Inch
- 10 Inch
- 12 Inch
- 16 Inch
- 18 Inch
- 20 Inch
- 24 Inch
- 30 Inch
- 36 Inch
- Existing PI Infrastructure Outside of PI System Boundary
- Springville City Boundary
- PI System Boundary (Build Out)



December 2012