

REUSE AUTHORIZATION CONTRACT FOR PAYSON CITY REUSE PROJECT

This Reuse Authorization Contract ("Contract") is entered into on the Effective Date as specified in Section 17 in accordance with the Utah Wastewater Reuse Act, §73-3c-101, et seq. ("Reuse Act"), Utah Code Ann., by and between the parties set forth below ("Parties") regarding the water rights listed in the attached Application For Sewage Effluent Reuse ("Application") filed in accordance with Utah Code Ann., §73-3c-302 of the Reuse Act.

PARTIES

Payson City, a municipality and political subdivision of the State of Utah. ("Payson");
Elk Ridge City, a municipality and political subdivision of the State of Utah. ("Elk Ridge");

RECITALS

- A. WHEREAS, the purpose of this Contract is to satisfy certain requirements of the Reuse Act in order for Payson to obtain regulatory approval of the contemplated reuse project ("Reuse Project") under the Reuse Act;
- B. WHEREAS, Elk Ridge is a public water supplier authorized to provide culinary water services to the inhabitants of Elk Ridge;
- C. WHEREAS, Payson provides wastewater collection, transportation and treatment services to the inhabitants of Elk Ridge;
- D. WHEREAS, Payson acknowledges that certain approvals will be required by the Utah Water Quality Board under §73-3c-301 and by the Utah State Engineer under §73-3c-302 for Payson's proposed water reuse project.

AGREEMENT

NOW THEREFORE, in consideration of the foregoing, the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Roles of the Parties under the Reuse Act.

The Reuse Act identifies, in §73-3c-102(5)(a), various parties and roles of the participants to reuse authorization contract. The Parties to this Contract agree that the roles of each of the Parties are as follows:

- a. Payson is the public agency proposing a Reuse Project (§73-3c-102 (5)(a)(ii)) ("System"). Payson will file the water reuse application under §73-3c-302 of the Reuse Act ("Reuse Application") contemplated under the Contract and shall be responsible for all costs,

expenses and legal fees incurred in prosecuting the approval of the Reuse Application.

- b. Elk Ridge is a public agency that holds title to the Water Rights designated for use in the Reuse Project (Utah Code Ann. §73-3c-102(5)(a) (iv)).
- c. Payson will control and use water originating from Elk Ridge's above described Water Rights under an approved Reuse Application when such water enters into Payson's System. At the point where water is collected by Payson's System it shall be designated "Reuse Water."

2. Consent by Elk Ridge.

Elk Ridge consents to Payson's control and use of Reuse Water as provided by the Reuse Act.

3. Consent to use the Reuse Water.

Each of the Parties hereby:

- a. Consent to the use of the Reuse Water in accordance with §73-3c-102(5)(b) provided that the reuse is approved as provided in the Reuse Act; and
- b. Any proposed water reuse project based on this Contract shall be consistent with the underlying Water Rights.

4. Source of Water.

The Reuse Water shall be collected, transported, controlled, treated and reused by Payson, and Elk Ridge shall have no liability or responsibility for the Reuse Water. If any claim or demand is made or brought against Elk Ridge arising from, resulting from, or related to the collection, transportation, control, treatment, or reuse of Reuse Water then Payson agrees to defend, indemnify and hold harmless Elk Ridge (including its employees, officers, directors, successors, or assigns) from and against any such claim or demand.

5. Collection of Water.

It is agreed and acknowledged that the Reuse Water shall be collected, transported, controlled, treated and reused by Payson through the normal operation of Payson's Wastewater Collection and transportation system and Treatment Plant. Elk Ridge shall not be required to provide any certain volume or flow of water to Payson's System under its Water Rights.

6. Quality of Water.

The Reuse water provided under this Contract shall be sewage effluent treated by Payson to a standard acceptable under rules made by the Utah Water Quality Board under Utah Code Ann. §19-5-104. Elk Ridge shall not be responsible or liable for such water quality or treatment. If any claim or demand is made or brought against Elk Ridge arising from, resulting from, or related to the water quality or treatment of the Reuse Water then Payson agrees to defend, indemnify and hold harmless Elk Ridge (including its employees, officers, directors, successors, or assigns) from and against any such claim or demand.

7. Term and Amendment of the Agreement.

This contract shall be for a term of ten (10) years from the Effective Date of the Contract. After the end of the contract term the Contract will remain in full force and effect until a Party gives notice of its intent to terminate the Contract within one hundred and eighty (180) days from the date of notice. However, the Contract may be terminated or amended in writing by consent of the Parties, which consent may not be reasonably withheld.

8. Compliance with the Law.

Payson shall comply with the Reuse Act and all applicable federal, state and local laws, ordinances, rules and regulations.

9. Good Faith.

Payson agrees to execute and deliver documents and to perform such other acts as may be reasonably necessary or appropriate to obtain approval of the Reuse application and to consummate and carry into effect the transactions contemplated under this Contract and the Reuse Project.

10. Knowledge.

The parties have read this Contract and have executed it voluntarily and having the opportunity to obtain legal counsel of their choice.

11. No Relationship.

Nothing in this Contract shall be construed to create any partnership, joint venture, or fiduciary relationship between the Parties.

12. Assignability.

No assignment of this Contract shall be allowed absent the written consent of the other Party, which consent may not be unreasonably withheld.

13. Successors in Interest.

The terms and conditions of this Contract shall bind all successors and assigns of the Parties.

14. Severability.

If any portion of the Contract is held to be unenforceable, the remaining provisions hereof shall continue in full force and effect.

15. Integration.

This Contract constitutes the entire agreement between the Parties hereto pertaining to the subject matter hereof, and the final, complete and exclusive expression of the terms and conditions thereof. All prior contracts, representations, negotiations and understandings of the Parties hereto, oral or written, express or implied, are hereby superseded and merged herein.

16. Scope.

The Parties do not intend to confer any benefit hereunder on any person, firm or corporations other than the Parties hereto.

17. Effective Date.

This Contract shall become effective upon a resolution approving the Contract being duly adopted by the respective governing bodies of the Parties and execution of this Contract by their respective Mayor ("Effective Date").

18. Governing Law.

This Contract shall be subject to and governed by the laws of the State of Utah.

19. Notices.

All notices required or desired to be given under this Contract shall be in writing and shall be deemed to have been given on the date of personal service upon the Party for whom intended or if mailed, by certified mail, return receipt requested, postage prepaid, and addressed to the Parties at the following addresses:

Payson: To: Payson City Manager
439 West Utah Ave.
Payson, Utah 84651

Elk Ridge: To: Elk Ridge Recorder
80 East Park Drive
Elk Ridge, Utah 84651

20. Counterparts.

This Contract may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument and one Contract.

21. Filing of Contract.

Executed copies of this Contract shall be deposited with and remain in the office of each of the Parties during the effective term hereof and filed with the Utah Division of Water Rights as part of the Reuse Application.

IN WITNESS WHEREOF, the Parties have executed this Contract on the date written below:

ELK RIDGE CITY

Date: _____

By: _____

Robert Haddock, Mayor

Attest: _____

?, City Recorder

Approved as to Form:

Attorney for City

PAYSON CITY

Date: _____

By: _____

Bill Wright, Mayor

Attest: _____

Kim E. Holindrake, City Recorder

APPLICATION FOR SEWAGE EFFLUENT REUSE

STATE OF UTAH

Rec. by _____

Fee Amt. \$ **750.00**

DIVISION OF WATER RIGHTS

Receipt # _____

For the purpose of securing approval for the reuse of domestic wastewater as required by Section 73-3c-302, Utah Code, the following application is submitted to the Utah State Engineer.

REUSE NOTICE NUMBER:

FILING DATE:

(From: kfloor@halengineers.com - 3017485)

1. APPLICANT INFORMATION:

Name: **Payson City**
Address: **439 West Utah Ave.**
Payson, UT 84651

Name: **Elk Ridge City**
Address: **80 E. Park Drive**
Elk Ridge, UT 84651

Name: **Woodland Hills City**
Address: **690 South Woodland Hills Drive**
Woodland Hills, UT 84653

2. WATER RIGHTS OF WATER PROPOSED FOR REUSE:

Water Right	Diversion (acre-feet)	Depletion (acre-feet)	Irrigation (acres)	Stock (ELUs)	Domestic (EDUs)	Municipal (acre-feet)	Mining (acre-feet)	Power (acre-feet)	Other (acre-feet)
51-1266	0.0000	0.0000				1400			
51-1313	1,368.0000	1,368.0000				1368			
51-1397	1,296.0000	1,296.0000				1296			
51-1398	828.0000	828.0000				828			
51-1762	0.0000	0.0000				0			
51-1763	0.0000	0.0000				0			
51-1764	32.0000	32.0000				32			
51-1765	48.0000	48.0000				48			
51-2525	36.0000	36.0000				36			
51-2694	104.6500	104.6500				104.65			
51-2904	0.5780	0.1692	0.025	1	1				
51-3499	20.9100	10.7000	4.8625	20	2				
51-3781	46.3657	24.3233	Unevaluated	Unevaluated					
51-4070	0.5600	0.5600		20					

51-4232	1.3632	0.6059	0.2073	3	1
51-4712	1.7300	0.8859	0.4325		
51-4732	4.3400	2.2224	1.085		
51-4776	1.8280	0.9361	0.457		
51-6272	17,013.5295	14,300.4545	1410		11373.52954
51-7052	23.6800	13.3743	5.92		
51-7113	186.3400	82.1759	37.268		
51-7114	101.6400	44.8232	20.328		
51-7146	69.0000	35.3338	17.25		
51-7161	31.4800	16.7238	7.87		
51-7192	135.5200	59.7643	27.104		
51-7203	38.7200	21.8687	9.68		
51-7224	48.4000	21.3444	9.68		
51-7228	28.0000	14.3325	7		
51-7241	48.4000	21.3444	9.68		
51-7244	4.9400	2.1226	0.988		
51-7247	72.6000	32.0166	15		
51-7250	103.7400	44.5736	20.748		
51-7251	51.8700	22.2868	10.374		
51-7268	3.8720	2.1869	0.968		
51-7277	327.0000	167.6556	Unevaluated		
51-7294	9.6800	4.2689	1.936		
51-7303	9.6800	4.2689	1.936		
51-7314	53.2400	23.4788	13.31		
51-7315	203.2800	89.6465	40.66		
51-7316	4.8400	2.1344	0.968		
51-7328	27.5450	14.6333	6.8863		
51-7336	203.2800	89.6465	40.656		
51-7388	0.5000	0.2609	0.125		
51-7400	27.5450	14.6333	6.8863		
51-7403	48.4000	21.3444	9.68		
51-7551	159.7200	90.2085	42.592		
51-7555	47.2200	25.0856	11.805		
51-7572	3.7723	1.9309	0.9431		
51-7580	4.8400	2.1344	1.21		
51-7614	24.2000	10.6722	4.84		
51-7615	47.2200	25.0856	11.805		
51-7785	151.0080	85.2881	37.752		
51-8442	10.0000	5.1771	2.5		
51-8552	8.0700	8.0700		288.214	
51-8748	4.2000	4.2000		150	
53-1447	9.8800	4.2451	1.976		
59-5907	0.0000	0.0000	90.958		
59-5951	0.0000	0.0000	76.194		
59-5984	0.0000	0.0000	0.988		

3. QUANTITY OF WATER OR FLOW TO BE REUSED:

Quantity of Water: 8500 acft

County: Utah

Common Description: Payson Wastewater Facility

4. POINT(S) OF DISCHARGE:

[1] South 728 feet East 55 feet from the W4 corner, Section 4 T 9S R 2E SL Base & Meridian
 Comment: Current discharge location

5. LOCATION OF PUBLICLY OWNED TREATMENT WORKS:

[1] S 1230 feet W 484 feet from the E4 corner, Section 5 T 9S R 2E SL Base & Meridian

6. PLACE, PURPOSE, AND EXTENT OF THE PROPOSED WATER USE:

See attached for depletion evaluation and figure 1.

Depletion Evaluation also includes Elk Ridge City and Woodland Hill's water right portfolio for this application.

7. SIGNATURES:

We, the undersigned, hereby represent that we are a Public Agency, and are entitled to make application for the Sewage Effluent Reuse of water. We assert that we have complied with the requirements and supplied the necessary information and documents as required by Section 73-3c of Utah Code Annotated 1953 (as amended).

We, the undersigned, hereby acknowledge that even though we may have been assisted in the preparation of the above-numbered application, through the courtesy of the employees of the Utah Division of Water Rights, all responsibility for the accuracy of the information contained herein, at the time of filing, rests with the applicant(s). Therefore, the undersigned, assert that they have read this statement, and assert that, at the time of filing, each and all items contained herein are true to the best of the undersigned's knowledge and belief.

Payson City
439 West Utah Ave.
Payson, UT 84651

Payson City

(If a Corporation, give title of officer signing)

Elk Ridge City
80 E. Park Drive
Elk Ridge, UT 84651

Elk Ridge City

(If a Corporation, give title of officer signing)

Woodland Hills City
690 South Woodland Hills Drive
Woodland Hills, UT 84653

Woodland Hills City

(If a Corporation, give title of officer signing)

DEPLETION EVALUATION AND MAP TO SEWAGE EFFLUENT REUSE APPLICATION

Applicants:

Payson City
439 W. Utah Ave.
Payson, UT 84651

Payson Water Rights:

- | | | |
|-----------|-----------|-----------|
| • 51-7250 | • 51-7403 | • 51-4070 |
| • 51-7251 | • 51-7551 | • 51-7228 |
| • 51-7244 | • 51-7580 | • 51-7388 |
| • 51-7052 | • 51-7785 | • 51-7572 |
| • 59-5984 | • 51-7614 | • 51-8442 |
| • 53-1447 | • 51-7328 | • 51-8552 |
| • 59-5951 | • 51-7161 | • 51-7146 |
| • 51-7113 | • 51-7400 | • 51-3499 |
| • 51-7114 | • 51-7555 | • 51-4712 |
| • 51-7247 | • 51-7615 | • 51-4732 |
| • 51-7192 | • 59-5907 | • 51-4776 |
| • 51-7203 | • 51-1313 | • 51-7277 |
| • 51-7224 | • 51-1397 | • 51-2904 |
| • 51-7241 | • 51-1398 | • 51-8748 |
| • 51-7268 | • 51-1762 | • 51-4232 |
| • 51-7294 | • 51-1763 | • 51-6272 |
| • 51-7303 | • 51-1764 | • 51-1266 |
| • 51-7314 | • 51-1765 | |
| • 51-7315 | • 51-2525 | |
| • 51-7316 | • 51-2694 | |
| • 51-7336 | • 51-3781 | |

Elk Ridge City Water Rights:

- | | | |
|-----------|-----------|------------|
| • 51-1138 | • 51-6887 | • 51-8593 |
| • 51-4885 | • 51-6889 | • 55-12340 |
| • 51-7755 | • 51-6900 | • 59-5886 |
| • 51-1356 | • 51-6943 | • 51-9032 |
| • 51-1531 | • 51-6950 | • 59-6050 |
| • 51-1720 | • 51-6972 | • 59-5996 |
| • 51-2247 | • 51-6973 | • 59-6004 |
| • 51-2717 | • 51-6974 | • 59-6008 |
| • 51-5203 | • 51-7112 | • 54-1224 |
| • 51-6662 | • 51-7271 | • 51-2911 |
| • 51-6753 | • 51-7281 | • 59-6049 |
| • 51-6783 | • 51-1912 | • 51-3496 |
| • 51-6854 | • 51-8343 | |
| • 51-6855 | • 51-8564 | |

Woodland Hills City Water Rights:

- 51-1500
- 51-2812
- 51-2930
- 51-2594
- 51-6725
- 51-6726
- 51-7204
- 51-7317
- 51-7394
- 51-8131
- 51-8267
- 51-8433
- 51-8475
- 55-12579
- 57-10436
- 57-10461
- 51-7534
- 55-12608
- 51-8431
- 51-8618

Quantity of Water to be Reused:

8,500 Acre-Feet (AF)

Utah County

Payson City Wastewater Treatment Facility

Location of Treatment Works:

- South 1,230 feet and West 484 feet from the E4 Corner of Section 05, Township 9S, Range 2E, SLBM

Point of Discharge:

- South 728 feet and East 55 feet from the W4 Corner of Section 04, Township 9S, Range 2E, SLBM

Place, Purpose, and Extent of Proposed Water Use

Payson City (City) is submitting a sewage effluent reuse application to reuse their treated effluent water to put back into their pressurized irrigation (PI) water system. This application is for Type I reuse.

Payson City Wastewater Treatment Facility (Payson Wastewater Facility) is the primary treatment facility for Payson City and additionally, Elk Ridge City and Woodland Hills City. The approved municipal water rights from Elk Ridge City and Woodland Hills City are included in this application for Payson City.

The Payson Wastewater Facility contains Utah Pollutant Discharge Elimination System (UPDES) permit UT0020427. This discharge is through a concrete pipe to an unnamed irrigation return drainage ditch to Beer Creek then Benjamin Slough to Utah Lake.

The UPDES permit is currently approved for Type II reuse. The discharge is into a tank that collects water and then sends it to the Payson Power Plant (Nebo Power Station) for use as makeup water in the cooling system. In 2003, Sewage Effluent Use Number NS 3 was approved for reuse and Payson submitted an updated Reuse Project Plan for the renewed permit that went into effect in 2019.

Payson is submitting their municipal water rights portfolio and will create an addendum to their current Reuse Project Plan to include information for Type I requirements.

The water proposed to be reused is primarily for the City's PI system to avoid using drinking water for outdoor use.

Depletion Evaluation

The underlying water rights for this application are currently owned by the City and show 19,511 AF of diversion and allowable depletion of 17,919 AF, which equals a 92% depletion percentage. This leaves a required return flow of 1,592 AF. All the well and spring/creek water rights listed in Table 1 are approved for municipal use.

Table 1. Approved Water Rights for Municipal Use owned by Payson City

Change Application	Water Right	Diversion (AF)	Depletion (AF)	Depletion Percentage	Base Priority
Well Water Rights (Municipal)					
a22765	51-7250	103.74	43.99	42%	1870
a22766	51-7251	51.87	21.99	42%	1870
a22723	51-7244	4.94	2.09	42%	1870
a48196	51-7052	29.64	17.07	58%	1870
a48195	59-5984	4.94	2.23	45%	1870
a42539	53-1447	7.90	4.19	53%	1870
a43191	59-5951	380.97	172.20	45%	1870
a42862	51-7113	360.58	160.08	44%	1877
	51-7114				
	51-7247				
a21935	51-7192	135.52	78.06	58%	1877
a22131	51-7203	48.40	27.88	58%	1877
a22496	51-7224	48.40	20.52	42%	1877
a22703	51-7241	48.40	20.52	42%	1877

Change Application	Water Right	Diversion (AF)	Depletion (AF)	Depletion Percentage	Base Priority
a23129	51-7268	4.84	2.03	42%	1877
a23259	51-7294	9.68	4.10	42%	1877
a23349	51-7303	9.68	4.10	42%	1877
a23441	51-7314	53.24	22.57	42%	1877
a23464	51-7315	203.28	86.20	42%	1877
a23465	51-7316	4.84	2.05	42%	1877
a23774	51-7336	203.28	86.20	42%	1877
a24258	51-7403	48.40	20.52	42%	1877
a25118	51-7551	159.72	159.72	100%	1877
a25513	51-7580	4.84	2.05	42%	1877
a27885	51-7785	80.00	80.00	100%	1877
a25944	51-7614	24.20	10.26	42%	1877
a23644	51-7328	27.55	14.60	53%	1860
a42910	51-7161	31.48	17.79	56%	1860
a24147	51-7400	27.55	14.93	54%	1860
a25222	51-7555	47.22	25.62	54%	1860
a25961	51-7615	47.22	26.68	57%	1860
a41283	59-5907	454.79	205.57	45%	1870
a46862	51-1313	3,807.43	3,670.05	96%	1954
	51-1397				1956
	51-1398				1956
	51-1762				1934
	51-1763				1934
	51-1764				1934
	51-1765				1934
	51-2525				1934
	51-2694				1920
	51-3781				1935
	51-4070				1928
	51-7228				1958
	51-7388				1961
	51-7572				1958
	51-8442				1961
a41784	51-8552	8.07	8.07	100%	1918
a42783	51-7146	69.00	37.47	54%	1960
a42050	51-3499	28.81	16.16	56%	1896
	51-4712				1977
	51-4732				1977
	51-4776				1977

Change Application	Water Right	Diversion (AF)	Depletion (AF)	Depletion Percentage	Base Priority
a23879	51-7277	151.00	53.00	35%	1895
a42787	51-2904	4.78	4.37	92%	1969
	51-8748				1951
a48536	51-4232	1.36	0.62	46%	1975
Subtotal		6,737.56	5,145.57	76%	
Spring and Creek Water Rights (Municipal)					
a16278	51-6272	11,374	11,374	100%	1902
a29452	51-1266	1,400	1,400	100%	1952
Subtotal		12,774	12,774	100%	
Total		19,511	17,919	92%	

Elk Ridge City Municipal Water Rights

The underlying water rights shown in Table 2 are currently owned by Elk Ridge City and show 2,140 AF of diversion and allowable depletion of 1,278 AF, which equals a 60% depletion percentage. This leaves a required return flow of 862 AF. All water rights listed in the table are approved for municipal use.

Table 2. Approved Water Rights for Municipal Use owned by Elk Ridge City

Change Application	Water Right	Diversion (AF)	Depletion (AF)	Depletion Percentage	Base Priority
Well Water Rights (Municipal)					
a42304 a31745	51-1138	493.98	446.21	90%	1946
	51-4885				1961
	51-7755				1879
a18750	51-1356	10.76	3.87	36%	1995
	51-1531				
a19186	51-1720	15.00	8.475	57%	1872
a18569	51-2247	6.71	3.85	57%	1888
	51-2717				1910
	51-5203				1875
a29300	51-6662	17.00	8.93	53%	1872
a18536	51-6753	40.00	22.60	57%	1961
a18834	51-6783	25.60	14.46	57%	1961
a19184	51-6854	14.00	7.91	57%	1961
a19185	51-6855	25.60	14.46	57%	1944
a19527	51-6887	5.00	2.83	57%	1961
a19524	51-6889	80.00	45.20	57%	1961
a19583	51-6900	25.64	14.49	57%	1961
a29301	51-6943	13.00	13.00	100%	1951
a20080	51-6950	1.00	0.50	50%	1961
a20174	51-6972	15.00	8.48	57%	1961

Change Application	Water Right	Diversion (AF)	Depletion (AF)	Depletion Percentage	Base Priority
a20176	51-6973	10.00	5.00	50%	1961
a20179	51-6974	4.00	2.26	57%	1902
a21057	51-7112	2.00	1.00	50%	1958
a23014	51-7271	103.74	43.99	42%	1870
a23142	51-7281	10.40	5.88	57%	1961
a32526	51-1912	80.00	45.12	56%	1912
a34850	51-8343	19.00	10.72	56%	1961
a40260	51-8564	21.90	11.80	54%	1928
a40263	51-8593	108.90	49.22	45%	2020
a34123	55-12340	129.93	73.28	56%	2008
a39018	59-5886	138.80	78.52	57%	2013
a48633	51-9032	6.00	3.26	54%	1958
a49096	59-6050	403.92	182.57	45%	2022
a45293	59-5996	36.72	20.75	57%	2019
a47094	59-6004	163.52	73.91	45%	2021
a46366	59-6008	22.36	10.11	45%	2020
a44903	54-1224	2.00	1.08	54%	2019
a47408	51-2911	40.00	21.68	54%	2021
a49097	59-6049	41.28	18.66	45%	2022
a45837	51-3496	7.73	4.16	54%	2020
Total		2,140	1,278	60%	

Woodland Hills City Municipal Water Rights

The underlying water rights shown in Table 3 are currently owned by Woodland Hills City and show 834 AF of diversion and allowable depletion of 423 AF, which equals 51% depletion percentage. This leaves a required return flow of 411 AF. All water rights listed in the table are approved for municipal use.

Table 3. Approved Water Rights for Municipal Use owned by Woodland Hills City

Change Application	Water Right	Diversion (AF)	Depletion (AF)	Depletion Percentage	Base Priority
Well Water Rights (Municipal)					
a19156	51-1500	4.2	2.10	50%	1961
	51-2812	26.12	13.28	51%	1900
	51-2930	33.504	16.75	50%	1961
a21338	51-2594	3.65	1.94	53%	1900
a18488	51-6725	170.00	85.00	50%	1916
a18488a	51-6726				1916
a22429	51-7204	16.20	6.87	42%	1870
a23485	51-7317	101.64	43.10	42%	1877
a23045	51-7394	7.39	3.92	53%	1920

Change Application	Water Right	Diversion (AF)	Depletion (AF)	Depletion Percentage	Base Priority
a28496	51-8131	3.60	2.03	57%	1957
a33378	51-8267	2.70	1.52	56%	1851
a37756	51-8433	0.90	0.51	56%	1851
a39216	51-8475	102.20	46.19	45%	1908
a39203	55-12579	11.00	6.30	57%	1934
a39530	57-10436	24.20	10.94	45%	1877
a41364	57-10461	31.46	14.22	45%	1877
a25517	51-7534	1.09	0.46	42%	1870
a40046	55-12608	22.56	12.93	57%	1921
a44931	51-8431	194.10	120.28	62%	1961
a40323	51-8618	77.44	35.00	45%	2014
Total		834	423	51%	

The combination of Payson, Elk Ridge, and Woodland Hills water rights show a diversion of 22,486 AF and depletion of 19,621 AF, which equal an 87% depletion percentage. This leaves a required return flow of 2,865 AF.

Hydraulic System

Existing Production Data

The Payson Wastewater Facility produces about 2,060 AF of effluent per year, based on a three-year average from 2019-2021. Based on the City's actual water use data average for the past three years from the DWRI Website, 3,351 AF is diverted to the drinking water system and 2,634 AF to their secondary system, totaling 5,985 AF diverted water.

Payson uses a portion of their drinking water for outdoor use in areas of the City that are not currently served by the secondary water system. To estimate how much of their drinking water is used for outdoor use, the drinking water use data was broken out into winter (Oct-Mar) and summer months (Apr-Sept). The amount of indoor use during the winter months was considered to remain constant through the summer months. To determine the indoor use for the year, winter indoor use was doubled. The difference between the drinking water use in the summer months compared to winter months was considered outdoor use. Based on these calculations, the estimated average indoor use is 2,994 AF and outdoor use is 2,991 AF per year totaling 5,985 AF, which matches the total amount of diverted water.

Based on our assumptions from depletion studies in Utah County, a standard depletion of 20% is applied for indoor use and 56% for outdoor use.

The following calculation is used to estimate the amount of water available for reuse based on the City's approved municipal water rights shown in Table 1:

$$(5,985 \text{ AF} * 87\% \text{ depletion percentage}) - ((2,994 \text{ AF} * 20\% \text{ indoor depletion}) + (2,991 \text{ AF} * 56\% \text{ outdoor depletion})) = 2,949 \text{ AF}$$

Projected Production Data in 2060

Based on the City's Drinking Water Master Plan and Capital Facility Plan (2020), in 2060, the projected average indoor use is 10,498 AF. Based on the City's Pressurized Irrigation Master Plan and Capital Facility Plan (2020), the 2060 average yearly demand is projected to be 6,304 AF. With the projected indoor water demand of 10,498 AF and outdoor water demand of 6,304 AF, this equals a total demand of 16,802 AF.

Based on our assumptions from depletion studies in Utah County, a standard depletion of 20% is applied for indoor use and 56% for outdoor use.

The following calculation is used to estimate the amount of water available for reuse based on the City's projections for 2060 and approved municipal water rights:

$(16,802 \text{ AF} * 87\% \text{ depletion percentage}) - ((10,498 \text{ AF} * 20\% \text{ indoor depletion}) + (6,304 \text{ AF} * 56\% \text{ outdoor depletion})) = 9,031 \text{ AF}$

The Payson Sanitary Sewer Master Plan was completed in 2020. Under build-out conditions, the estimated max month total wastewater is 7.59 million gallons per day (MGD) or 8,500 AF. This was projected by the number of buildout equivalent residential connections (ERCs) based on the City's general plan, current zoning, land use, parcel information, and expected annexation areas. The same population projections that were used for the drinking water master plan were applied to the sanitary sewer master plan. The current capacity of the existing treatment plant is 3.0 MGD or 3,360 AF with a permitted peak hour capacity of 4.5 MGD or 5,130 AF.

Estimated Amount for Reuse

Based on future land use plans and irrigation factors discussed in the City's Pressurized Irrigation Master Plan and Capital Facility Plan (2020), 1,970 acres are estimated to be irrigated in the year 2060.

With the 2060 estimated production data and underlying water rights, 8,500 AF would be adequate to reuse in the PI system with a depletion of 4,250 AF. The 2060 estimated max wastewater of 8,500 AF will allow this reuse to be possible.



Source: Esri, Maxar, Earthstar Geographics, and the

Legend

Sections

FIGURE
1

Application for Sewage Effluent Reuse
Payson Wastewater Plant: S 728 ft E 55 ft from W4 corner Section 4, Township 9S, Range 2E, SLBM

**HANSEN
ALLEN
& LUCE, INC.**
ENGINEERS