

## Appendix D: City of Flagstaff, AZ - Water Cost of Service

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Water, Reclaimed Water, & Wastewater Cost-of-Service Rates & Fees Study  
Assumptions & Preliminary Results Workbook







Water System Operating & Debt Service Expense Allocation to Function

Table with columns: Line Item, Section, Test Year Expense, Non-Water %, Test Year COS, Allocation Basis/Factor, Water Resources, Water Production, Transmission/Distribution, Administration, Meters/Services, Fire Protection, Total, Water Resources, Water Production, Transmission/Distribution, Administration, Meters/Services, Fire Protection. Rows include various expense categories like Industrial Insurance, Utilities-Electric, FICA-Regular, etc.







Line Item	Section	Test Year Expense	Non-Water %	Test Year COS	Allocation Basis/Factor	Allocation					Total % Allocation	Allocation						
						Water Resources % Allocation	Water Production % Allocation	Transmission/Distribution % Allocation	Administration % Allocation	Meters/Services % Allocation		Fire Protection % Allocation	Water Resources \$ Allocation	Water Production \$ Allocation	Transmission/Distribution \$ Allocation	Administration \$ Allocation	Meters/Services \$ Allocation	Fire Protection \$ Allocation
Other Improvements & Replacements	Water Production	\$ 67,500	0%	67,500	Water Production	0.00%	100.00%	0.00%	0.00%	0.00%	100%	-	67,500	-	-	-	-	-
Computer Equipment	SCADA Information Systems	\$ 9,000	40%	5,400	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	1,440	2,439	1,088	152	435	56	
Computer Hardware/Software	SCADA Information Systems	\$ 49,500	40%	29,700	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	7,920	12,316	5,982	838	2,336	309	
Contracted Personnel Serv	Regulatory Compliance	\$ 9,000	0%	9,000	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	2,400	3,732	1,813	254	708	94	
Computer Hardware/Software	SCADA Information Systems	\$ 72,000	0%	72,000	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	19,200	29,856	14,502	2,031	5,664	748	
Travel, Lodging and Meals		\$ 2,160	45%	1,188	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	317	493	239	34	93	12	
Registration		\$ 1,080	45%	594	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	158	246	120	17	47	6	
Education and training		\$ 540	45%	297	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	79	123	60	8	23	3	
Uniforms		\$ 1,305	45%	718	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	191	298	145	20	56	7	
consultant		\$ 9,000	40%	5,400	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	1,440	2,239	1,088	152	435	56	
Additional Staffing Requested (FTEs)		\$ 83,835	0%	83,835	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	22,356	34,764	16,885	2,365	6,595	871	
Ongoing OIP Programs		\$ 892,350	0%	892,350	5-Year CIP	23.49%	17.34%	0.08%	2.88%	0.00%	100%	209,570	154,703	501,603	752	25,722	-	
Temporary Pay	Water Resource Management	\$ 50,569	0%	50,569	Water Resources	100.00%	0.00%	0.00%	0.00%	0.00%	100%	50,569	-	-	-	-	-	
Market Adjustmet	Additional Staffing	\$ 72,000	0%	72,000	Indirect	26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	19,200	29,856	14,502	2,031	5,664	748	
Computer Equipment	Water Resource Management	\$ 900	0%	900	Water Resources	100.00%	0.00%	0.00%	0.00%	0.00%	100%	900	-	-	-	-	-	
Safety	Water Resource Management	\$ 900	0%	900	Water Resources	100.00%	0.00%	0.00%	0.00%	0.00%	100%	900	-	-	-	-	-	
<b>TOTAL EXPENDITURES</b>		<b>\$ 26,271,573</b>	<b>\$ 1,670,433.03</b>	<b>\$ 24,601,140</b>								<b>\$ 6,165,176</b>	<b>\$ 7,884,778</b>	<b>\$ 8,269,378</b>	<b>\$ 681,090</b>	<b>1,438,731</b>	<b>161,986</b>	
% Allocation												25.06%	32.05%	33.61%	2.77%	5.85%	0.66%	
Expenses Excluded From Indirect Allocation																		
Debt Service				1,776,443								308,967	166,748	1,061,299	235,377	4,052	-	
Cash Funded Capital				7,238,400								1,699,951	1,254,890	4,068,814	6,099	208,646	-	
<b>Net Expenses for Indirect Allocation</b>				<b>14,374,498</b>								<b>3,833,118</b>	<b>5,960,647</b>	<b>2,895,194</b>	<b>405,435</b>	<b>1,130,712</b>	<b>149,392</b>	
% of Expenditures												26.67%	41.47%	20.14%	2.82%	7.87%	1.04%	

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## Water Cost Allocation Functions & Flow Data

## Schedule 2

<b>Function</b>	<u>Base Capacity - Avg</u>	<u>Extra Capacity - Max</u>	<u>Extra Capacity - Peak</u>	<u>Fire Protection</u>	<u>Customers</u>
	<u>Day</u>	<u>Day</u>	<u>Hour</u>		
Water Resources	X				
Water Production	X	X			
Transmission/Distribution	X	X	X		
Administration					X
Meters/Services					X
Fire Protection				X	
<b><u>% to Each Component</u></b>					
Water Resources	100%				
Water Production	67%	33%			
Transmission/Distribution	52%	25%	23%		
Administration					100%
Meters/Services					100%
Fire Protection				100%	

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Summary of Water Revenue Requirement Allocations

Schedule 3

Revenue Requirements TY	Total	Single Family	Multi Family	Commercial	Landscape	Manufacturing	Institutional	Hydrant	Standpipe
Operations and Maintenance	\$ 10,537,609	\$ 4,361,422	\$ 2,156,698	\$ 2,503,696	\$ 511,024	\$ 233,567	\$ 683,489	\$ 1,842	\$ 85,872
Debt Service	\$ 1,776,443	\$ 750,668	\$ 369,243	\$ 405,981	\$ 89,315	\$ 37,155	\$ 111,651	\$ 262	\$ 12,167
Rate Funded Capital	\$ 7,238,400	\$ 2,754,138	\$ 1,557,215	\$ 1,799,237	\$ 386,798	\$ 170,411	\$ 511,090	\$ 1,240	\$ 58,271
Total Revenue Requirements	\$ 19,552,452	\$ 7,866,228	\$ 4,083,156	\$ 4,708,914	\$ 987,138	\$ 441,133	\$ 1,306,230	\$ 3,344	\$ 156,310
Adjustments									
Less: Other Revenue	\$ (2,587,514)	\$ (1,098,570)	\$ (587,296)	\$ (613,144)	\$ (78,705)	\$ (59,786)	\$ (150,012)	\$ -	\$ -
<b>Total Rate Requirement</b>	<b>\$ 16,964,938</b>	<b>\$ 6,767,658</b>	<b>\$ 3,495,860</b>	<b>\$ 4,095,770</b>	<b>\$ 908,433</b>	<b>\$ 381,346</b>	<b>\$ 1,156,217</b>	<b>\$ 3,344</b>	<b>\$ 156,310</b>
Rate Revenue (Estimated FY24 - Using FY23 units * growth)	\$ 15,229,535	\$ 6,849,646	\$ 3,187,582	\$ 3,422,759	\$ 451,516	\$ 314,282	\$ 721,226	\$ 4,578	\$ 277,945
Total Annualized Rate Revenue Req. FY2025	\$ 16,964,938	\$ 6,767,658	\$ 3,495,860	\$ 4,095,770	\$ 908,433	\$ 381,346	\$ 1,156,217	\$ 3,344	\$ 156,310
Over/(Under) Recovery \$	\$ (1,735,404)	\$ 81,988	\$ (308,278)	\$ (673,011)	\$ (456,917)	\$ (67,065)	\$ (434,991)	\$ 1,234	\$ 121,635
Over/(Under) Recovery %	-11.4%	1.2%	-9.7%	-19.7%	-101.2%	-21.3%	-60.3%	27.0%	43.8%

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Summary of Water Units of Service

Schedule 4

Water Units of Service	Base Units		Max Day Units			Max Hour Units			Fire Protection			Customer Units		
	Annual Use 1,000 gallons (FY24 Estimate)	Average Rate 1,000 gpd	Peaking Factor %	Total Capacity 1,000 gpd	Extra Capacity 1,000 gpd	Peaking Factor %	Total Capacity 1,000 gpd	Extra Capacity 1,000 gpd	Maximum Needed Fire Flow (gpm)	Duration (min)	Equivalent Fire Flow 1,000 gallon	Equivalent Meters & Services	Number of Customers	Number of Bills
Single Family	755,553	2,070	214	4,434	2,364	321	6,651	2,217	1,000	120	1,946,940	16,348	16,225	194,694
Multi Family	558,814	1,531	123	1,889	358	247	3,779	1,889	1,500	120	556,065	3,541	3,089	37,071
Commercial	625,420	1,713	159	2,718	1,004	238	4,077	1,359	1,500	120	303,390	2,450	1,686	20,226
Landscape	76,995	211	363	765.63	555	544	1,148	383	-	-	-	444	332	3,982
Manufacturing	64,663	177	137	243.58	66	206	365	122	1,500	120	6,870	73	38	458
Institutional	164,859	452	183	824.72	373	274	1,237	412	-	-	-	61	7	86
Hydrant	606	2	100	2	-	100	2	-	-	-	-	-	-	5
Standpipe	28,600	78	100	78	-	100	78	-	-	-	-	-	-	12
<b>Total</b>	<b>2,275,510</b>	<b>6,234</b>		<b>10,956</b>	<b>4,721</b>		<b>17,338</b>	<b>6,382</b>			<b>2,813,265</b>	<b>22,918</b>	<b>21,376</b>	<b>256,534</b>

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