

Water System Plan Update Briefing

Utility Advisory Committee – September 7, 2023



McAllister Wellfield

Olympia™

Water System Plan – Recommendation

Tonight's Agenda

Past 5 Briefings

- Planning Requirements
- Source & Storage Capacity Analysis
- Issues to Address
- Water Use Efficiency Goal Setting
- Statistics/Infrastructure
- Capital Projects

Financial Review

Department of Health Comments

Next Steps

- October 17, 2023 Public Hearing



LBA Reservoir Construction
(formerly known as Log Cabin Reservoir)

THANKS for all the assistance!

Jeannine
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Isabel

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Water System Plan Requirements

Department of Health, Office of Drinking Water
 Southwest Drinking Water Operations
 Pre-Plan meeting

Water System: City of Olympia, ID# 63450
 Date: 6/17/2020
 Water System Plan Expiration Date: January 22, 2022
 Operating Permit Color: Green
 Water System Plan Submittal Date: [Enter Date](#)
 Attendees: [List Pre-Plan Attendees Here](#)

The purpose of this Pre-Plan is to:

1. Determine the scope and level of detail of the WSP update.
2. Establish a schedule for submittal of the WSP update.

WATER SYSTEM PLAN FORMAT:

The following sections refer to information that needs to be included in the WSP and provides a proposed outline. You may choose a different format, but all of the elements identified below must be included.

Water System Plan (WSP) Checklist

Chapter	✓Required	Content Description	WSP Page #
Chapter 1			
	(✓)	Updated WFI, signed and dated.	Click to Enter
	(✓)	Ownership and management.	Click to Enter
	(✓)	System history and background.	Click to Enter
	(✓)	Description of and discussion about related plans: CWSP, groundwater management plan, WRIA and City and County land use plans & zoning.	Click to Enter
	(✓)	Service Area Maps: <i>This is often missing from first submissions, but is a very important element of a WSP. These maps or map should clearly show the service area, including the retail service area, future service area (CWSP jurisdictions only), and water rights place of use. These can be depicted on one map if properly labeled.</i>	Click to Enter
		<ul style="list-style-type: none"> The future service area should be as shown in the most recent CWSP. 	Click to Enter
	(✓)	Policies: Service area, SMA, conditions of service, annexation. <ul style="list-style-type: none"> Please see Publication DOH 331-438. 	Click to Enter
	(✓)	Duty to serve requirement: procedures, conditions, appeals. <ul style="list-style-type: none"> Please see Publication DOH 331-306. 	Click to Enter
	(✓)	Consistency from local planning agency (LGC statement). <u>Please</u> have this reviewed and signed by the City/County Planning Department. LGC form is at: http://www.doh.wa.gov/Portals/1/Documents/Pubs/331-568.docx	Click to Enter
Chapter 2			
Planning Data			
	(✓)	<ul style="list-style-type: none"> Demand analysis based on water use. 	Click to Enter
		<ul style="list-style-type: none"> Include analysis of population, service connections & ERUs. 	Click to Enter

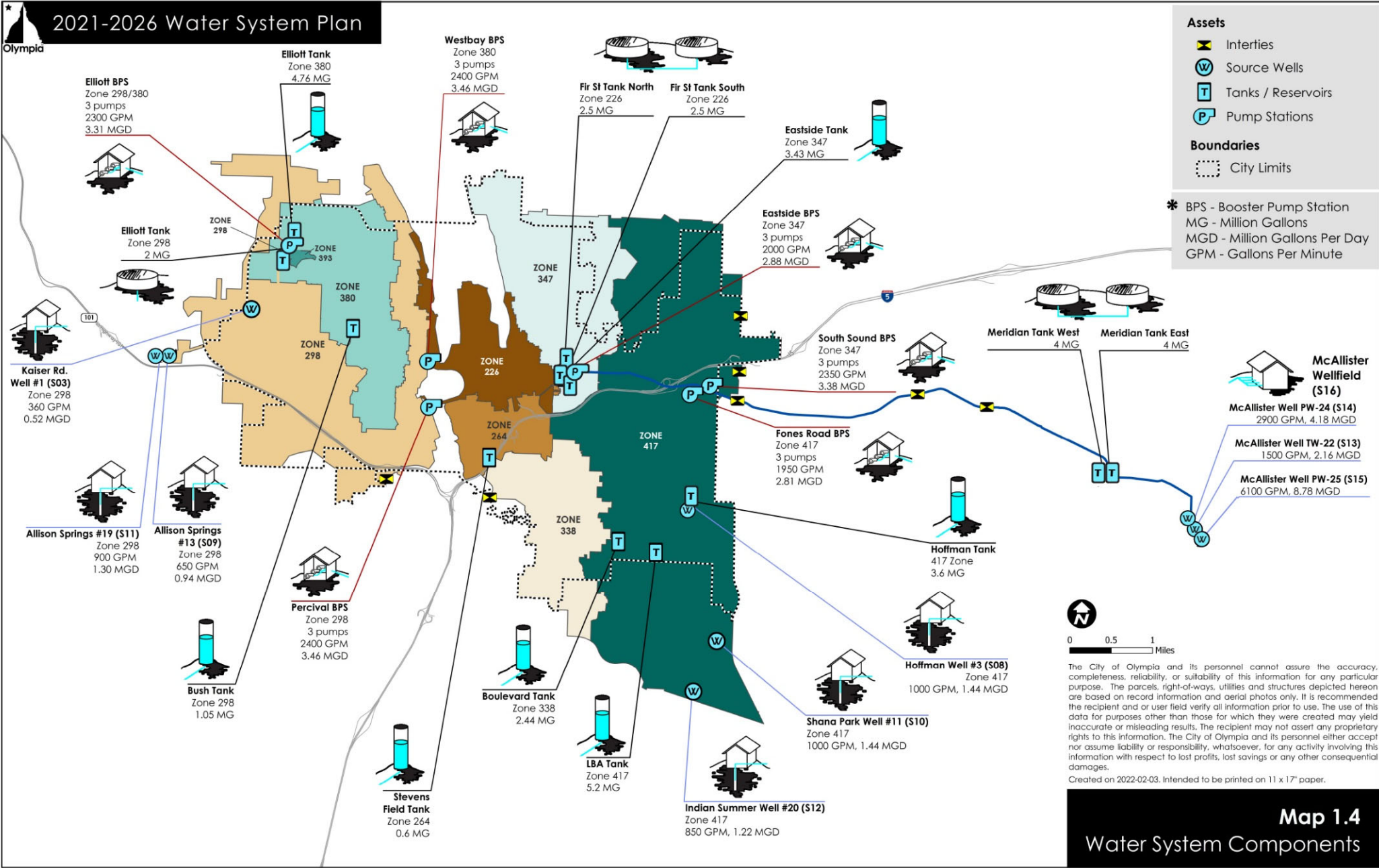
Managerial, technical, operational & financial capacity today & 6-20 years into the future

We do things differently:

- ✓ Chose a 6-year planning cycle
- ✓ We look out to 50 years
- ✓ We include goals, objectives, strategies
- ✓ We include an implementation chapter
- ✓ We include recommended scenarios & reliability analysis

We Got This!

Water System Components Map



Map 1.4
Water System Components

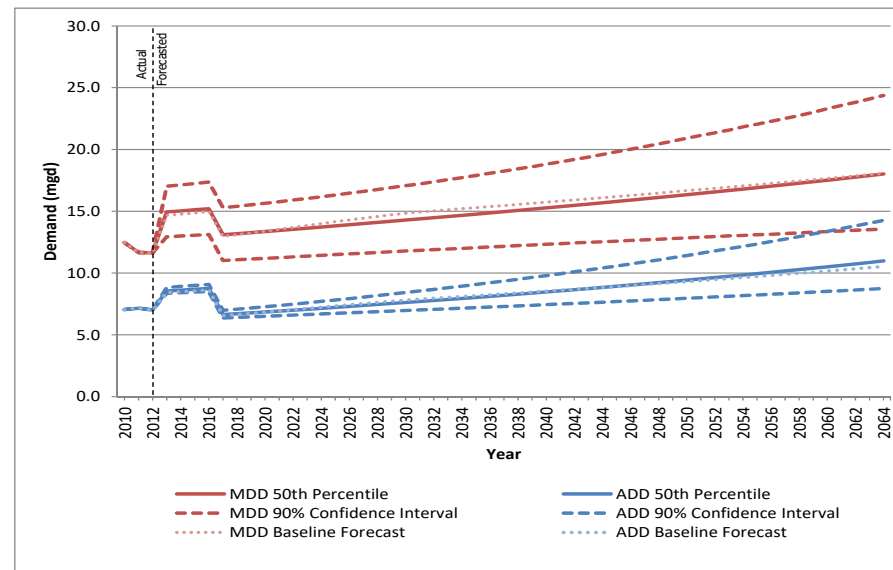
Our Demands

Conservation Goal – 6 percent reduction

	2020	2026	2040	2070
Average Day Demand	6,554,793	7,119,532	8,367,254	10,701,466
Maximum Day Demand	12,144,997	13,191,370	15,503,201	19,828,127
Winter Day	5,166,716	5,611,863	6,595,360	8,435,267

Note: 2021 Maximum Day Demand (June 28, 2021) = 13,039,584

Results of Demand Forecast
Uncertainty Analysis –
Figure 3.11



Example – Source Adequacy Detail

	Year				
	2020	2026	2040	2070	Max ⁽¹⁾
Equivalent Residential Units (ERU's)	43,129	46,844	55,054	70,412	60,895
Projected Demand - Gallons per Day (gpd) ⁽²⁾					
Average Day	6,554,793	7,119,532	8,367,254	10,701,466	9,256,023
Maximum Day	12,144,997	13,191,370	15,503,201	19,828,127	17,148,000
Fire Suppression Storage Replenishment (72 hr) ⁽³⁾	320,000	320,000	320,000	320,000	320,000
Source Capacity					
<i>Available Existing Source - 24-hour Pumping (gpd)</i>					
McAllister Wellfield (10,500 gpm)					
TW-22 (1,500 gpm)	2,160,000	2,160,000	2,160,000	2,160,000	2,160,000
PW-24 (2,900 gpm)	4,176,000	4,176,000	4,176,000	4,176,000	4,176,000
PW-25 (6,100 gpm)	8,784,000	8,784,000	8,784,000	8,784,000	8,784,000
Allison Well #19 (900 gpm)	1,296,000	1,296,000	1,296,000	1,296,000	1,296,000
Allison Well #13 (530 gpm)	763,200	763,200	763,200	763,200	763,200
Shana Well and Corrosion Facility (760 gpm)	1,094,400	1,094,400	1,094,400	1,094,400	1,094,400
Hoffman Well #3 (1,000 gpm)	1,440,000	1,440,000	1,440,000	1,440,000	1,440,000
Indian Summer Well (600 gpm)	864,000	864,000	864,000	864,000	864,000
Kaiser Rd. Well #1 (360 gpm) ⁽⁴⁾	0	0	0	0	0
Total Available Source (gpd)	20,577,600	20,577,600	20,577,600	20,577,600	20,577,600
Total Available Source (gpd) - Largest Offline	11,793,600	11,793,600	11,793,600	11,793,600	11,793,600
<i>Available Existing Source - 20-hour Pumping (gpd)</i>					
McAllister Wellfield (10,500 gpm)					
TW-22 (1,500 gpm)	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
PW-24 (2,900 gpm)	3,480,000	3,480,000	3,480,000	3,480,000	3,480,000
PW-25 (6,100 gpm)	7,320,000	7,320,000	7,320,000	7,320,000	7,320,000
Allison Well #19 (900 gpm)	1,080,000	1,080,000	1,080,000	1,080,000	1,080,000
Allison Well #13 (530 gpm)	636,000	636,000	636,000	636,000	636,000
Shana Well and Corrosion Facility (760 gpm)	912,000	912,000	912,000	912,000	912,000
Hoffman Well #3 (1,000 gpm)	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Indian Summer Well (600 gpm)	720,000	720,000	720,000	720,000	720,000
Kaiser Rd. Well #1 (360 gpm) ⁽⁴⁾	0	0	0	0	0
Total Available Source (gpd)	17,148,000	17,148,000	17,148,000	17,148,000	17,148,000
Total Available Source - Largest Offline (gpd)	9,828,000	9,828,000	9,828,000	9,828,000	9,828,000
Capacity Analysis Surplus/(Deficiency)					
MDD - 24 hr capacity	8,432,603	7,386,230	5,074,399	749,473	3,429,600
MDD - 20 hr capacity	5,003,003	3,956,630	1,644,799	(2,680,127)	0
ADD with Largest Source Offline - 20 hr capacity	3,273,207	2,708,468	1,460,746	(873,466)	571,977
Fire Storage Replenishment During MDD - 24 hr capacity	8,112,603	7,066,230	4,754,399	429,473	3,109,600
Evaluation of Future Sources					
<i>Future Source (gpd)</i>					
Briggs Well (1,100 gpm) ⁽⁵⁾	0	0	1,584,000	1,584,000	1,584,000
McAllister Wellfield 2nd Phase (3,111 gpm) ⁽⁶⁾	0	0	4,480,000	4,480,000	4,480,000
McAllister Wellfield 3rd Phase (2,400 gpm) ⁽⁷⁾	0	0	0	3,456,000	3,456,000
Brewery Wellfield (2,172 gpm) ⁽⁸⁾	TBD	TBD	TBD	TBD	TBD
Total Available Source (Existing + Future) - 24 hr (gpd)	20,577,600	20,577,600	26,641,600	30,097,600	30,097,600
Total Available Source (Existing + Future) - 20 hr (gpd)	17,148,000	17,148,000	22,201,333	25,081,333	25,081,333
Capacity Analysis Surplus/(Deficiency)					
MDD - 24 hr capacity	8,432,603	7,386,230	11,138,399	10,269,473	12,949,600
MDD - 20 hr capacity	5,003,003	3,956,630	6,698,133	5,253,206	7,933,333
ADD with Largest Source Offline - 20 hr capacity	3,273,207	2,708,468	7,524,746	8,646,534	10,091,977
Fire Storage Replenishment During MDD - 24 hr capacity	8,112,603	7,066,230	10,818,399	9,949,473	12,629,600

Table 8.2

WSP Analysis Results

Source Analysis

- Water Rights
 - 50-year demands met
- Source Design Capacity
 - Maximum Day 50-year demands met
- Reliability Analysis
 - 20-year inside demands met without largest source

Storage Analysis

- 20-year demands met
- Some deficiencies 50-year demand

Hydraulic Modeling

- No unexpected results
- Two 2015 WSP carry-over projects



Challenges & Opportunities Focus

Discussed with DOH

- SE Olympia Wells
- Reservoirs
- Asset Management Program

General

- Aging infrastructure
- Changing water quality regulations
- Keeping pace with development
- Protecting groundwater from contamination
- Equitable and predictable rates and fees
- Public education and involvement
- Climate change
- **Incorporating equity (fairness) in utility decisions**



What is our Strategic Plan?

Capital Projects

Source

- Water right development
- Treatment upgrades

Storage Projects

- Boulevard Road Reservoir
- Elliot Reservoir (380 Zone) Evaluation
- Eastside followed by Hoffman

Transmission

- Seismic valves & condition assessment
- Sole source aquifer

Distribution

- 2015 WSP deficiencies
- Small diameter main replacement
- Aging and asbestos cement pipe replacement

Security



What is our Strategic Plan ?

- Preemptively take measures to address water loss such as assessing data accuracy and calibrating sources meters (Chapter 5 & 13)
- Develop a compliance plan to meet new Revised Lead and Copper Rule requirement to inventory/replace lead service lines (Chapter 11)
- Continue development of our asset management program – projections of renewal and replacement costs (Chapter 13)
- Conduct emergency table-top exercises and post emergency debriefings (Chapter 13)
- Work with other City utilities and departments to develop tools to evaluate utility services and decision processes in order to create more equitable outcomes for our customers (WSP Strategy)

Financial Capacity

Revenue Requirement Analysis	2022	2023	2024	2025	2026	2027
Revenues						
Rate Revenue At Existing Rates	\$ 14,530	\$ 14,691	\$ 14,855	\$ 15,021	\$ 15,190	\$ 15,382
Other Operating Revenues	443	417	419	422	425	428
Total Revenues	\$ 14,972	\$ 15,108	\$ 15,274	\$ 15,444	\$ 15,615	\$ 15,809
Expenses						
Operating Expenses	\$ 11,342	\$ 11,874	\$ 12,009	\$ 12,323	\$ 12,709	\$ 13,204
Debt Service	3,255	3,413	2,471	2,450	2,428	2,748
System Reinvestment Funding	700	700	1,400	1,900	2,600	2,700
Total Expenses	\$ 15,297	\$ 15,988	\$ 15,880	\$ 16,672	\$ 17,737	\$ 18,652
Net Surplus (Deficiency)	\$ (324)	\$ (880)	\$ (606)	\$ (1,228)	\$ (2,121)	\$ (2,843)
Annual Rate Adjustment		6.7%	5.0%	5.0%	5.0%	5.0%
Cumulative Rate Adjustment		6.7%	12.0%	17.6%	23.5%	29.7%
Rate Revenue After Rate Adjustments	\$ 14,530	\$ 15,676	\$ 16,643	\$ 17,671	\$ 18,763	\$ 19,949
Net Cash Flow After Rate Adjustments	\$ (324)	\$ (18)	\$ 959	\$ 1,090	\$ 1,005	\$ 1,154
Coverage After Rate Adjustments	2.46	2.77	8.64	9.68	10.70	11.58
Ending Operating Fund Balance	\$ 3,403	\$ 3,384	\$ 3,603	\$ 3,597	\$ 3,813	\$ 3,961
Minimum Balance Required	\$ 2,836	\$ 2,969	\$ 3,002	\$ 3,081	\$ 3,177	\$ 3,301
Ending Capital Fund Balance	\$ 5,077	\$ 2,109	\$ 563	\$ 246	\$ 5,968	\$ 575
Minimum Balance Required	\$ 368	\$ 229	\$ 231	\$ 213	\$ 181	\$ 489

Actual 2023 rate increase = 6.6 percent

Proposed 2024 rate increase = NEXT!

System reinvestment = \$1,400,000 for 2024

Financial Capacity

- GFC increase from \$4,433 to \$5,639 – Actual: \$250 annual increase 2023
- Water rates under 2.0 percent of median household income – Olympia’s 0.6 percent by 2027
- Combined water/wastewater bills in affordable range
 - 8 hours at minimum wage – Olympia’s at 6.7 hours by 2027
 - 10 percent disposal income at 20th income percentile – Olympia’s at 14.4 percent by 2027

“Note that these projected increases are based on a series of assumptions discussed in this chapter – though the recommended financial structure is robust enough to accommodate a variety of unforeseen circumstances, the City should regularly review the fiscal health of the water utility.”

Department of Health Comments



STATE OF WASHINGTON
DEPARTMENT OF HEALTH
SOUTHWEST DRINKING WATER REGIONAL OPERATIONS
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June 5, 2023

Susan Clark
Olympia Water Department
PO Box 1967
Olympia, Washington 98507-1967

Subject: Olympia City of Water System, ID #63450, Thurston County
Water System Plan Update, ODW Project #22-1008

Dear Ms. Clark:

Thank you for submitting the draft Olympia Water System Plan (WSP) update, received by the Office of Drinking Water (ODW) on October 12, 2022. The following comments must be addressed before ODW can approve the WSP:

EXECUTIVE SUMMARY

1. There is an executive summary table of contents, but no executive summary. Since all goals and policies were supposed to have been in the executive summary, the various subsequent references to them within the document (at or near the beginning of nearly every chapter) lack context. Including them where indicated should resolve that.

CHAPTER 1 – SYSTEM OVERVIEW

2. 1.3. Service area—land use and zoning, pp. 7-8. Development of the City's 2025 comp plan update has already begun.

CHAPTER 2 – LEGAL & POLICY FRAMEWORK

3. 2.1. Federal and state—planning and financing requirements—water system plans, p. 4. The current water system plan approval period is ten years, not six (WAC 246-290-100(9), 2017 amendment). Is this the reason the City's plan is for 2021-26 (noting that the prior plan approval didn't expire until January 22, 2022)? If the City wishes to pursue a ten-year approval, it could update the entire draft toward that end.

CHAPTER 5 – WATER USE EFFICIENCY PROGRAM

4. 5.3. Planned water conservation activities, beginning p. 9. In addition to the listed measures, perhaps you'll want to add that the City's Unified Development Code contains numerous drought-tolerant landscaping provisions.

Minor in Nature – Asking for Adjustments

- Page numbers
- Planning cycle time period
- Engage with us on reclaimed projects
- Check operator certifications
- Missing pages

Expected Comment – Update New Requirements

- Update water quality regulations related to Per- and Polyfluoroalkyl Substances Rule (PFAS)

Next Steps

- UAC Recommendation – Tonight!
- Incorporate DOH Revisions
- October 17, 2023
 - Public Hearing
 - Consumer Meeting
 - Council Approval
- Final WSP to DOH



Questions and Discussion



Susan Clark

Public Works Water Resources

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360.753.8321