

Council Business Meeting

August 4, 2020

Agenda Item	Adoption of the Water Master Plan Update	
From	Scott Fleury P.E.	Interim Public Works Director
Contact	Scott.fleury@ashland.or.us ; (541) 552-2412	

SUMMARY

Before the Council is the 2019 Water Master Plan Update prepared by RH2 Engineers. Staff is requesting Council adopt the Water Master Plan Update as the new planning document for the City's water system. The Water Master Plan Update provides a useful planning tool associated with the City's water system and is primarily focused on the 2020-2030 timeframe, but also looks beyond the year 2040. The Ashland Water Advisory Committee (AWAC) has endorsed the plan and recommends Council adopt the document in its entirety.

POLICIES, PLANS & GOALS SUPPORTED

City Council Goals:

- Essential Service-Drinking Water System
- Emergency Preparedness
- Address Climate Change
- Continue to leverage resources to develop and/or enhance Value Services

CEAP Goals:

- Natural Systems: Air, water, and ecosystem health, including opportunities to reduce emissions and prepare for climate change through improved resource conservation and ecosystem management.
- Strategy NS-2: Manage and conserve community water resources

Department Goals:

- Maintain existing infrastructure to meet regulatory requirements and minimize life-cycle costs
- Deliver timely life cycle capital improvement projects
- Maintain and improve infrastructure that enhances the economic vitality of the community
- Evaluate all city infrastructure regarding planning management and financial resources

PREVIOUS COUNCIL ACTION

The City Council has previously approved the Ashland Water Advisory Committee to oversee the Water Master Plan development. The AWAC group oversaw the development of the 2012 Water Master Plan and generally the same members participated in the development of the 2019 plan. The Council has also previously adopted Water Master Plans, the last being in 2012.

The Council received a presentation on the Water Master Plan at the January 6, 2020 Study Session ([Minutes](#), [Staff Report](#)). At the January 6, 2020 meeting, Council asked staff to host a public forum on the master plan and incorporate comments from the Climate Policy Commission that would help integrate the Climate Energy Action Plan into the final document.

BACKGROUND AND ADDITIONAL INFORMATION

Public Works has previously recommended to Council that major infrastructure master plans be updated on a regular schedule depending on need, typically between seven and ten years. The previous Comprehensive Water Master Plan was adopted by the City Council in 2012. At the May 3, 2016 Business Meeting, Council approved a professional services contract with RH2 Engineering to develop a water master plan update ([staff](#)

[report](#)). AWAC was also re-established with their same mission to provide critical local input to the planning and policies that will guide the City’s water utility by defining goals, objectives, recommend improvements and a commensurate rate structure to support all maintenance and improvement activities.

AWAC committee members included: Pat Acklin, Darrell Boldt, Alex Amarotico, John Williams, Amy Patton, Leslie Adams, Donna Rhee, Kate Jackson, Don Morris, Rich Miller, Joe Graf. All AWAC packets and minutes can be found here: [AWAC Committee Page](#). Staff would like to give a sincere thank you to all AWAC members involved for their commitment to the project throughout its duration.

The project was originally slated to be completed in 2017, but was placed on hold due to decisions regarding the future water treatment plant project. These decisions were being further evaluated by the City Council. On September 18, 2018 the Council moved forward with preliminary engineering of the new 7.5 MGD water treatment plant, allowing RH2 to adjust and continue with finalizing the Water Master Plan Update.

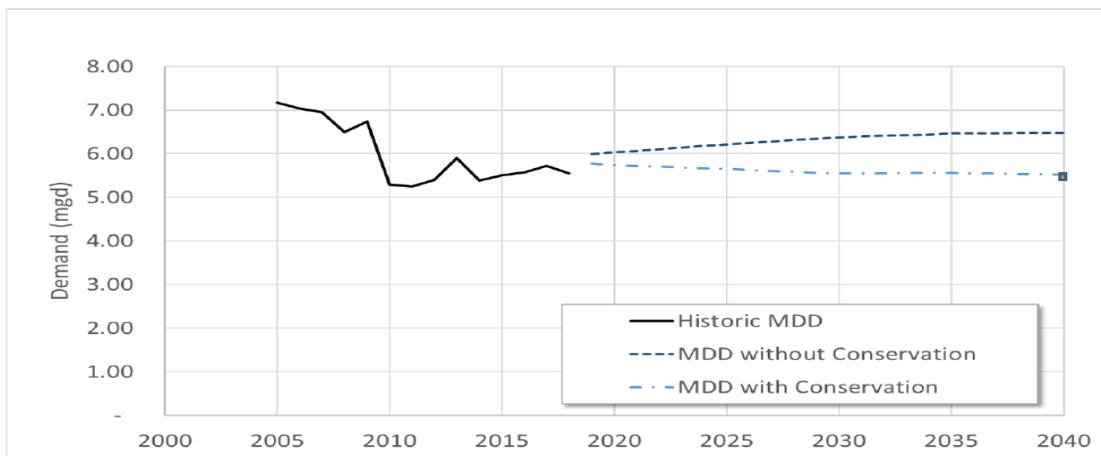
The major components of the water master plan update include:

1. Executive Summary
2. Introduction
3. System Description
4. Land Use
5. Demands
6. System Analysis
7. Capital Improvement Plan
8. Financial Analysis

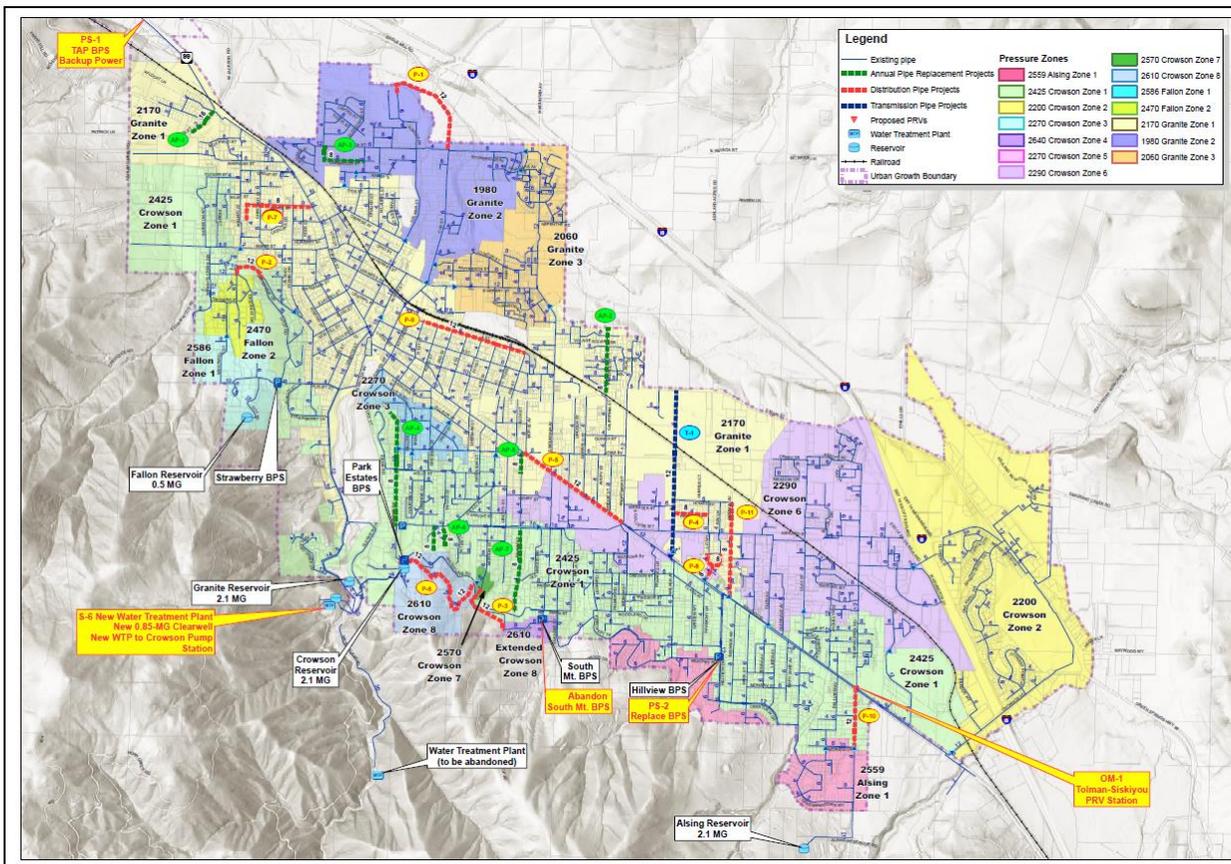
Differences between the 2012 WMP and the current update include a change in the future water demand forecasting, a review and update to the levels of service for storage requirements and the addition of more pipeline capacity increases primarily due to new fire flow requirements.

In 2012, the per capita consumption was estimated to be 144 gallons per capita per day (gpcd), in the 2019 update that consumption forecast has been reduced to 125 gpcd. This reduction is based on water use reduction and conservation practices by Ashland residents and business. System wide conservation of five percent was a focus of the 2012 Water Master Plan with the long-term goal of achieving 15 percent.

Maximum Day Demand Projections



The water master plan update also lays out a roadmap for pipeline upsizing that focus on reducing pumping requirements associated with development of the new water treatment plant by expanding and balancing distribution zones within the City. These pipeline replacements have the potential to reduce pumping requirements of the new plant in the future by up to 60 percent.



Water Conservation

In conjunction with the water master plan development, the City contracted with Maddaus Water Management to provide a customized water efficiency program model called the Decision Support System (DSS). The model takes into account current and projected population, historic water consumption by customer class (e.g. single family, commercial, etc.), water production from all sources (e.g. Reeder, TID, TAP), water rates, historic conservation programs and savings, plumbing codes and standards, electric costs and historic weather.

The model has been utilized by water conservation staff to evaluate and quantify the City's remaining long-term water conservation potential; and determine which set of water efficiency measures and implementation strategies represent the best approach to achieve future water savings. Individual measures are reviewed through cost benefit analysis, cost savings per unit volume and difference between utility and community savings perspectives.

The DSS Model provided detailed information on 32 individual conservation measures and produced three program options for evaluation, each with varying levels of program costs and water savings. AWAC reviewed all three programs and made a final recommendation to move forward with the most cost-effective program that will assist the City in achieving its goal of a 15 percent reduction in city wide water use by the year 2030. The program includes expanded outdoor resources and incentives to include smart irrigation controller rebates, leak assistance, pressure reduction, efficient irrigation retrofits and rainwater catchment and graywater educational resources.

Additionally, the information from the DSS Model was used to update the City's Water Management and Conservation Plan, which can be used as a guide in carrying out future water conservation programs. The updated WMCP was also submitted to the Oregon Water Resources Department (OWRD) for review. The OWRD approved the updated plan in February 2019. The next update to the WMCP is scheduled for review by OWRD in 2023

2012 Water Master Plan Completed Projects

Numerous projects have been completed as recommended in the 2012 Water Master Plan including; security and telemetry upgrades; dam safety inspection; East and West Forks sediment removal; Terrace Street pump station improvements; TAP pipeline and pump station; Park Estates pump station improvements; Reeder Reservoir bathymetry; cost of service study; and pipeline replacements. Several other recommend projects are in various stages of engineering in the current biennium.

Online Open House:

At the January 6 Study Session, Council asked staff to provide a venue for more public review and comment regarding the Water Master Plan. Due to the COVID-19 pandemic, staff was not able to host an in-person open house, but did put together an online virtual open house utilizing the City's Engage Ashland website. The open house was open for one month on the City's website. All the draft chapters were posted for review. The virtual open house site received 40 visitors, 20 survey responses and 8 general comments. The summary sheet is attached for reference.

CEAP:

At the January 6 Study Session, Council also asked that the Climate Energy and Acton Plan (CEAP) be formally addressed in the plan. The Climate Policy Commission (CPC) reviewed the document and provided appropriate comments for inclusion in the final document, reference attachment 2. Comments include preparing for future climate change impacts by refreshing the climate analysis for the region along with gaining a better understanding of potential impacts to the City's TAP and TID sources.

TAP Master Plan:

In addition to the current Water Master Plan, Public Works staff has been working with the communities of Talent, Phoenix and consultant RH2 Engineering to develop a TAP Master Plan. This plan will be finalized in fall of 2020 and provide all three communities with a guiding document for maintenance, improvement and cost sharing breakdown for each community's portion of the TAP system. Council approved entering into an Intergovernmental Agreement with Talent and Phoenix to develop a TAP Master Plan at the September 3, 2019 Business Meeting ([Minutes](#), [Staff Report](#)).

Regional Water Supply Strategy:

In February of 2019, the City entered into an IGA with the Medford Water Commission and all regional water use partners (Central Point, Jacksonville, Talent, Phoenix and Eagle Point) to develop a comprehensive long-term Water Rights (Supply) Strategy. The goal of the Water Rights Strategy was to coordinate with all regional partners to develop understanding of existing water rights held by partners, associated future water demands and then provide a forward path to securing and allocating water rights (supplies) that would be in the best interest of the region. Many partners have un-certificated water rights and the strategy helped frame timelines for when the certification process should begin in order to maximize the regions overall water rights.

The City of Ashland currently has a permit for 1,000 acre-feet (326 MG) of stored water right from Lost Creek Reservoir. The City needs to certificate or partially certificate the use of this water right by September of 2021 and is currently working towards this. The stored water right is treated by the Medford Water Commission and is delivered to the City of Ashland through the TAP system. There are no constraints with respect to the permit on when the City can utilize this water annually. There are system constraints associated with the ability to obtain the maximum amount that can be pumped into the City (2.13 MGD) during the summer as pumping this amount would cause negative effects to the Talent system. The TAP Master Plan does provide options to eliminate this constraint in the future in order to provide the City of Ashland full use of the water anytime while not acting in a detrimental way to the City of Talents water distribution system.

FISCAL IMPACTS

The Water Master Plan Update also included the development of an operations and maintenance (O&M) plan for the City's water distribution system. The total contract awarded was \$315,976; Water Master Plan - \$258,235,

O&M Plan - \$57,741.

To date the City has spent \$312,385 on the WMP update. The comprehensive O&M plan has been finalized and is currently being utilized by the City’s water distribution supervisor. The O&M plan is a requirement of the Oregon Health Authority (OHA), drinking water division and was recently reviewed by OHA as part of a five-year sanitary survey requirement. The City was recognized by OHA for “outstanding performance” with respect to management of the water system.

The master plan update also accounts for calculated rate increases associated with all the maintenance and capital improvement projects for the water system. Currently, the projected rate increases are between 4 and 4.5 percent over the next ten-year period. Prior to each biennium budget approval Public Works will update the rate analysis based on actual revenues and expenditures in order to make sure the projections are as accurate as possible and define the true need at that time.

Financial Recommendations per the master plan update:

1. Minimize the need for borrowing or sale of bonds to fund water infrastructure by strategically timing commencement of projects and by raising SDCs and rates sufficiently in advance of the need to start commencement of projects.
2. Adjust the water SDCs as soon as possible to account for the revised CIP contained in this 2019 WMP Update.
3. Plan for 4.0 percent rate increases for the next three years, and 4.0 percent to 4.5 percent per year rate increases thereafter, depending on actual revenues realized and cost of service needs, to be evaluated each budget cycle.
4. Review available cash in the water fund annually for planned capital expenditures and adjust rates as necessary.
5. Continue to maintain reserves of at least two months of revenues and one year of debt service for unforeseen costs, revenue shortfalls due to drought, emergency repairs, and so forth.

STAFF RECOMMENDATION

AWAC Motion:

Motion by Acklin: AWAC endorse the plan and recommend to Council that they adopt the document in its entirety, 2nd by Graf. All ayes. Motion passed unanimously.

Staff recommends Council adopt the 2019 Water Master Plan.

ACTIONS, OPTIONS & POTENTIAL MOTIONS

1. I move to adopt the 2019 Water Master Plan Update as recommended by AWAC and staff.
2. I move to request changes to the 2019 Water Master Plan Update (insert recommendation).

REFERENCES & ATTACHMENTS

[Water Master Plan Update](#)

[Water Conservation and Management Plan](#)

Attachment 1: Virtual open house summary

Attachment 2: Climate Policy Commission Comments

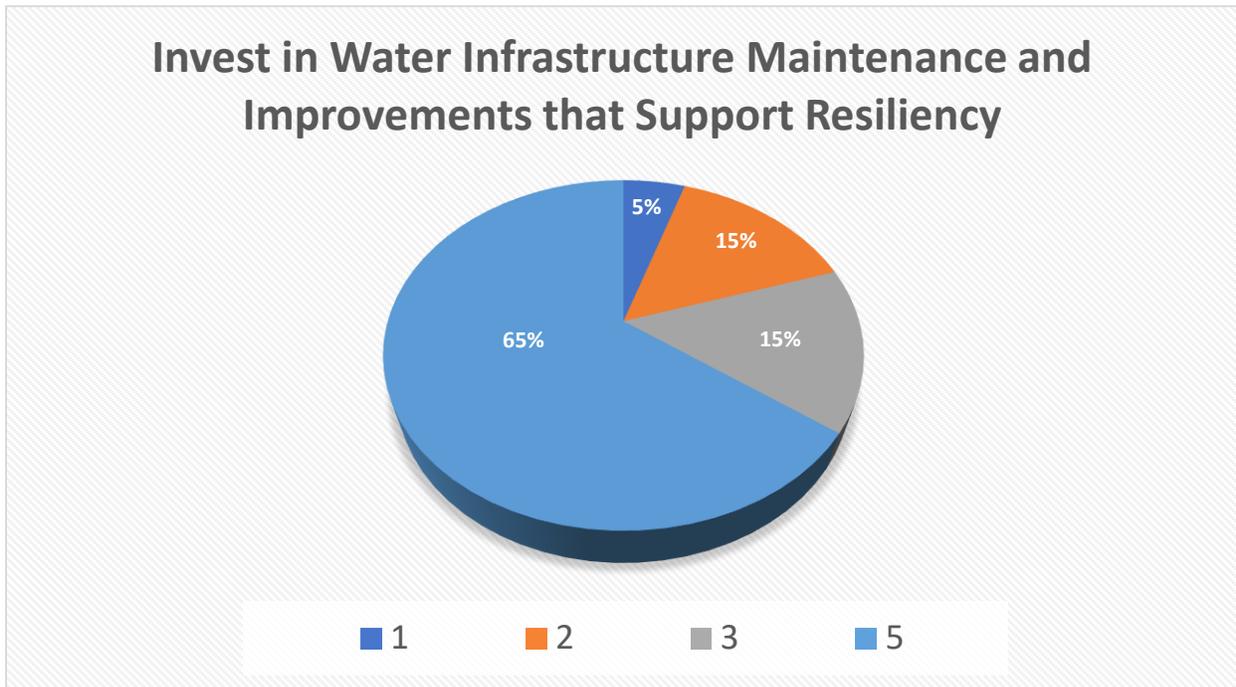
Water Master Plan Virtual Open House
(Summary of Feedback)
June 1, 2020

Visitor Summary

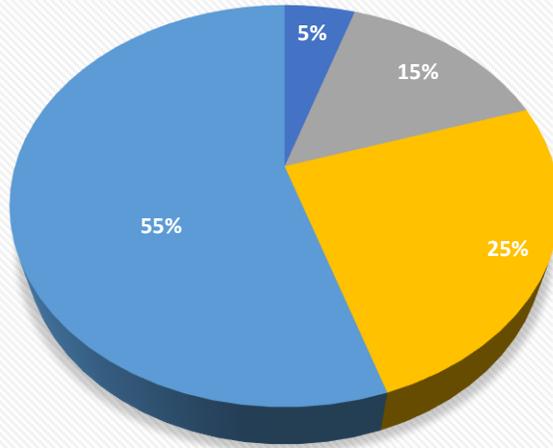
- 40 Total Visitors
- 20 Responses to Short Survey
- 8 Open Ended Comments

Survey: How important are the following? (1=not important, 5=very important)

- Invest in Water Infrastructure Maintenance and Improvements that Support Resiliency.
- Water Efficiency and Sustainability
- Reducing Water System Green House Gas and Energy Consumption
- Meeting Fire Flow Requirements for the Water Distribution System
- Maintaining Water System Infrastructure to Prevent Leaks

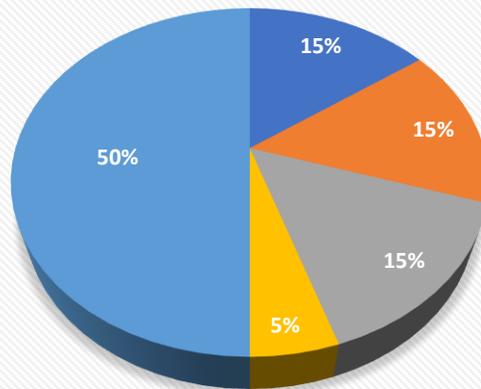


Water Efficiency & Sustainability



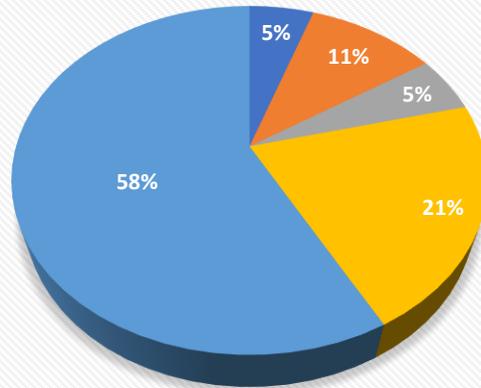
■ 1 ■ 3 ■ 4 ■ 5

Reducing Water System Green House Gas and Energy Consumption



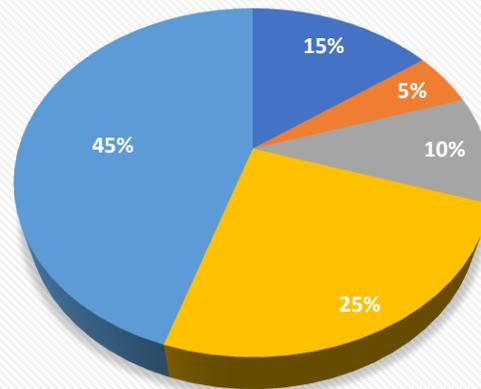
■ 1 ■ 2 ■ 3 ■ 4 ■ 5

Meeting Fire Flow Requirements for the Water Distribution System



■ 1 ■ 2 ■ 3 ■ 4 ■ 5

Maintaining Water Infrastructure to Prevent Leaks



■ 1 ■ 2 ■ 3 ■ 4 ■ 5

Open Ended Comments

- 1) The questions are absolutely meaningless. Tell me what statistical scientist created this survey. It's as though the city might be using this false data to support some ridiculous project. C'mon.
- 2) Fix the ditch, but do not pipe it as the council has already voted no. There has been 0 - hardly any population growth and if the city keeps raising utility fees and asks for more bonds it will drive people out. I am already looking to move because it's getting toooooo expensive to live here. Promote conservation that individuals can do, mulch, drip irrigation, sensors on irrigation that will shut valves off if it rains, rain gardens.
- 3) Don't pipe the TID canal, it will not be a prudent use of taxpayer funds. Repairs are needed and long overdue. A simple maintenance plan approach has been ignored for a decade and now is the time to lessen the water losses with a low tech, low cost approach. These are rather peculiar questions. I wouldn't expect the average citizen (including myself!) to be able to do more than make an educated guess. Perhaps these could be worded differently, or you could give examples of exactly what you are talking about? Thanks.
- 4) Repair the sections of the open canal that have not been maintained and need work. Do not invest in underground piping. Explore using biochar for improving our water treatment system design.
- 5) A seismic event could create a critical need for water pressure. Is that being addressed? Our water system should be top of the critical infrastructure.
- 6) Silly choices. The City should be maximizing all of the above while minimizing cost. Why don't you ask whether the City should be designing and proposing to construct a water system that ignores the likely drop in water yield from the watershed (either via drought or conflagration). It seems inevitable that the water yield from the watershed will fall (either due to insect kill or wildfire) during the next 50 years. Why didn't you ask whether the City should be working with regional partners to ensure water security? Why aren't we maximizing water conservation? The approved water treatment plant design capacity provides for too little reduction in outdoor watering. Why are we treating the TID water rather than providing an efficient non-potable irrigation system to meet summer time irrigation needs. It's silly. Make TID water widely available and reduce the capacity of the treatment plant. Additionally, we need to renegotiate the Medford Water Commission TAP agreement so that regional water is available whenever its needed and thus avoid the excessive scale of the proposed water treatment plant. We should be designing and building a smart water; maximizing the utility of the various sources of water while minimizing the expense of water treatment. The proposal isn't smart growth.
- 7) I am disappointed that the WTP sizing is not taking the City's water conservation goals into account ie 15% reduction by 2030. This leads to building a larger plant than needed and will require raising water rates higher than the 4.5% in the plan if we do meet our conservation goals. I am pleased to see updated information in the plan that align with the CEAP.
- 8) Agree with using utility fee dollars wisely to maintain and update infrastructure for our water system. I expect our local officials and department heads to use funds efficiently and without waste. Moreover, I do not like our utility bills being used as a forced collection mechanism for obtaining additional fees or taxes for projects that are unrelated to electric or water service.

Climate Policy Commission Recommendations to the City of Ashland 2020 Water Master Plan

The Ashland Climate Energy Action Plan (CEAP) was adopted by the City Council in March 2017. One of the main goals of the plan is to achieve net zero greenhouse gas (GHG) emissions by 2030 for City operations and by 2050 for all of Ashland. To assist in reaching these goals it is important that the City follow action CC-3-2, 'Incorporate CEAP goals and actions in future updates of city plans'.

The Climate Policy Commission (CPC) has reviewed the August 2019 Water Master Plan (WMP) draft and henceforth has the following recommendations:

1. Incorporate and state the following CEAP actions into the WMP (some of these actions may already be mentioned in the WMP draft in a different format).
 - NS-2-1. Evaluate incentives for practices that reduce the use of potable water for non-potable purposes and recharge groundwater.
 - NS-2-2. Explore water-efficient technologies on irrigation systems and consider requiring them during the permitting process.
 - NS-2-3. Expand water conservation outreach and incentive programs for residents and businesses.
 - NS-3-1. Evaluate the potential for installation of rainwater collection systems and City facilities for greywater uses, and investigate opportunities for greywater reuse at existing and new City facilities and properties.
 - NS-3-2. Implement efficiency recommendations from the City facilities water audit.

Other Actions from CEAP page 86:

To conserve water resources work with City Planning to insure for new building that they are aware of the latest technologies for reducing both fresh and wastewater use.

Manage upstream flows to minimize downstream flood risk, such as through habitat protection, restoration, or adjusted reservoir management.
2. Incorporate CEAP Goals and Indicators from page 83:
 - Enhance ecosystem health and resilience; Enhance sustained access to clean air and drinking water with stream water quality, water supply, water consumption as indicators.
3. For City operations and building projects related to the WMP, the City shall review methods to measure and reduce GHG emissions. This also includes embedded GHG emissions for Capital Improvement Projects. For operations related to the WMP the City should use or create renewable energy sources that are microgrid compatible.
4. The WMP will incorporate future climate risks to water supply and quality into future service planning and activities. The draft WMP mentions in section 5-6, the 'Water Conservation and ReUse Study' conducted by Carollo Engineers in 2011. In that study Technical Memorandum 6 is 'Effects of Climate Change on Ashland Creek, Oregon' done by the University of Washington in 2010. While that analysis is thorough and well done for climate models that existed in 2010, it is recommended that an updated analysis is needed for the next update to the Water Supply Resource Plan (2023?). Specifically updates to the climate study are needed in three areas:

- a. Incorporate the latest GHG emissions scenarios, as only the Special Report on Emission Scenarios (SRES) A1b scenario from the 2007 Intergovernmental Panel on Climate Change Fourth Assessment Report (IPCC AR4) was used. Since then there are newer GHG emissions scenarios available from 2014 and 2019. As the 2010 study forecasted climate change through the year 2060, the new recommended study should extend its climate change forecast through to 2080 in line with the life of the new Water Treatment Plant (WTP).
 - b. Only the Ashland watershed was examined for future streamflow in the 2010 Climate study. Since in times of low water supply Ashland is also relying on the TID and TAP intertie for supplemental supply, they should also be evaluated. There may already be some future climate change analysis completed for these water supplies at the county level that the City could use.
 - c. Given the City's main water supply is the Ashland Creek Watershed, the next climate study should include the risk of wildfire to the watershed and mitigating actions to filter out the additional wildfire contaminants expected to flow into Reeder Reservoir.
5. During times of severe drought the WMP mentions using 45% curtailment as an action to insure water system reliability. As curtailment may lead to less irrigation and higher fire risk, there needs to be an evaluation on the tradeoffs and whether other mitigating actions need to be taken. Outside of times of curtailment, the City should continue to drive its water conservation goals of 15% by 2030 and at least 20% by 2050 to lessen the impact of curtailment and to reduce operating costs and GHG emissions.