

TO: City Council for August 8, 2019, Work Session
FROM: Mary Steckel, Public Works Director 
DATE: July 29, 2019
THROUGH: Mark W. Shepard, P.E., City Manager
SUBJECT: Water Master Plan Update
STRATEGIC OPERATIONAL PLAN PRIORITY: P-3C Complete Water Master Plan



Action Requested:

Staff requests the City Council review and provide feedback on the Water Supply Strategy Alternatives Evaluation Criteria.

Discussion:

The City is in the process of updating the Water Master Plan (WMP). A significant component of the WMP is a Water Supply Strategy (WSS). The purpose of the WSS is to have a plan to achieve the 50-year drinking water needs of the city while meeting the City's redundancy and resilience level of service goals.

The consulting team developed different approaches to meet the WSS goals for evaluation. The next step is for each alternative approach to will be evaluated (scored) on a series of criteria by subject matter experts on the team. Those scores will then be adjusted by Corvallis specific weighting factors for each criteria. The adjusted final scores will be used to guide the selection of a WSS approach. In addition to the criteria scores, Capital Costs and a Life Cycle Cost Analysis for each alternative will be a component in the selection process.

The project team assigned weights to the criteria based on their experience and community feedback through the online survey and at the WMP Open House.

Unlike the majority of the WMP that is engineering-based, assigning the weighting factors is subjective. As such, the project team asks for City Council review and comment on the proposed weightings.

The evaluation criteria, sub-criteria, and proposed weightings are displayed on Attachment A.

Budget Impact:

None.

Attachment:

A - Water Supply Strategy Alternatives Evaluation Criteria

Water Supply Strategy Alternatives Evaluation Criteria

	Criteria	Sub Criteria	Description	Weight (1-5)
Risk	Water Quantity		<ul style="list-style-type: none"> • Has 30-mgd supply capacity to meet 50-year maximum day demand (MDD) projections for the high demand projection scenario. • Has 7.5 mgd of seismic resilient supply capacity to meet the seismic resilience level of service goal of providing enough potable water to meet year 2063 winter demands immediately after an earthquake. 	4
	Redundancy		<ul style="list-style-type: none"> • Can provide year 2063 winter demands (7.5 mgd) for three days with largest water treatment plant (i.e. Taylor WTP) out of service. Supply can come from Rock Creek WTP and/or storage. 	4
	Resilience	Seismic Vulnerability	<ul style="list-style-type: none"> • Minimizes unmitigated seismic risks from shaking, liquefaction, lateral spreading, and landslides. 	5
		Flooding Vulnerability	<ul style="list-style-type: none"> • Can continue uninterrupted water supply during a 500-year flood event. • Minimizes unmitigated flooding risks. 	3
		Wild Fire Vulnerability	<ul style="list-style-type: none"> • Minimizes unmitigated risk to water supply facilities from wild fires. • Minimizes unmitigated risk to finished water quality from wild fires. 	2
		Reliability	<ul style="list-style-type: none"> • Has enough back-up power and chemical storage to provide year 2063 winter demands (7.5 mgd) for three days if regular power or chemical supply is unavailable. 	5
	Water Quality		<ul style="list-style-type: none"> • Maximizes raw water quality with fewer potential sources of contamination located upstream. • Maximizes finished water quality. • Maximizes ability to address future water quality challenges. 	5
	Environment and Implementation	Stewardship of Natural Resources	<ul style="list-style-type: none"> • Minimizes environmental impacts to waterways, wetlands, soil, air, and sensitive habitat during construction and operation. • Minimizes impacts to Endangered Species Act (ESA)-listed or sensitive species, fish and other wildlife during construction and operation. • Maximizes energy efficiency and efficient use of other resources such as chemicals and transportation during construction and operation. 	3
		Implementation Complexity	<ul style="list-style-type: none"> • Maximizes ease of permit acquisition. • Maximizes ease of land acquisition. • Maximizes ease of construction. • Minimizes implementation schedule. • Minimizes risk that implementation would not be completed on time, or at all, due to unforeseen circumstances. • Minimizes likelihood of uncovering cultural resources. 	1
	Public Acceptance		<ul style="list-style-type: none"> • Maximizes support by key water stakeholders and community members. • Minimizes negative impact on the community. • Maximizes opportunities to provide community enhancements. 	3
Cost	Capital Cost			
	Life Cycle Cost			