

**CITY OF OREGON CITY LAND-USE  
APPLICANT SUBMITTAL**

**FILE NO.:** GLUA-19-00016 Amendment to Oregon City Water Master Plan

**APPLICANT:** Oregon City Public Works Department  
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**REQUEST:** Amendment to Oregon City Water Master Plan

**LOCATION:** City-wide.

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**Background**

In 2012, the Oregon City Water Master Plan was updated with the 2012 Water Distribution System Master Plan (“Water Master Plan”) and is an Ancillary Document to the Oregon City Comprehensive Plan (2004). The purpose of the Water Master Plan is to identify existing water system deficiencies and required improvements, to analyze existing and future water demands and develop a capital improvement program (CIP) to meet these needs.

According to the 2004 Oregon City Comprehensive Plan (Introduction, “Implementing the Plan” Page 4, Exhibit 6): “Ancillary Plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities and sewer facilities. Usually prepared by City departments through public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to City departments in planning for and carrying out city services. These plans are updated more frequently than the Comprehensive Plan.”

The Oregon City Water Master Plan is a “public facilities plan”, which is defined in the administrative rules implementing Goal 11, OAR 660-011-0005(1), and provides: “A public facility plan is a support document or documents to a comprehensive plan. The facility plan describes the water, sewer and transportation facilities which are to support the land uses designated in the appropriate acknowledged comprehensive plans which an urban growth boundary containing a population greater than 2,500.

Certain elements of the public facility plan also shall be adopted as part of the comprehensive plan, as specified in OAR 660-11-045.”

**Amendment to Water Master Plan:** This Amendment, amends portions of the Water Master Plan as outlined in the “2012 Water Distribution System Master Plan Amendment, August 2020” by Murraysmith (attached). The Amendment has been identified as a change that requires approval of the Planning Commission and City Commission. When approved, the 2012 Water Distribution System Master Plan will be Amended as outlined in the “2012 Water Distribution System Master Plan Amendment, August 2020”, attached herein, an ancillary plan to the Comprehensive Plan

A complete update of the Water Master Plan is not being completed at this time. Instead, the City seeks to amend the Water Master Plan, to reflect revised modeling and system analysis and resulting updated list of capital projects.

### **What is the purpose of the project?**

In 2012 the Water Distribution System Master Plan (“Water Master Plan”) was adopted including a Capital Improvement Plan (CIP) identifying projects over a 20-year planning horizon to satisfy growth, and water system operational and hydraulic criteria. In 2017, City staff identified several issues with the 2012 CIP related to operational and implementation challenges:

- **Transmission Main Reliability:** Aging system condition combined with high water pumping pressures during current peak demand from the Mountain View Booster Station to Boynton and Henrici Reservoirs, result in leaking pipes and increase risk of pipe breaks. As a result, the system operates at a reduced capacity, creating challenges to meet demands and maintaining fire protection.
- **Pressure Issues in System:** Customer feedback indicated pressure issues in the system that need to be addressed.
- **Future Growth Refinement:** Implementation challenges were realized with current plan, due to topography and development locations in concept plan areas. The hydrologic modeling and subsequent analysis do not change the growth assumptions for areas located within the Urban Growth Boundary, but rather the approach to distributing water lines to those areas.

To address these identified challenges and better meet the needs of current and future customers, City staff secured professional services to update the water system model and capital improvement plan. The updated model incorporated updated information since 2012, including current adopted design standards, consumption rates, growth rates, expansion of system since 2012, and system operating data. Updated modeling was then used to evaluate the water distribution system needs for the next 20

years. The outcome is an updated list of capital improvements needed to support the comprehensive planned development.

The Amendment to the 2012 Water Distribution System Master Plan will incorporate the updated information into the Water Master Plan. The Amendment was developed in accordance with the Oregon Administrative Rule (OAR) 660-011 which requires that “..a City or County shall develop and adopt a public facility plan for areas within the urban growth boundary containing a population greater than 2,500 person. The purpose of the plan is to help assure the urban development in such urban growth boundaries is guided and supported by the types and levels of urban facilities and services appropriate for the needs and requirements of the urban areas to be serviced, and that those facilities and services are provided in a timely, orderly and efficient arrangement..”. The revisions made in the Amendment will improve the City’s ability to meet OAR 660-011.

### **What are you proposing for adoption as part of this project?**

The City of Oregon City is seeking adoption of an Amendment to the 2012 Water Distribution System Master Plan (“Water Master Plan”), to reflect current conditions and system needs. Elements of the Master Plan are still valid; therefore this Amendment will modify only portions of the Master Plan as noted below:

#### **Amendment to Water Master Plan:**

- *Add the attached document, 2012 Water Distribution System Master Plan Amendment (“Amendment”), dated August 2020 prepared by Murraysmith as **Appendix E: 2012 Water Distribution Master Plan Amendment, August 2020***

#### **Amend the affected chapters amended, as noted below:**

The following is a brief description of the affected chapters of the 2012 Water Master Plan, including description of change and what information is superseded in the affected chapters. Upon adoption, these changes will improve the city’s ability to ensure the safe and adequate provision of water to existing and future customers within the urban growth boundary.

#### **Chapter 3: Water Demand:**

- **Description of Amendment:** The Amendment reflects updated demand forecasts reflecting actual growth rates since 2012 and updated population forecasts based on Metro/Clackamas County projections. Demand projections also consider updated water demand data, reflecting actual consumption rates. Methodology is consistent with 2012 Master Plan and uses current comprehensive plan and zoning designations, to estimate water consumption including adopted concept plans and zoning implementation for Beaver Creek (Thimble Creek), South End and Park Place.

- **Amendment to the Water Master Plan:** *References to forecasted demands are superseded by this Amendment.*

#### **Chapter 4: Water Distribution System Service Standards:**

- **Description of Amendment:** Since the 2012 Water Master Plan, codes and standards have changed. The Amendment incorporates updates to standards resulting from these code and standard changes, including:
  - **Fire Flows:** Updated to align with recent revisions to the Oregon Fire Code
  - **Service Pressures:** Revised Minimum and Maximum service pressure criteria to reflect Oregon Plumbing Code requirements and industry standards, as well as City Operations input regarding acceptable minimums based on customer concerns.
  - **Storage Criteria:** Updated to meet current industry standard
- **Amendment to the Water Master Plan:** *References to fire flow requirements, service pressures and storage criteria should be superseded by the Amendment.*

#### **Chapter 5: Hydraulic Model Update:**

- **Description of Amendment:** Since 2012, system improvements and expansions have occurred consistent with the existing master plan. The Amendment includes an updated model reflecting system improvements since 2012, as well as incorporating updated data collected reflecting system operations and updated demand projections developed as part of this Amendment.
- **Amendment to the Water Master Plan:** *The Amendment updates the hydraulic model and therefore supersedes the 2012 water master plan model.*

#### **Chapter 6: Existing Water Distribution System Evaluation:**

- **Description of Amendment:** The water distribution system and design criteria have changed, as noted above, therefore the evaluation of the existing system has changed in the Amendment. Evaluation of the existing system was also expanded to include major maintenance items not captured in the 2012 Water Master Plan, but require a large capital outlay, such as reservoir coating and transmission main improvements. The updated hydraulic model and system operating information indicates the need to install pressure reducing valves (PRV) as well as transmission main and pump station improvements.
- **Amendment to the Water Master Plan:** *The Amendment provides an updated evaluation of the existing system and supersedes the 2012 system evaluation.*

#### **Chapter 7: Future Water Distribution System Evaluation:**

- **Description of Amendment:** As discussed above, the Amendment includes a new hydraulic model incorporating updated information since 2012, resulting in an updated evaluation of the future water system. Some key changes include looping of the water system to improve resiliency. This resulted in modification of size and location of some water lines. In addition,

water lines that are 8" or less in areas to be developed have been eliminated, since these costs are born by the developer and are not a capital improvement expense for the City. Changes in design criteria combined with an updated hydraulic model, modified storage needs and resulted in a size reduction of new reservoirs. Minor pipe location alignments and the reservoir location as identified in the concept plan areas are also reflected, informed by information gathered since 2012 regarding build out of the areas to accommodate topographical challenges and system needs.

The Amendment also reflects the City Commission decision to serve the Beaver Creek (Thimble Creek) Concept plan area with City-owned infrastructure, independent of Clackamas River Water.

- ***Amendment of the Water Master Plan:*** *The Amendment provides an updated evaluation of the future water distribution system and supersedes the 2012 water master plan evaluation.*

#### **Chapter 8: Recommended Capital Improvement Program:**

- **Description of Amendment:** Updated modeling and evaluation of the existing and future water distribution system needs has generated an updated list of projects to be completed in the Capital Improvement Program including those projects discussed above. The Amendment is intended to provide an update of the projects and proposed implementation plan.
- ***Amendment of the Water Master Plan:*** *Amendment project list replaces the 2012 Water Master Plan project list. Implementation of the projects will be as set forth in the Capital Improvement Plan for the Water Distribution System, adopted by City Commission.*

#### **Chapter 9: Water Distribution System Financing Plan:**

- **Description of Amendment:** This Amendment does not change the sources of funding identified in the 2012 Water Master Plan. An updated rate study has been performed using the updated project list, however this is done outside of the comprehensive plan process and will be reviewed by the City Commission separately.
- ***Amendment of the Water Master Plan:*** *Proposed method of funding is not changed; however, project list is replaced by the project list in the Amendment.*

### **Consistency with Oregon City Comprehensive Plan**

The 2004 Oregon City Comprehensive Plan calls for periodic, technical review of the Comprehensive Plan. Recommendations for updating the Comprehensive Plan should be presented to the Citizen Involvement Committee. The proposed Amendment to the Water Master Plan, an ancillary document to the Comp Plan, is considered a technical update to the Comprehensive Plan and was presented to the Citizens Involvement Committee on July 6, 2020.

In accordance with the requirements of the Comprehensive Plan, this technical review has considered:

1. **Plan implementation process:** This Amendment to the Water Master Plan, will be implemented consistent with the plan implementation process.
2. **Adequacy of the Plan to guide land use actions, including an examination of trends.:** This Amendment improves the City's ability to guide land use actions by providing an updated analysis of the water distribution system and resulting capital project list, which will help inform and guide land use actions.
3. **Whether the Plan still reflects community needs, desires, attitudes, and conditions. This shall include changing demographic patterns and economics:** *This Amendment is technical in nature specific to the water distribution system. It does not affect the Comprehensive Plan that affect demographics patterns or economics and should therefore still reflect community needs, desires, attitudes, and conditions.*
4. **Addition of updated factual information including that made available to the City of regional, state and federal governmental agencies.:** *Factual information updated as part of this Amendment, include water demand projections and hydraulic modeling of the system to support the comprehensive plan.*

### Goal 11.1 Provision of Public Facilities

*Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.*

**Amendment Response:** The Master Plan and Amendment are in compliance with Goal 11, Public Facilities, which requires that public facilities and services be provided in a timely, orderly, and efficient manner. The goal's central concept is that local government should plan public services in accordance with the community's needs as a whole, rather than be forced to respond to individual developments as they occur, including water service.

The Amendment reflects a number of updates that improve the City's ability to meet Goal 11. Specific updates include:

- Updating water demand projections
- Updates water distribution system service standards
- Updating hydraulic model and analysis of system needs
- Updated Capital Improvement Plan (CIP)

**Comp Plan Policy, 11.1.1**

*Ensure adequate public funding for the following public facilities and services, if feasible: Water distribution*

- **Amendment Response:** While the Amendment provides a new list of project, the funding sources are the same as those identified in the current Water Master Plan: Water Fund and System Development Charge Fund.

**Comp Plan Policy 11.1.2**

*Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.*

- **Amendment Response:** The Amendment updates portions of the Master Plan, thereby improving the City's ability to implement public facilities consistent with the goals, policies and implementation of the Comprehensive Plan consistent with Policy 11.1.2.

**Comp Plan Policy 11.1.3**

*Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.*

- **Amendment Response:** The City's water distribution system and related facilities are located within the city limits. Storage and transmission facilities are identified outside the city limit and outside the UGB due to elevation requirements, but said facilities are for storage and supplying water to within the city limits. Interties to other jurisdictions water systems are located at various points around the city as allowed by state law. The water distribution facilities exist and are planned for in locations that are accessible by various modes of transportation.

**Comp Plan Policy 11.1.4**

*Support development on underdeveloped or vacant buildable land within the city where public facilities and services are available or can be provided and where land-use compatibility can be found relative to the environment, zoning, and Comprehensive Plan goals.*

- **Amendment Response:** The Amendment reflects updated hydraulic model and system analysis to support the development consistent with the planned comprehensive planned zoning,

inclusive of adopted concept planned area. An updated capital project list has been included in the Amendment showing system improvements to meet existing and future water system needs.

**Comp Plan Policy 11.1.5**

*Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.*

- **Amendment Response:** The Amendment includes updates to the water distribution model, supply and demand projects and an updated Capital Improvement Plan that identifies water system improvements needed to provide a uniform level of service to the planning area.

**Comp Plan Policy 11.1.7**

*Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary.*

- **Amendment Response:** The Amendment provides an updated capital project list, which will replace the existing project list in the Water Master Plan. The CIP includes prioritization of projects, cost estimates and an implementation plan. The CIP includes system improvements needed to meet operational, capacity and development needs, as well as pipe replacement and facility rehabilitation.

## Comp Plan Goal 11.3 Water Distribution

*Seek the most efficient and economical means available for constructing, operating, and maintaining the City's water distribution system while protecting the environment and meeting state and federal standards for potable water systems.*

**Comp Plan Policy 11.3.1**

*Plan, operate and maintain the water distribution system for all current and anticipated city residents within its existing Urban Growth Boundary and plan strategically for future expansion areas.*

- **Amendment Response:** The Amendment enhances the City's ability to plan, operate and maintain the water distribution system for all current and anticipated city residents within the UBG, by incorporating updated projections for water demand, reflecting current standards, updated hydraulic model, system analysis and updated capital project list.

**Comp Plan Policy 11.3.2**

*Collaborate with South Fork Water Board to ensure that an adequate water supply system is maintained for residents. Coordinate with the South Fork Water Board, City of West Linn and Clackamas River Water to ensure that there is adequate regional storage capacity.*

- **Amendment Response:** The Amendment provides updated and current storage capacity needs, developed from revised water demand projections and design standards and updated hydraulic modeling. In addition, it identifies interties to other distribution systems to provide water supply when needed to improve system resiliency.

**Comp Plan Policy 11.3.3**

*Maintain adequate reservoir capacity to provide all equalization, operational, emergency and fire flow storage required for the City's distribution system.*

- **Amendment Response:** A key component of the Amendment is an updated water distribution model which was calibrated with the system operation and updated to reflect updated projected demands. The Amendment includes updated reservoir capacity needs for the City to ensure adequate capacity to provide all equalization, operational, emergency and fire flow storage required for current and future distribution system needs. The Amendment also reflects the City Commission decision to provide service to the Beaver Creek (Thimble Creek) area.

**Comp Plan Policy 11.3.4**

*Adopt a progressive water rate structure that will encourage water conservation.*

- **Amendment Response:** Water rate structure is addressed separately and not included in the existing Master Plan or Amendment.