

RESOLUTION NO. 18-36

**A RESOLUTION MODIFYING THE CITY'S CAPITAL FACILITIES IMPROVEMENT PLAN
BY ADDING AN ADDITIONAL WATER INFRASTRUCTURE PROJECT**

WHEREAS, in 2012 the City adopted Ordinance No. 12-1001, an update to the Oregon City Water Distribution System Master Plan (WMP) that includes the City's Water Capital Facilities Improvements Plan (CIP), pursuant to ORS 223.309(1). The CIP lists the capital improvements projects that the City wishes to construct and that may be funded through revenues generated by system development charges; and

WHEREAS, the City's CIP list may be modified "at any time" pursuant to ORS 223.309(2); and

WHEREAS, in 2016, the City and Clackamas River Water (CRW) retained Murraysmith as engineering consultant to perform a Joint Engineering Study to analyze and prepare recommendations for adjustment of service area boundaries, withdrawal of CRW territory within Oregon City, and other related tasks; and

WHEREAS, the Joint Engineering Study resulted in finding the current CIP list of projects did not appear to address an existing operational and capacity issue within the City's Upper Zone; and

WHEREAS, in 2017, the City retained Murraysmith to evaluate capital improvements to address efficiency, system capacity, and condition of the water distribution system to provide an updated CIP project list that addresses the existing operational and capacity issues found during the Joint Engineering Study; and

WHEREAS, the draft updated CIP project list report by Murraysmith is anticipated to be submitted to the City in November 2018 which includes the recommendation for a 24-inch waterline in Molalla Avenue from the Mountainview Pump Station to Glen Oak Road; and

WHEREAS, Murraysmith submitted to the City a Technical Memorandum dated October 26, 2018, Exhibit A, specifically referencing the purpose and cost of the recommended 24-inch waterline in Molalla Avenue; and

WHEREAS, the City is proceeding with the grant-funded project, Molalla Avenue Phase 3, from Beaver Creek Road to Highway 213 to construct public improvements including roadway improvements, streetscape enhancements, multi-modal improvements, and pavement upgrades and rehabilitation; and

WHEREAS, the CIP project for the 24-inch waterline in Molalla Avenue is needed in the near-term for improving the existing system capacity and operations, and the City desires the 24-inch waterline to be constructed prior to constructing the Molalla Avenue Phase 3 pavement improvements; and

WHEREAS, the City desires to minimize impacts to the travelling public, use City funds effectively and efficiently, and desires to include the section of 24-inch waterline

located within Molalla Avenue Phase 3 to be designed and constructed as part of the overall project scope for the Molalla Avenue Phase 3 Project; and

WHEREAS, the City now desires to add an additional project to the Water CIP to acknowledge the needs stated herein and prepare for further project planning and funding of this one project for the City's water distribution system.

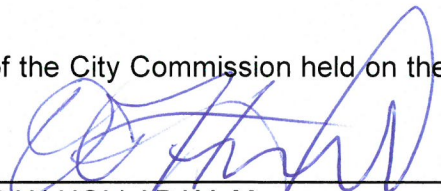
NOW, THEREFORE, OREGON CITY RESOLVES AS FOLLOWS:

Section 1. The City's Capital Facilities Improvements Plan is modified for Water by adding the project described below at the estimated cost shown for the project:

Project Description	Schedule	Estimated Cost
24-inch Waterline in Molalla Avenue from Beaver Creek Road to Highway 213	2018-19, 2019-20, 2020-21	\$2,200,000

Section 2. This resolution shall take effect immediately upon its adoption by the City Commission.

Approved and adopted at a regular meeting of the City Commission held on the 7th day of November 2018.




DAN HOLLADAY, Mayor

Attested to this 7th day of November 2018:



Kattie Riggs, City Recorder

Approved as to legal sufficiency:



City Attorney



Technical Memorandum

Date: October 26, 2018

Project: Oregon City Water Distribution System Capital Improvement Program Update

To: Aleta Froman-Goodrich, PE
City of Oregon City

From: Shad Roundy, PE
Claire DeVoe, EIT
Murraysmith

Re: Molalla Ave Streetscape Concurrent Waterline Improvements

Introduction

The City of Oregon City (City) is currently working on an update of its water distribution system Capital Improvement Program (CIP). Simultaneously, the City is proceeding with design on the Molalla Avenue Streetscape Project which includes improvements along Molalla Avenue from Beaver Creek Road to just west of the intersection with Highway 213. This document is intended to document the purpose and cost of the Molalla Avenue project prior to completion of the updated CIP.

The Molalla Avenue project is intended to minimize existing Upper Zone over-pressurization and balance supply and demand between the Henrici Reservoir and the Boynton Standpipe. Additionally, the project is required to serve future growth within the City. The Molalla Avenue project is a portion of a larger set of capital projects to improve system capacity and operations. Other associated projects include the following:

- Parallel transmission line from the Mountainview Pump Station to Beaver Creek Road
- Parallel transmission line from Beaver Creek Road to Glen Oak Road (along the Streetscape Project)
- Improved looping and upsized transmission between Highway 213 and Beaver Creek Road, north of Glen Oak Road
- Upsized transmission between Glen Oak Road and the Henrici Reservoir

The Molalla Avenue project and other capital projects are presented in Figure 1.

Exhibit A

Project Background and Summary

The South Fork Water Board (SFWB) supplies the City’s Mountainview Reservoirs with treated water via a 30-inch supply main and the Division Street Pump Station. The City’s Mountainview Pump Station in turn supplies Henrici Reservoir and the Boynton Standpipe. These tanks set the hydraulic Grade Line (HGL) in the Upper Zone. The tanks also act as suction supply for the Fairway Downs Pump Station, which supplies a small, closed zone near the Henrici Reservoir.

Growth is expected in the Upper and Fairway Downs Zones as described in the Beaver Creek Concept Plan. This growth will require extension of Upper Zone distribution, and the construction of a new pump station and reservoir to replace the existing Fairway Downs Pump Station and extend the existing Fairway Downs Zone.

Under current conditions, the City has difficulties keeping the Henrici Reservoir filled and the Boynton Standpipe from overflowing. The Boynton Standpipe is centrally located while the Henrici Tank is located southeast of the system. When flow from the Mountainview Pump Station is increased to fill the Henrici Reservoir, high pressure issues are experienced by customers near the pump station. This is especially problematic in summer months when the pump station must operate at a higher flow rate to keep up with Upper Zone demands. This problem is expected to increase as the Mountainview Pump Station is expected to operate at higher flow rates to keep up with growth related demands.

An evaluation of the supply from the Henrici Reservoir and the Boynton Standpipe was performed with and without capital improvements as presented in Table 1. Prior to improvement, demands are distributed at a 67/33-percent split with the majority of demand supplied through the Boynton Standpipe. The improved system, which includes the Molalla Avenue project, results in an improved flow split of 50/50-percent between the reservoir and standpipe.

Table 1
Reservoir Filling Rates – Boynton Standpipe and Henrici Reservoir

Scenario	Boynton Standpipe (gpm)	Henrici Reservoir (gpm)
No Improvements	4,200	2,100
Only add 24" Parallel Main on Molalla Ave	4,200	2,500
Only upsize Beaver Creek Transmission from Glen Oak Road to Henrici Reservoir to 24"	3,600	2,900
Both improvements: 24" Parallel Main on Molalla Ave and Upsize Beaver Creek Transmission	3,500	3,500

1. 2015 ADD demands, 2 pumps on at Mountainview Pump Station, reservoirs at low set points.

Demands in the Upper Pressure Zone, Fairway Downs Pressure Zone, and CRW Master Meters 8&9 can be used to determine the ratio of the Molalla Avenue project serving existing and future customers. These demands for existing and future time frames are summarized in Table 2. The

Exhibit A

ratio of existing to future services by 2035 is estimated at 68-percent existing and 32-percent future. The ratio of existing to future services by buildout is estimated at 42-percent existing and 58-percent future.

Table 2

Existing and Future Demand Summary and Ratios Associated with Molalla Avenue Project

Pressure Zone or Master Meter	Existing Average Day Demand	2035 Average Day Demand	Buildout Average Day Demand
Upper	1,600	2,370	3,860
Fairway Downs	20	20	40
CRW Master Meters 8 & 9	80	110	180
TOTAL	1,700	2,510	4,080

Demands in gallons per minute.

Preliminary costs were estimated for the Molalla Avenue project for the CIP update as summarized below. Cost estimates represent a Class 5 budget estimate in 2018 dollars, as established by the American Association of Cost Engineers. This preliminary estimate class is used for conceptual screening and assumes project definition maturity level below two percent. The expected accuracy range is -20 to -50 percent on the low end, and +50 to +100 percent on the high end, meaning the actual cost should fall in the range of 50 percent below the estimate to 100 percent above the estimate.

- Project cost estimate for 24-inch pipeline on Molalla Avenue at approximately 4,200 linear feet
- Cost estimates include labor, materials, and markups
- Cost estimates exclude land or right-of-way acquisition
- Markups include 40-percent for engineering, overhead, and contractor profits
- Markups include 30-percent for construction contingency
- Total project cost is estimated at \$2.2 million (\$513 per linear foot)

City of Oregon City Molalla Ave Streetscape CIP Project Impacts

- CIP PROJECTS**
- - - Parallel Transmission along Streetscape
 - Mountainview to Henrici Transmission Projects
 - Other CIP Projects
 - PS Pump Station
 -  Reservoir
- EXISTING WATER MAINS**
- Oregon City
 - SFWB
 - West Linn
 - UGB
- PRESSURE ZONE**
- Canemah
 - Fairway Downs
 - Intermediate
 - Lower
 - Paper mill
 - Park Place Intermediate
 - Park Place Livesay
 - Park Place Lower
 - Park Place View Manor
 - Upper

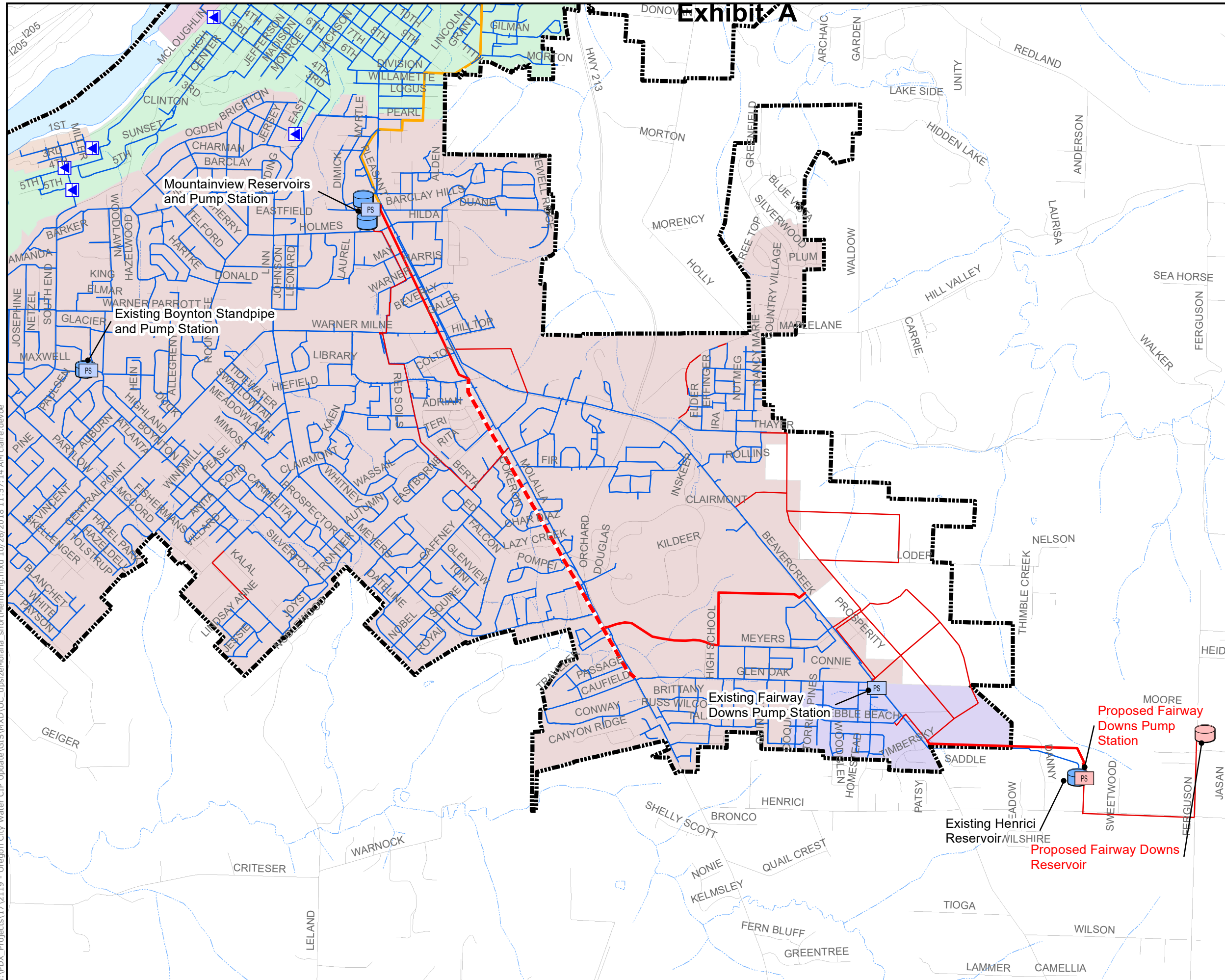
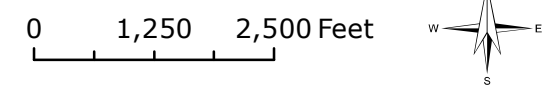


FIGURE 1



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