



RH2 ENGINEERING
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June 7, 2022

Robert Slayton
Public Works Superintendent
City of Talent
200 Suncrest Road
Talent, OR, 97540

Sent via: Email

Subject: Lithia Avenue Development Fire Flow Evaluation

Dear Mr. Slayton:

RH2 Engineering, Inc., (RH2) performed a fire flow evaluation for a proposed residential development which will add approximately 20 equivalent residential units (ERUs) to Lithia Avenue off of Rapp Road.

City of Talent (City) staff identified the existing water main in Lithia Avenue is 6-inch diameter asbestos cement pipe.

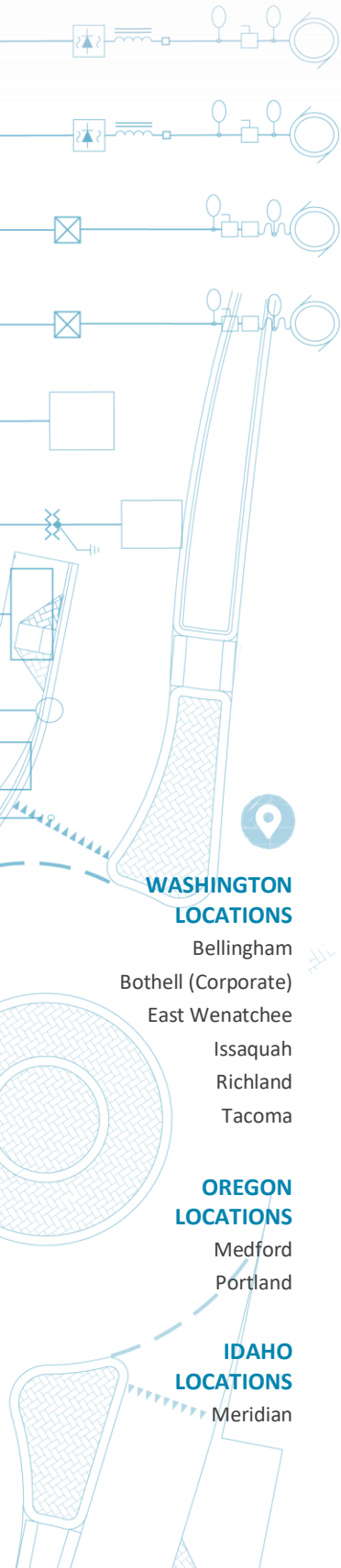
Hydraulic Model

The City's current hydraulic model (run in WaterGEMS software) was used for this evaluation. The model was updated during the preparation of the City's *Water Master Plan (WMP)* in 2020.

Demand Assumptions

The 2020 demands were grown to current day (2022) demands and 20 ERUs were added into the model at a node near the end of Lithia Avenue. Based on the WMP, it is assumed that the average day demand (ADD) per ERU is 202 gallons per day (gpd). The maximum day demand (MDD) to ADD peaking factor is 2.6. The total calculated additional MDD from 20 ERUs is 7.29 gallons per minute (gpm).

20 ERUs x 202 gpd/ERU ADD x 2.6 = 10,504 gpd MDD or 7.29 gpm MDD



WASHINGTON LOCATIONS

- Bellingham
- Bothell (Corporate)
- East Wenatchee
- Issaquah
- Richland
- Tacoma

OREGON LOCATIONS

- Medford
- Portland

IDAHO LOCATIONS

- Meridian

Modeling Results

The fire flow evaluation was run in the model using MDD conditions. The static and residual pressures in pounds per square inch (psi) and hydrant available flow predicted by the model are presented in **Table 1**.

Table 1
Hydraulic Model Results - Hydrant Pressures and Available Flow

	Approximate Elevation	Static Pressure	Residual Pressure	Hydrant Available Flow
Hydrant at end of Lithia Avenue	1,605 ft	89.1 psi	30.2 psi	2,000 gpm

The modeled service pressure and the residual pressure in a fire flow scenario meet the City's level of service goals for water pressure ranges (as presented in the WMP).

The modeled hydrant flow available meets the Jackson County District 5 criteria for a multi-family residential area (2,000 gpm for 2 hours).

If you have any questions regarding the fire flow evaluation for the proposed Lithia Avenue development, please call me at (541) 326-4370 or email me at hfarris@rh2.com. Thank you for the opportunity to assist you with this project.

Sincerely,



EXPIRES: 12/31/2023

Hannah Farris, PE