

Agenda Date: February 10, 2022
Item Number: E5

Docket: PG-220008
Company Name: Cascade Natural Gas Corporation

Staff: Dennis Ritter, Pipeline Safety Engineer

Recommendation

Issue an order granting Cascade Natural Gas Corporation's (Cascade or Company) request to construct and operate approximately 10,630-feet of 12-inch steel, 450-feet of 8-inch steel, 5,980-feet of 6-inch steel pipeline and one regulator station (see Figure 1), in Richland, Washington, as proposed in Cascade's Proximity Considerations Request dated January 3, 2022. The proposed pipeline will have a maximum allowable operating pressure (MAOP) of 500 pounds per square inch gauge (psig) and will be located within 100 feet of 80 existing buildings not owned by Cascade (Table 1). This request is Phase I of a two phase project as shown in the attached Figure 8. Phase II will continue the 12-inch line to a new Town Border Station (TBD) at the Williams NW pipeline. Phase II may require Commission approval due to proximity considerations. Phase II is anticipated to be constructed in 2023.

Discussion

A gas pipeline company must receive approval from the Washington Utilities and Transportation Commission (Commission) to operate a pipeline at greater than 250 psig, up to and including 500 psig, within 100 feet of an existing building not owned by the gas pipeline company, as described in Washington Administrative Code (WAC) 480-93-020. The Commission has adopted the Code of Federal Regulations, Title 49, Part 192 and 480-93 of the WAC as minimum standards for natural gas pipeline construction.

Cascade is proposing to construct and operate a new steel pipeline consisting of 12-inch, 8-inch and 6-inch diameter sections and a new regulator station, R-133 (Figure 1). The proposed alignment of this new line will be within 100 feet of 80 existing buildings in Richland, Washington not owned by Cascade (Table 1 and Figures 2-7). The MAOP of the proposed pipeline will be 500 psig. The proposed pipeline will operate concurrently with an existing 8-inch pipeline (Figure 1) that has a MAOP of 250 psig. The proposed pipeline will maintain core customer needs and have the ability to supply necessary capacities for future growth in Richland.

Cascade looked at an alternative alignment for the proposed connection which follows the existing 8-inch alignment shown in Figure 8. According to Cascade this alignment is within an existing easement and parallels a BPA easement for a power line. As shown in Figure 1 and 8, there is undeveloped land along the length of this alternative route. According to City of Richland Zoning maps, this undeveloped property is zoned R-1-12 Single Family Residential (up to 12 units per acre). A conservative estimate of the size of the undeveloped property is approximately 270 acres. At up to 12 units per acre, Commission staff (Staff) believes a

substantial number of new single-family homes will be constructed in this undeveloped property. Therefore, after buildout, the alternative route would have significantly more homes adjacent to the alternative route than the proposed route. Additionally, there is an existing elementary school (Badger Mountain Elementary) and a city park (Badger Mountain Park) within the proposed alternative alignment. It should be noted that this alternative route currently contains the existing high pressure 8-inch pipeline with a 250 MAOP.

Staff reviewed the proposed proximity request and calculations. As the facility will be new, there are no existing records. Staff notes the following facts:

- (a) The proposed MAOP of the new pipeline (Phase I and II) will be 500 psig.
- (b) The project will use API 5L, X52 piping and ANSI 300 fittings which are appropriate for the proposed MAOP.
- (c) Class location for the proposed pipeline is Class 3.
- (d) The approximate distance from the pipeline to the existing structures ranges from 30 feet to 100 feet. All other buildings along the route are greater than 100 feet from the pipeline.
- (e) At the proposed MAOP of 500 psig, the maximum stress level of the pipeline would be 16.35 percent of the specified minimum yield strength (SMYS) for the 12-inch line, 11.38 percent for the 6-inch and 8.29 percent for the 8-inch section. Pipelines that operate under 20 percent of SMYS are considered low-stress lines and pose a lower risk than pipelines operating above 20 percent of SMYS.
- (f) As the hoop stress of the line is under 20 percent SMYS, the proposed pipeline is considered high pressure distribution. Lines at or over 20 percent are transmission.
- (g) The proposed pipeline and fittings will be pressure tested to a minimum of 750 psig for 24 hours in accordance with the Company's procedures prior to operation. This test pressure is at least 1.5 times the MAOP of the pipeline as required for a Class 3 location.

Conclusion

A review of Cascade's proximity request indicates that it meets the pertinent requirements of the Code of Federal Regulations, Title 49, Part 192 and 480-93 of the WAC and that the selected route of the new pipeline has the least impact (based on future development) on surrounding population densities.

The Commission's proximity rule, WAC 480-93-020, allows pipeline Staff to review proposed high-pressure pipelines in close proximity to structures to address safety considerations. Staff's

recommended conditions described below appropriately minimize the public safety risk associated with the proposed pipeline.

For these reasons, Staff recommend that the Commission issue an Order approving Cascade's request to install and operate a pipeline with a MAOP of 500 psig subject to the following conditions:

- a) For underground installations, Cascade must electrically inspect (jeep) the pipe coating and repair any coating defects in accordance with Cascade's operating standard prior to backfilling.
- b) For underground installations, Cascade must apply backfill material around the pipe to protect the pipe and coating. The material around the pipe must be free of any sharp rocks or other objects with a maximum particle size of one-half inch and must contain a large percentage of fines, such as, sand, native soil, or soil-based select materials.
- c) Cascade must non-destructively test 100 percent of all welds. Cascade must remedy defects in the welds in accordance with Cascade's operating standards and procedures. Cascade must non-destructively test all repaired welds to ensure pipeline integrity and compliance with existing standards.
- d) Cascade must install cathodic protection within 90 days after the pipeline is installed.
- e) Cascade must provide notification to the Commission via email at least two business days prior to the beginning of project construction.
- f) Cascade must contact building occupants within 100 feet of the new pipeline prior to the Commission's open meeting and inform them of the project construction and any additional information consistent with the public awareness requirements in Title 49 CFR Part 192.616.

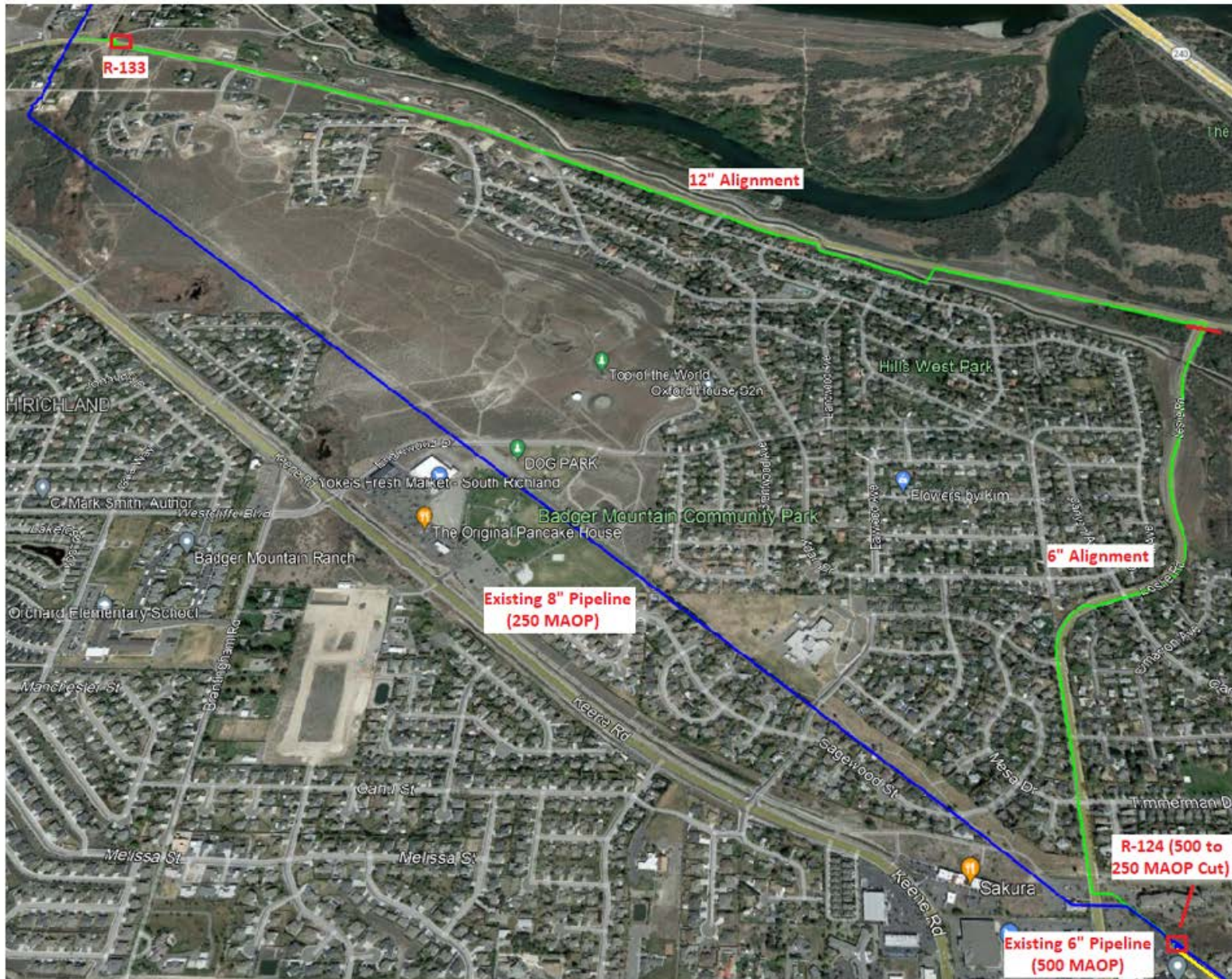


Figure 1: Pipe-size breakdown of Phase I. 6" Along Leslie Rd. 12" along Columbia Park Trail and 8" after R-133 to the existing line tie-in.



Figure 2: Section of the proposed Richland HP Lateral showing its proximity to buildings 1-7 & 73 within the 100-foot boundary.



Figure 3: Section of the proposed Richland HP Lateral showing its proximity to buildings 8-29 & 74-77 within the 100-foot boundary.

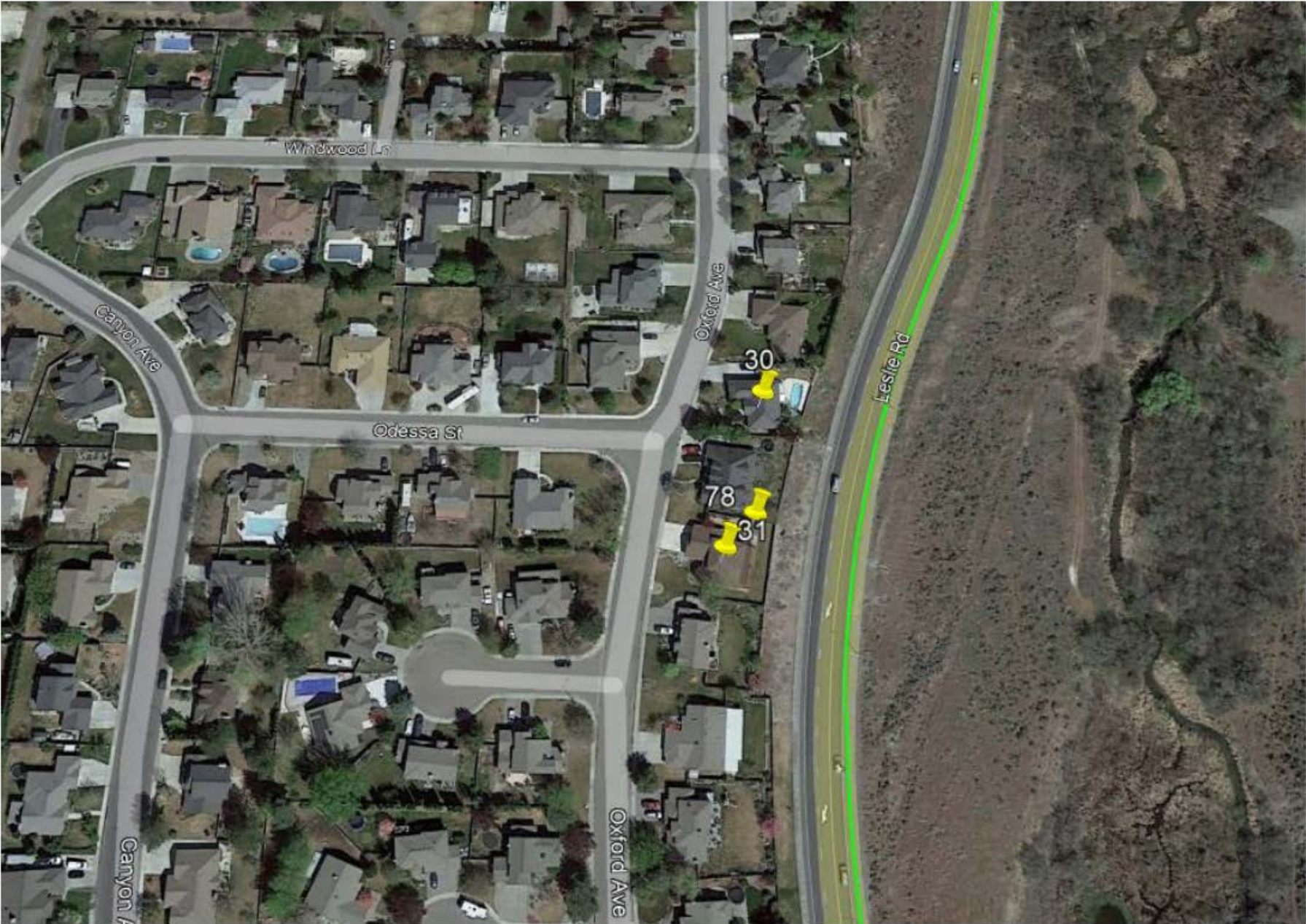


Figure 4: Section of the proposed Richland HP Lateral showing its proximity to buildings 30, 31 & 78 within the 100-foot boundary.

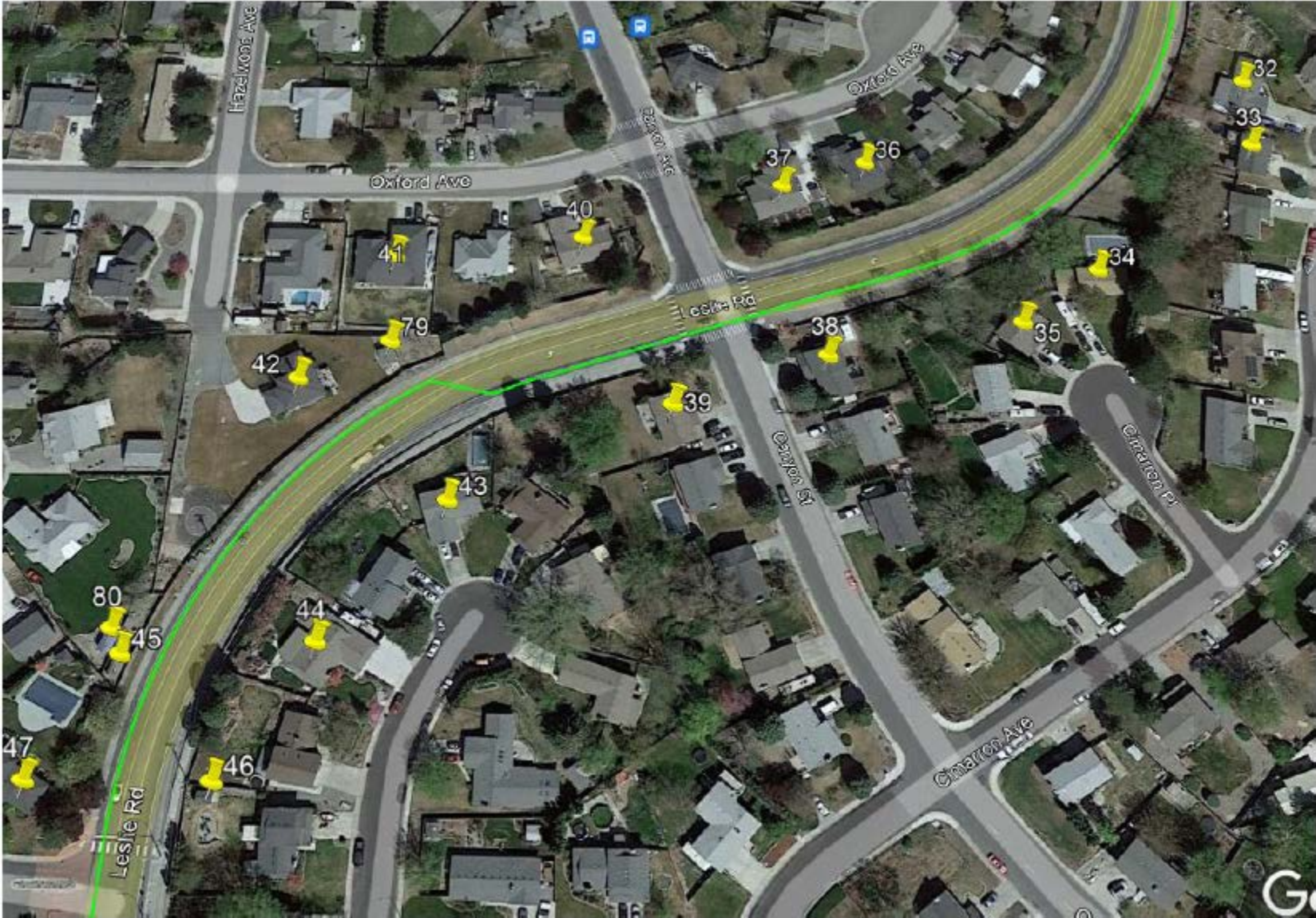


Figure 5: Section of the proposed Richland HP Lateral showing its proximity to buildings 32-47, 79 & 80 within the 100-foot boundary.

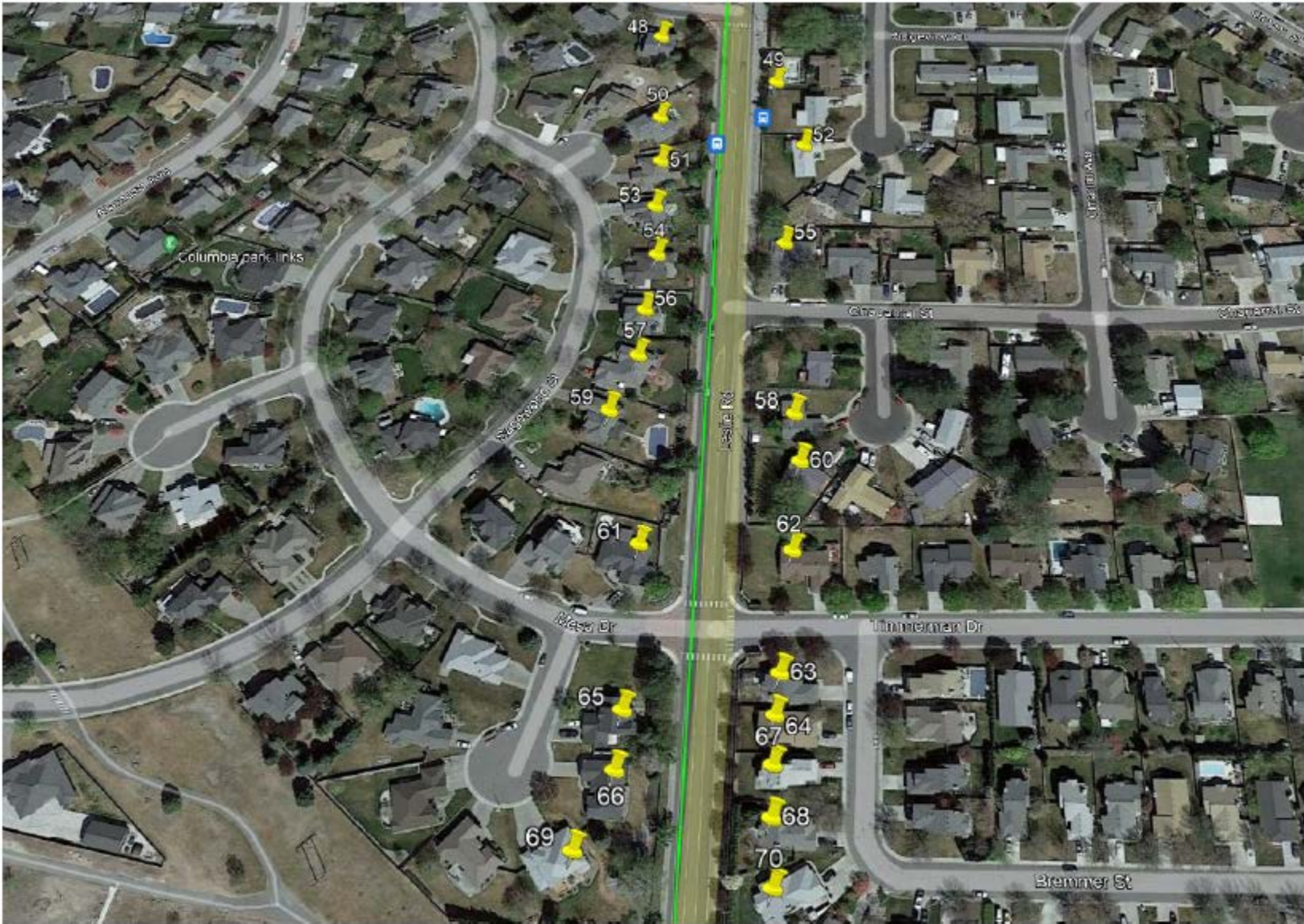


Figure 6: Section of the proposed Richland HP Lateral showing its proximity to buildings 48-70 within the 100-foot boundary.



Figure 7: Section of the proposed Richland HP Lateral showing its proximity to buildings 71 and 72 within the 100-foot boundary.



Figure 8: Showing phase I & II breakdown and alternate alignments.