Agenda Date: August 11, 2022
Item Number: E1

Docket: **PG-220424**
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 23,880 feet of 8-inch, steel pipeline and one regulator station (see Figure 1), in Aberdeen, Washington, as proposed in Cascade's Proximity Considerations Request dated June 1, 2022. This construction will allow Cascade to maintain core customer needs and supply future growth in Aberdeen and Hoquiam. The proposed pipeline and new regulator station will have a maximum allowable operating pressure (MAOP) of 305 pounds per square inch gauge (psig). The new line and regulator station will be located within 100 feet of 194 existing buildings not owned by Cascade (Table 1).

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, 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 23,880-feet of 8-inch diameter pipeline with a new regulator station, R-81 (Figure 1). The proposed alignment of the preferred option will be within 100 feet of 194 existing buildings in Aberdeen, Washington not owned by Cascade (Table 1 and Figures 2-7). The MAOP of the proposed pipeline and regulator station will be 305 psig.

Cascade reviewed several alternative alignments for the proposed route of the new line as shown in Figure 8. The preferred alignment, the green-yellow route, would be accomplished in two separate construction phases. Commission staff (Staff) met with Cascade to review the alternative routes to try and minimize the number of structures affected by the proximity request. Specifically, those alternatives identified by the color's orange, blue, and magenta were identified by Staff as potential routes minimizing proximity to existing structures. Additionally, Staff inquired about an additional route shown with a light blue line on Figure 8 which would further utilize the Bonneville Power Administration (BPA) right-of-way and connect the orange alignment to the magenta alignment.

After field inspecting the alignment alternatives and discussing these options with Cascade, Staff note the following:

- The Staff proposed light blue alignment, as well as the westerly portion of the magenta alignment were proposed in BPA right-of-way. Cascade indicated they had considered the BPA right-of-way as their preferred alignment. According to Cascade however, BPA would not allow the pipeline in their right-of-way due to proximity with existing power line towers and parallel construction.
- The blue alignment, according to Cascade had extremely difficult constructability issues as it was located immediately adjacent to the Wishkah River. There was not a suitable location on the east side for a drill site to cross the river and an existing conservation easement on property on the west side of the river effectively eliminated pipeline construction.
- The orange alignment currently has existing Cascade pipeline assets; however, the line does not have capacity necessary for existing and future growth requirements. Additionally, due to the recent construction of a flood wall on the west side of the Wishkah River in this location, construction of a new line along this route would be extremely difficult.
- After review, it appears the proposed yellow-green route is the preferred alignment.

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 and regulator station will be 305 psig.

(b) The proposed pipeline and regulator station will be API 5L X52 pipe and ANSI Class 300 components with a maximum working pressure rating of 720 psig and pressure tested to at least 1.5 times the MAOP.

(c) Class location for the proposed pipeline is Class 1, 2, and 3 depending on location.

(d) The approximate distance from the pipeline to the existing structures ranges from 23 feet to 100 feet. All other buildings along the route are greater than 100 feet from the pipeline.

(e) At the proposed MAOP of 305 psig, the maximum stress level of the pipeline would be 10.12 percent of the specified minimum yield strength (SMYS) which would be considered high pressure distribution. 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.

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 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 to pipelineprogram@utc.wa.gov 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.

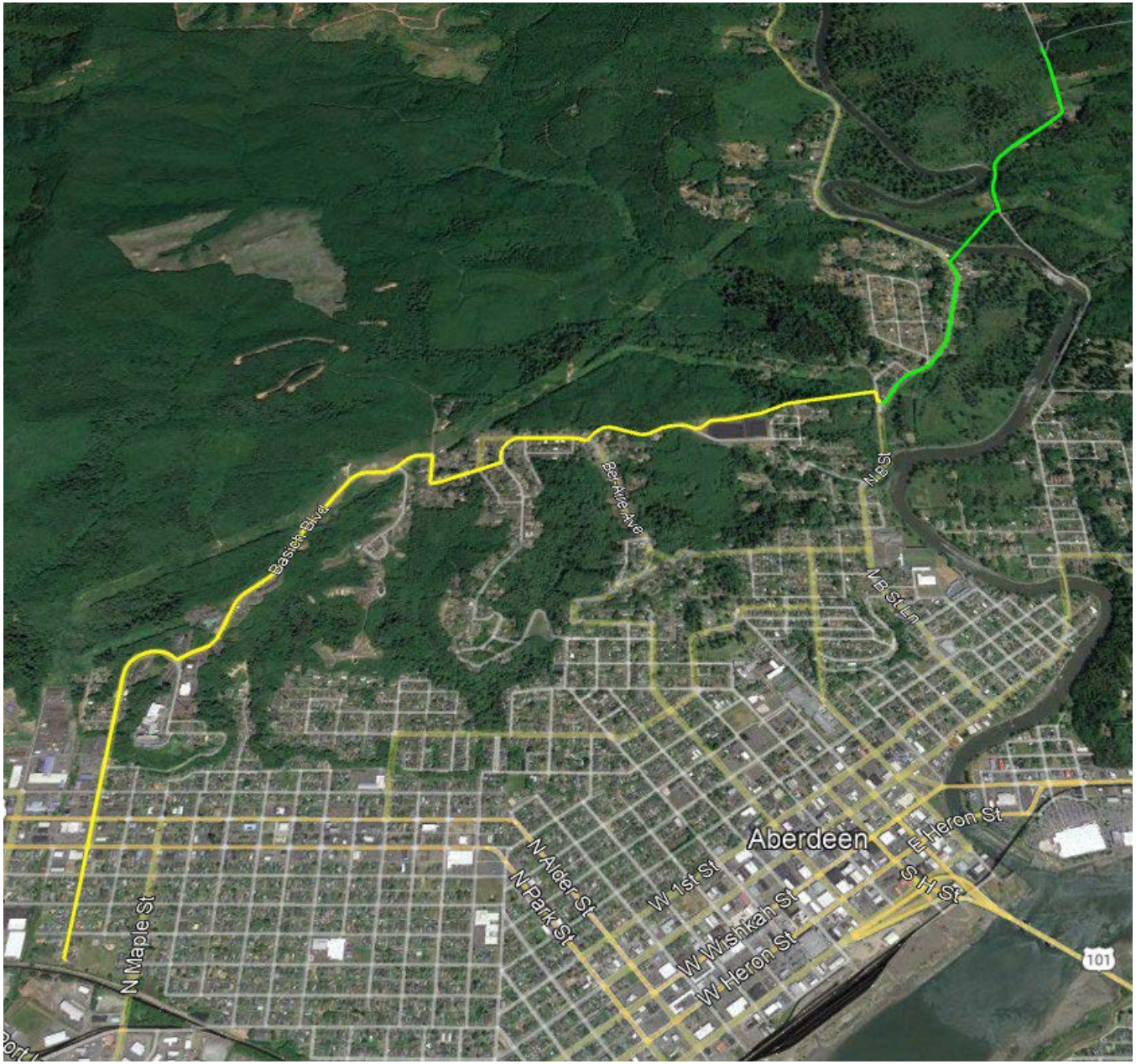

Figure 1: Proposed alignment of CNGC Aberdeen Proximity Request Basich Blvd (yellow) & Wishkah Rd (green)

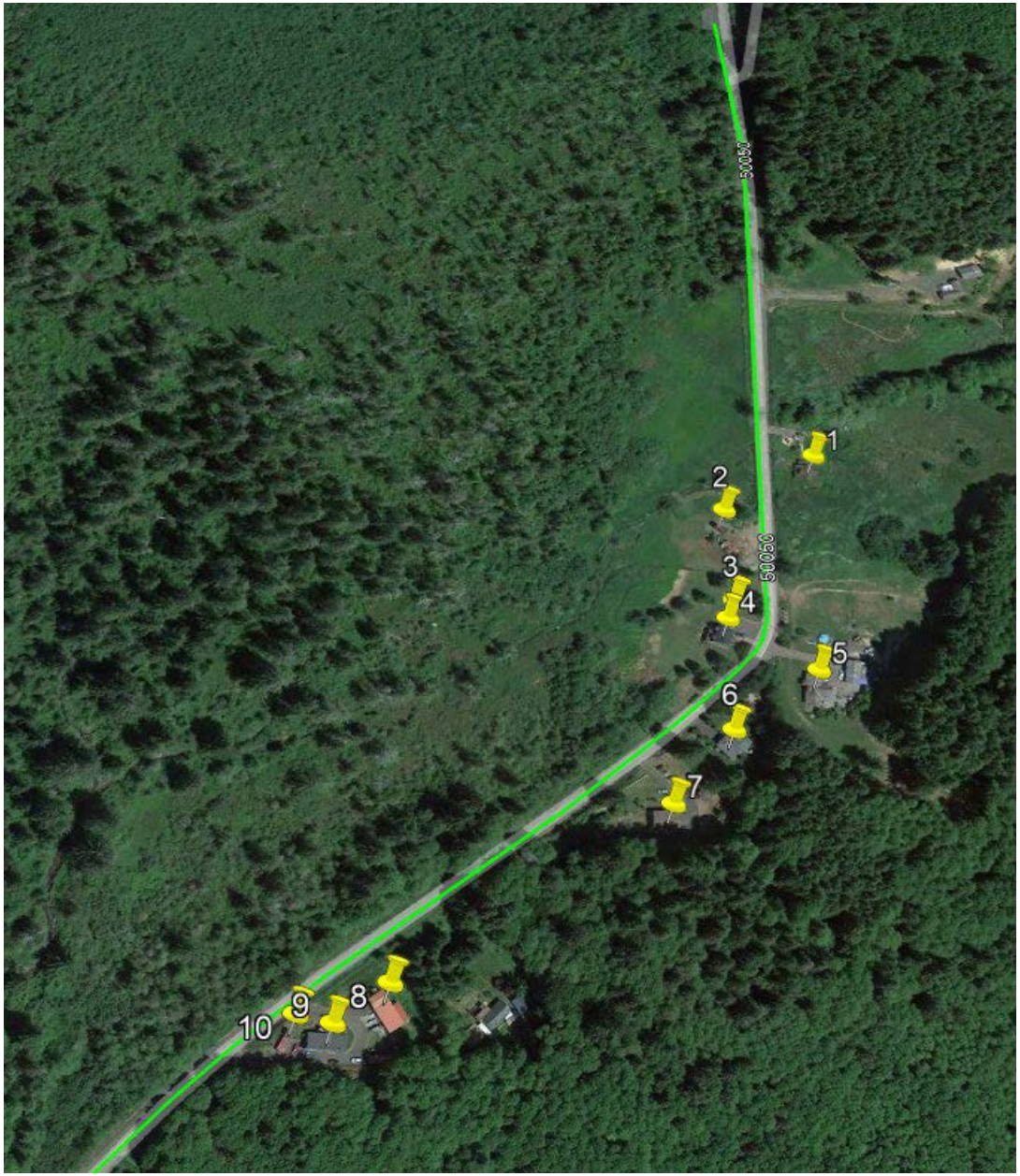

Figure 2: Section of the proposed pipeline showing buildings 1-10 within the 100-foot proximity boundary.

Figure 3: Section of the proposed pipeline showing buildings 11-58 within the 100-foot proximity boundary.

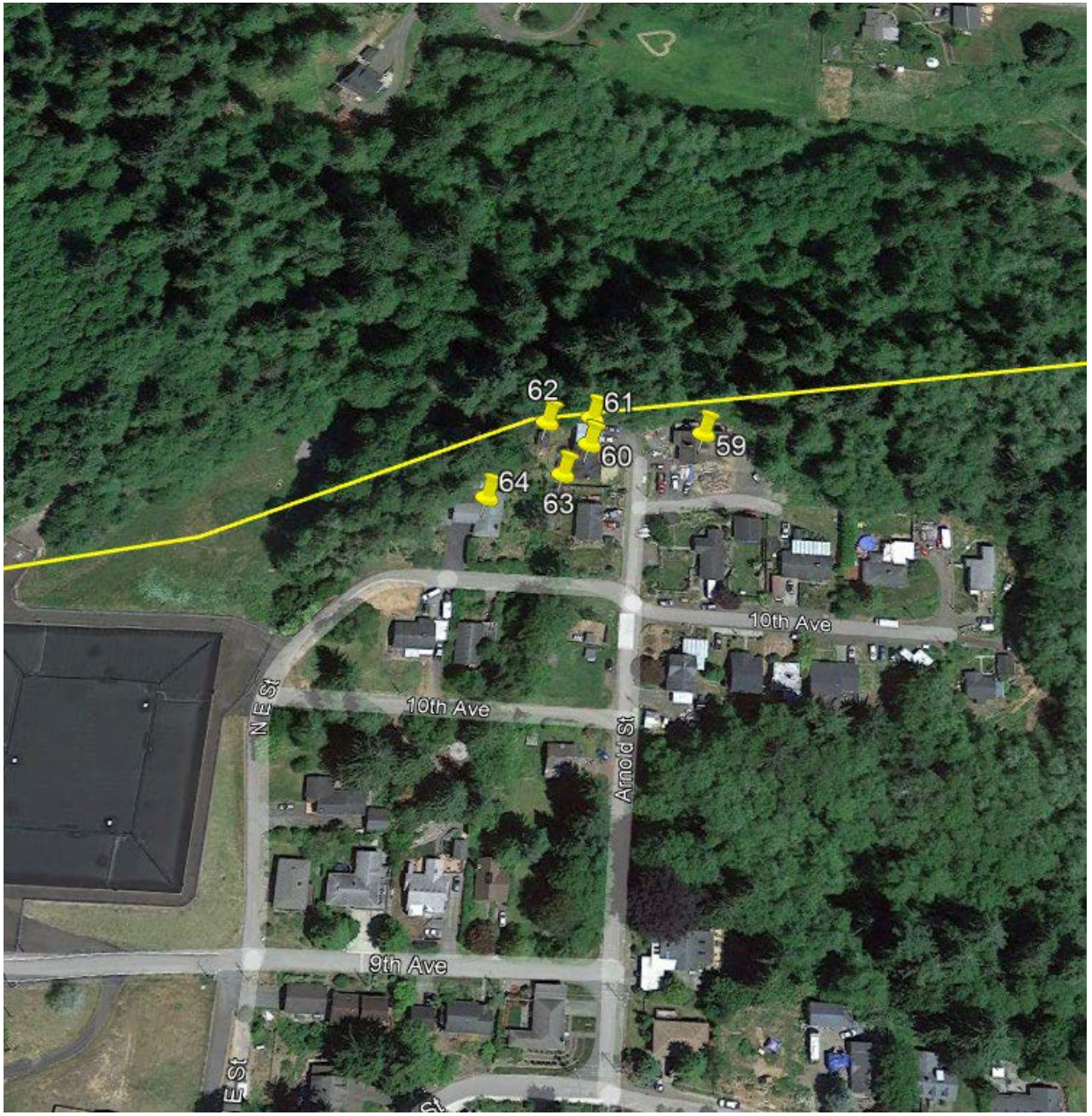

Figure 4: Section of the proposed pipeline showing buildings 59-64 within the 100-foot proximity boundary.

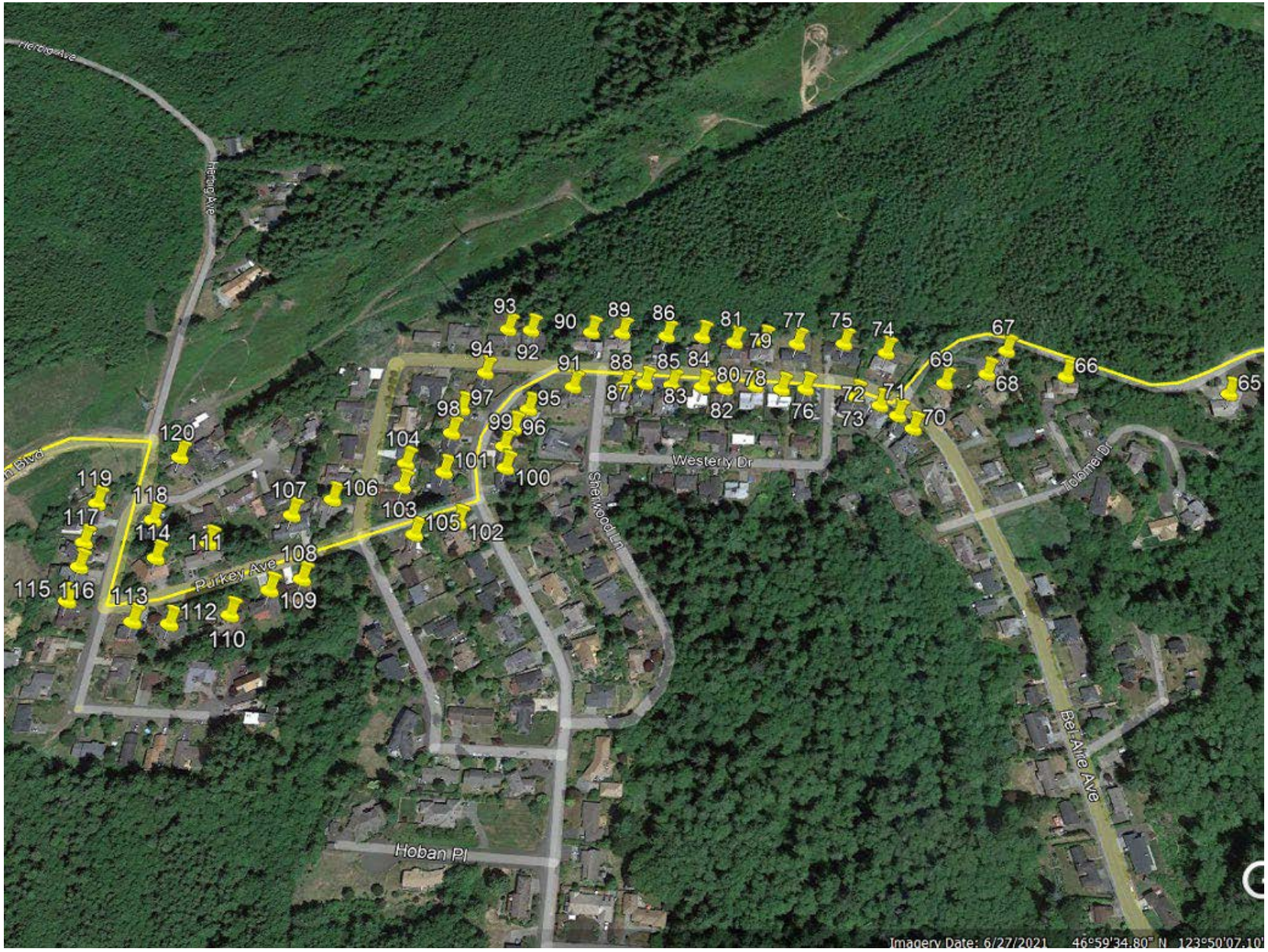

Figure 5: Section of the proposed pipeline showing buildings 65-120 within the 100-foot proximity boundary.

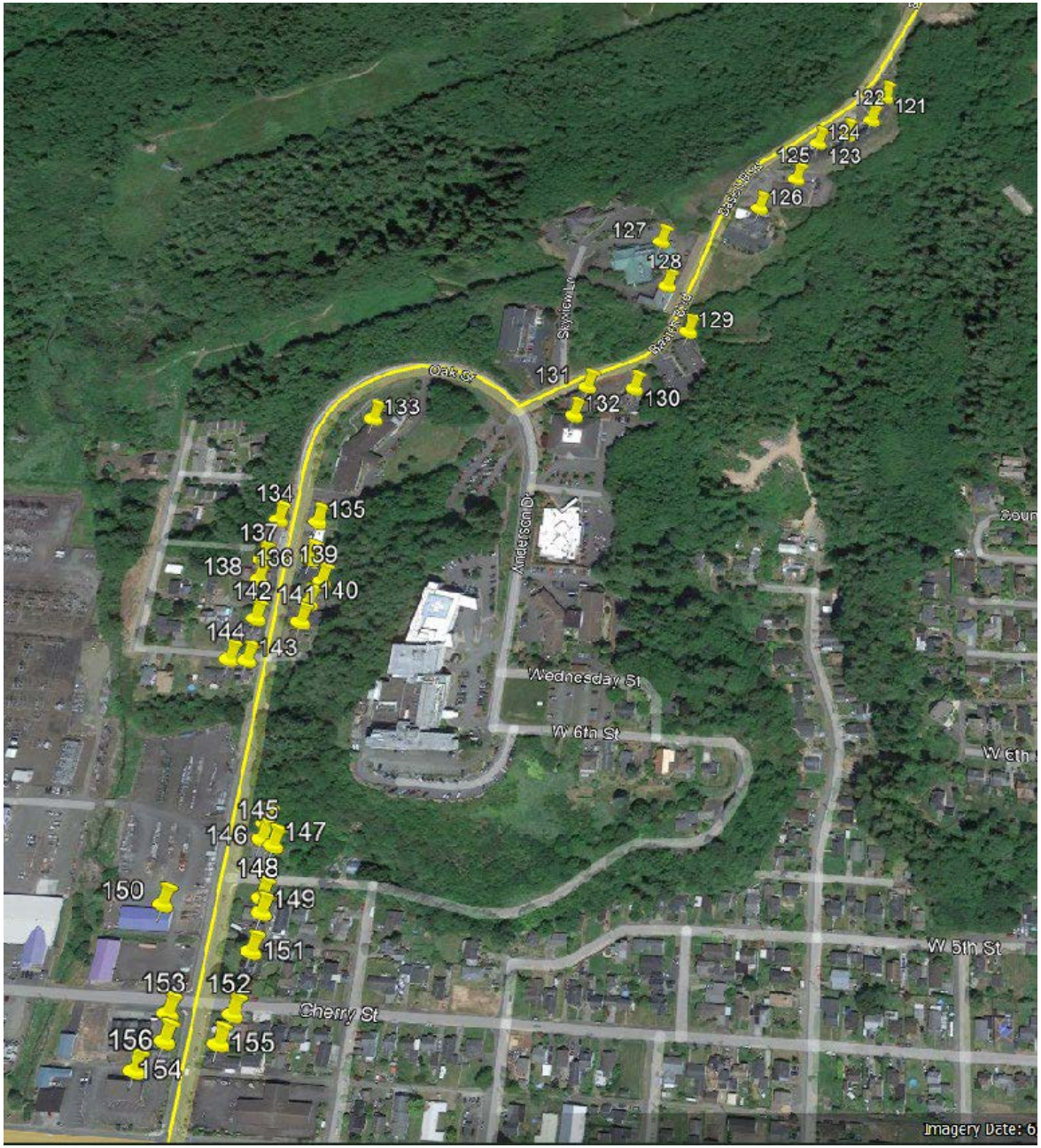

Figure 6: Section of the proposed pipeline showing buildings 121-156 within the 100-foot proximity boundary.

Figure 7: Section of the proposed pipeline showing buildings 157-194 within the 100-foot proximity boundary.

Table 1 - Proximity to Buildings

Bldg. #	Distance to HP Line (feet)	Bldg. Description	Bldg. #	Distance to HP Line (feet)	Bldg. Description	Bldg. #	Distance to HP Line (feet)	Bldg. Description
1	68	Residence	66	65	Residence	131	34	Commercial
2	64	Residence	67	57	Residence	132	73	Commercial
3	57	Residence	68	100	Residence	133	88	Multi-Family Residence
4	44	Residence	69	48	Residence	134	27	Commercial
5	98	Residence	70	94	Residence	135	60	Residence
6	76	Residence	71	55	Residence	136	44	Residence
7	100	Residence	72	38	Residence	137	36	Residence
8	73	Residence	73	33	Residence	138	38	Residence
9	58	Residence	74	53	Residence	139	88	Residence
10	34	Shed	75	71	Residence	140	65	Residence
11	55	Residence	76	28	Residence	141	49	Residence
12	83	Residence	77	66	Residence	142	32	Residence
13	88	Residence	78	35	Residence	143	28	Residence
14	55	Residence	79	62	Residence	144	80	Residence
15	37	Residence	80	32	Residence	145	64	Residence
16	67	Residence	81	64	Residence	146	64	Garage
17	52	Residence	82	40	Residence	147	100	Shed
18	45	Residence	83	36	Residence	148	72	Residence
19	58	Residence	84	66	Residence	149	100	Garage
20	55	Residence	85	44	Residence	150	100	Commercial
21	55	Residence	86	63	Residence	151	87	Residence
22	33	Residence	87	48	Residence	152	55	Residence
23	65	Residence	88	50	Residence	153	42	Residence
24	63	Residence	89	67	Residence	154	33	Commercial
25	44	Shed	90	65	Residence	155	52	Residence
26	63	Garage	91	67	Residence	156	82	Commercial
27	64	Residence	92	85	Residence	157	46	Commercial
28	76	Residence	93	100	Residence	158	45	Church
29	93	Garage	94	55	Residence	159	83	Church
30	71	Residence	95	42	Residence	160	54	Commercial
31	51	Residence	96	56	Residence	161	60	Commercial
32	82	Residence	97	55	Residence	162	33	Commercial
33	47	Residence	98	57	Residence	163	37	Residence
34	91	Residence	99	46	Residence			
35	90	Residence	100	46	Residence	164	80	Residence
36	62	Residence	101	39	Residence	165	27	Commercial
37	52	Residence	102	29	Residence	166	46	Residence
38	90	Residence	103	39	Residence	167	30	Residence
39	94	Residence	104	100	Residence	168	45	Residence
40	100	Residence	105	38	Residence	169	100	Residence
41	90	Shed	106	45	Residence	170	100	Garage
42	44	Residence	107	54	Residence	171	28	Residence
43	58	Residence	108	67	Residence	172	55	Shed
44	25	Residence	109	80	Residence	173	85	Residence
45	82	Residence	110	72	Residence	174	55	Residence
46	39	Residence	111	57	Residence	175	47	Residence
47	100	Garage	112	68	Residence	176	100	Garage

48	100	Residence	113	52	Residence	177	54	Multi-Family Residence
49	83	Shed	114	50	Residence	178	100	Multi-Family Residence
50	49	Residence	115	82	Residence	179	100	Garage
51	100	Residence	116	62	Residence	180	40	Multi-Family Residence
52	50	Residence	117	65	Residence	181	95	Multi-Family Residence
53	47	Residence	118	40	Residence	182	40	Multi-Family Residence
54	100	Garage	119	77	Residence	183	95	Multi-Family Residence
55	44	Residence	120	55	Residence	184	53	Multi-Family Residence
56	40	Residence	121	53	Multi-Family Residence	185	100	Multi-Family Residence
57	41	Residence	122	83	Multi-Family Residence	186	54	Multi-Family Residence
58	54	Sub Station Bldg.	123	85	Multi-Family Residence	187	100	Multi-Family Residence
59	23	Residence	124	52	Multi-Family Residence	188	24	Residence
60	36	Residence	125	75	Commercial	189	24	Residence
61	11	Garage	126	40	Commercial	190	53	Residence
62	17	Shed	127	87	Commercial	191	51	Garage
63	90	Shed	128	46	Commercial	192	34	Residence
64	63	Residence	129	32	Commercial	193	68	Garage
65	66	Residence	130	94	Commercial	194	43	Garage

Table 1 Building Proximity

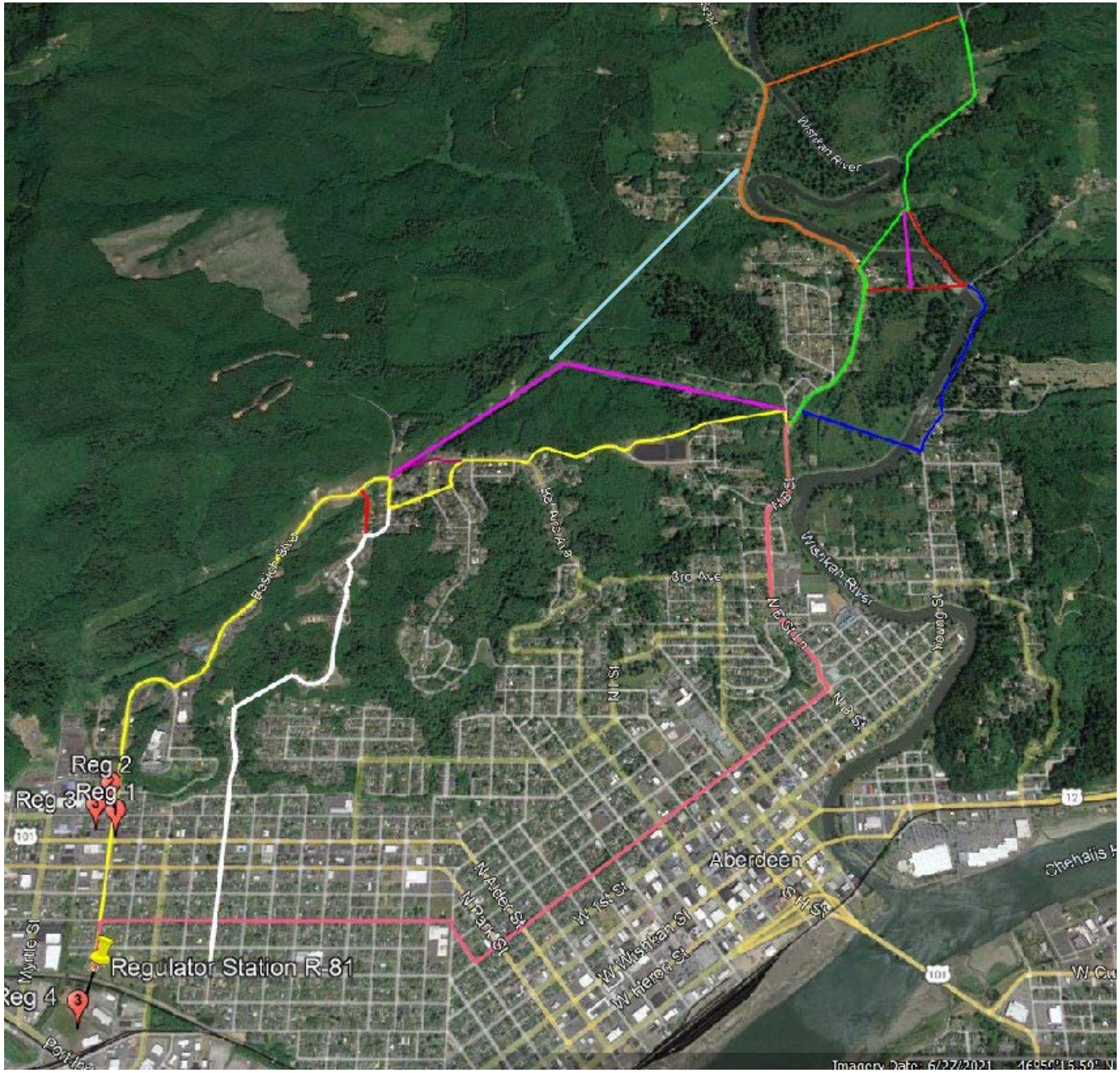

Figure 8: Route alternatives.