PG-220683

CASCADE NATURAL GAS CORPORATION
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Date: 9/12/2022

Subject: Proximity Request – Zillah HP Replacement Proximity Request

Sender: Colby Lundstrom, Manager of Compliance and Operations Programs, Cascade Natural Gas Co.

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Identification of Proceeding: N/A

Identification of Documents: CNGC - Zillah HP Replacement Proximity Request September 12th, 2022.

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8113 WEST GRANDRIDGE BOULEVARD, KENNEWICK, WASHINGTON 99336-7166

September 12, 2022

Sean Mayo
Director, Pipeline Safety
Utilities & Transportation Commission
PO Box 47250
Olympia, WA 98504-7250

Subject: WAC 480-93-020 Zillah HP Replacement Proximity Request

Dear Mr. Mayo:

Pursuant to the requirements of WAC 480-93-020 Proximity Considerations, Cascade Natural Gas Corporation (CNGC) requests to operate the proposed pipeline at pressure of 400 psig within 100 feet of existing buildings or those that are under construction. CNGC is performing this work to satisfy Settlement Agreement Docket PG-150120.

Proposed Scope of Work:
The proposed pipeline consists of installing approximately 2,105-feet of new 6-inch steel main. This will connect to the existing 6" Toppenish-Zillah HP pipeline that operates at an MAOP of 400 psig and replaces a section of the existing pipeline between Collins Ln and Vintage Valley Pkwy. The complete route of this line is depicted on the attached aerial maps located in Appendix A. This Proximity Request is for approval to operate the new pipeline segment at an MAOP of 400 psig.

At the proposed MAOP of 400 psig the stress level of the new pipe and fittings will be a maximum of 9.10% of the specified minimum yield. The Zillah HP replacement will be classified as high-pressure distribution main, not Transmission. One-hundred percent (100%) NDT will be performed on all newly installed pipe.

Specifications of the new 6-inch pipeline are as follows:

- All components (valves, line stoppers, etc.) will be ANSI Class 300 with a maximum working pressure rating of 720 psig.
- All pipe and associated fittings will consist of API 5L specification and of a X52 grade.

Proximity & Alternatives:
Zillah HP replacement pipeline will be within 100 feet of 11 structures as shown in Appendix A. Route analysis and protective measures were taken into consideration when deciding the location of the new pipeline and its proximity to the public and associated facilities.

Alternative routes were explored as detailed in Appendix B. These routes were not chosen because of lack of existing easements, likelihood of encroachment, and constructability challenges.

Closing:
CNGC respectfully requests your approval to operate the new 6" Toppenish-Zillah high-pressure pipeline replacement with an MAOP of 400 psig. Construction for the Zillah Replacement project is scheduled to begin in October of 2022 upon approval of this request and other permitting with the City of Zillah. If you have any questions or require additional information, feel free to contact me at (509) 734-4587 or via email at Colby.Lundstrom@mdu.com

Sincerely,

CASCADE NATURAL GAS

9-12-2022

Colby Lundstrom
Manager of Compliance Ops. Programs

CC: Pat Darras
Mike Schoepp
Ryan Privratsky

Enclosures

Appendix A - Buildings within 100-foot proximity to the pipeline and facilities.
Appendix B - Route Alternatives

Appendix A

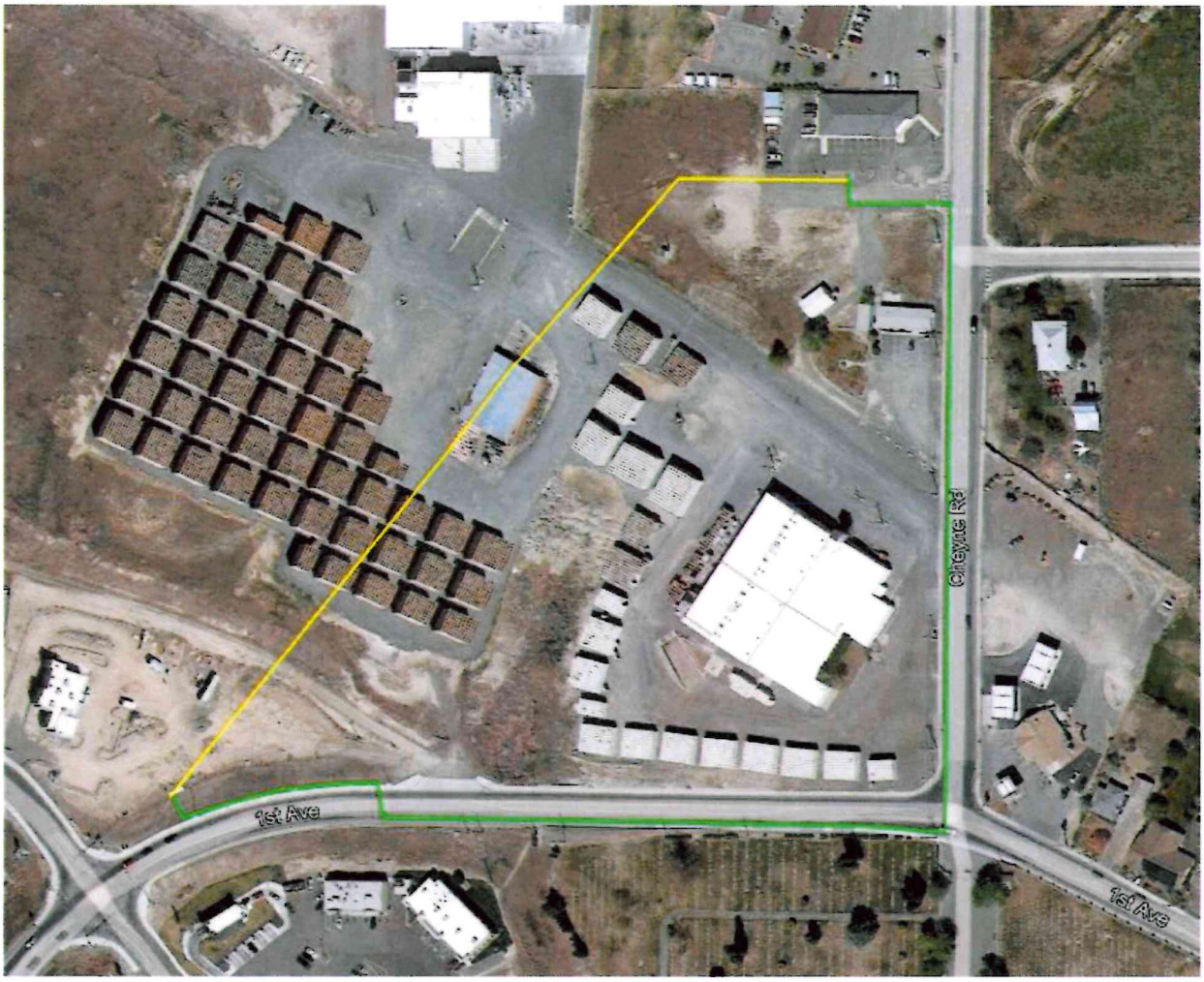

Figure 1: Overall view of the proposed Zillah HP Replacement (Green) and existing Zillah HP (Yellow) alignment.

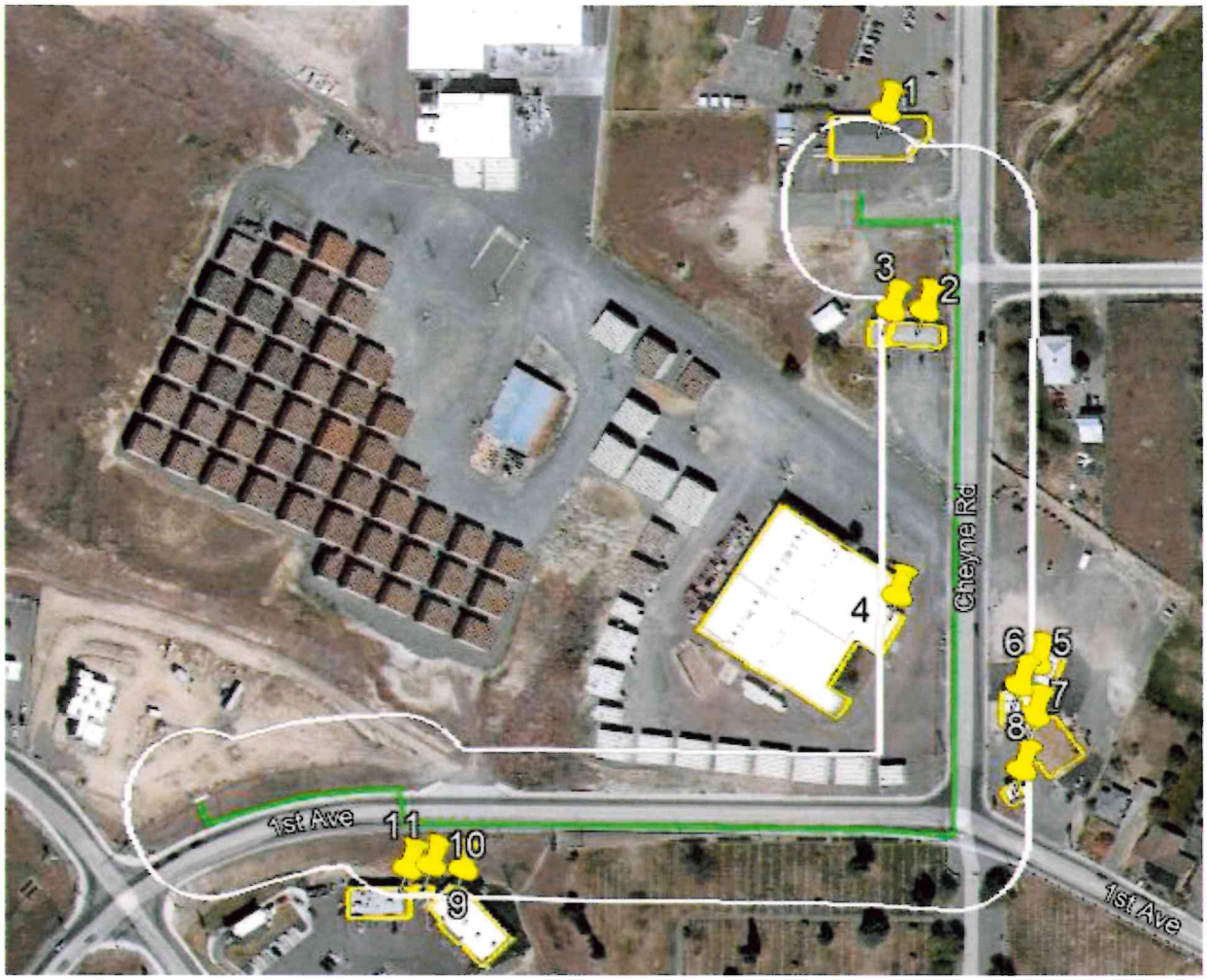

Figure 2: Section of the proposed pipeline showing buildings 1-11 within the 100-foot proximity boundary.

Proximity Buildings

Bldg. #	Distance to HP Line (feet)	Bldg. Description
1	48	Service - Professional
2	19	Service - Professional
3	95	Service - Professional
4	69	Manufacturing - Food
5	96	Commercial
6	61	Commercial
7	89	Commercial
8	62	Commercial
9	83	Commercial
10	85	Commercial
11	89	Commercial

The Hoop Stress and %SMYS for steel pipe is determined in accordance with the following formulas:

$$\sigma_{hoop} = \frac{P \times D}{2 \times t} \qquad \sigma_{hoop} / S = \%SMYS$$

P=Design pressure, psig.
S=Yield strength, psig determined in accordance with §192.107.
D=Outside pipe diameter, inches.
t=Nominal wall thickness of pipe, inches.

Design pressure of new pipeline at 400 MAOP:

6" Hoop Stress = $\frac{400 \times 6.625}{2 \times 0.280}$ = 4732.14 psig %SMYS = $\frac{4732.14}{52000}$ = 9.10 %

Figure 3: SMYS calculation

Appendix B

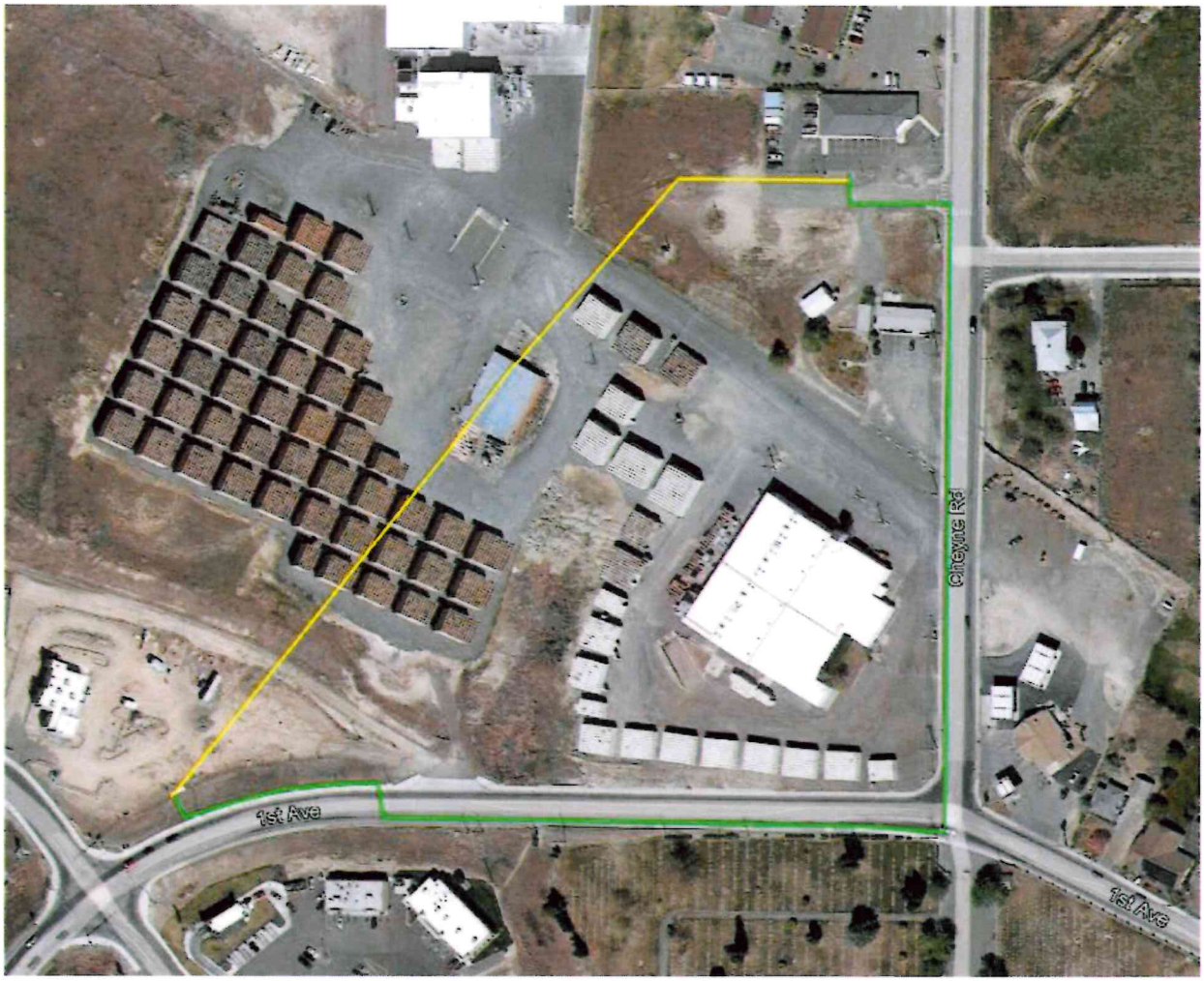

Figure 4: Route alternatives.