



Whale Rock Commission Report

Whale Rock Commission Meeting – May 8, 2025
Agenda Item 5 – Alternative Pipeline Replacement Study

FROM: Aaron Floyd, Utilities Director
PREPARED BY: Noah Evans, Whale Rock Supervisor
SUBJECT: Whale Rock Dam, Pipeline Replacement Study

RECOMMENDATIONS

No action is requested by the commission for this agenda item.

DISCUSSION

Background

As previously authorized during the 2023 Whale Rock Commission meeting, the Pipeline Replacement Study was initiated to explore various options for renewing the Whale Rock pipeline, which has been in service for over six decades. The Study provides a roadmap for maintaining the integrity of the Whale Rock water delivery system by providing pipeline renewal and replacement recommendations. The study is nearly complete, and staff wish to update the Commissioners on its contents.



WHALE ROCK PIPELINE REPAIR

As part of this project, HDR Engineering was tasked with reviewing the condition of the existing pipeline from the 2019 Pipeline Inspection Report and recommending suitable replacement strategies. The study provides pipeline replacement options, cost analysis, and an implementation timeline. Understanding the cost of pipeline renewal will allow Commission members to prepare for increases in future Whale Rock CIP contributions, which will ultimately be required to keep the pipeline in proper working order.

Pipeline Replacement Study Recommendations

The recommendations from the Pipeline Replacement Study are multi-phased and are as follows:

1. **Execute Alternative 3:** This involves replacing the defective sections of pipeline in the area of the golf course (223 feet), as was previously approved by the commission. In addition, HDR recommends replacing one additional section of piping to the east of the golf course.
2. **Reinspect the Pipeline:** After completing the initial repairs, it is recommended that staff conduct a thorough reinspection of the pipeline to assess its condition



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and identify any further necessary actions. This inspection is shown within the Whale Rock CIP schedule to occur in 2028.

3. **Implement Alternative 6:** Following the reinspection, proceed with a 100% pipeline replacement over a specified period. This ensures that all compromised sections are effectively addressed.

The study examined different methods for pipeline replacement. These methods included full replacement with a new line, using the existing line as a sleeve for a smaller diameter line, and adding an internal liner to the existing pipe. The recommendation from HDR is to replace the entirety of the pipeline with a new line. Staff will return to the Whale Rock Commission at a future meeting with more information regarding how the timeline in which the pipeline would be replaced (replacing all of the pipeline at once versus replacing smaller sections annually until full replacement is completed) .

Engineering estimates for full scale pipeline replacement and associated costs can be seen in Table 1 below. Staff have not identified which replacement timeline is most efficient for pipeline replacement at this time but will coordinate with staff from member agencies to develop a schedule for replacement that minimizes impacts to each participating agency.

Table 1 – Whale Rock Pipeline Replacement Timeline Options					
Option	Replacement (MI/YR)	Replacement (%/YR)	# of YR for 100% Replacement	Construction OPCC (\$/YR)	Project OPCC (\$/YR)
1	0.46	2.86	35.0	\$1.99M	\$2.85M
2	0.53	3.33	30.0	\$2.33M	\$3.33M
3	0.64	4.00	25.0	\$2.79M	\$3.99M
4	0.80	5.00	20.0	\$3.49M	\$5.00M
5	0.93	5.81	17.2	\$4.06M	\$5.80M
6	1.07	6.67	15.0	\$4.65M	\$6.65M
7	1.33	8.33	12.0	\$5.82M	\$8.31M
8	1.60	10.00	10.0	\$6.98M	\$9.98M
9	3.20	20.00	5.0	\$13.95M	\$19.95M
10	16	100.00	1.0	\$69.77M	\$99.77M

ENVIRONMENTAL REVIEW

No environmental review is required to update the Commissioners on this study's progress.



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FISCAL IMPACT

Staff is not requesting that the Commissioners consider funding pipeline renewal at this time. Cost estimates within this staff report should be as a rough estimate of financial commitments that commission members may be requested to make as part of a full-scale pipeline replacement project.

ALTERNATIVES

The Commission may direct staff to further study pipeline rehabilitation options or cease pipeline rehabilitation and not bring future pipeline renewal projects to the Commission for consideration. These alternatives are not recommended as staff have determined that the pipeline study is accurate, and the Whale Rock pipeline will become less reliable over time.

Attachments:

A - Whale Rock Dam Pipeline Replacement Study