

Feasibility Study Report to Provide Wastewater Collection Service to the Community of West Glen, OR

Prepared for:
Morrow County, Oregon

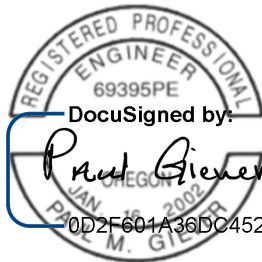
Prepared by:



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Date:
September 17, 2025

Signed by:



9/17/2025

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1.0 EXECUTIVE SUMMARY

This study evaluates the feasibility of extending municipal sanitary sewer service from the City of Boardman to the unincorporated community of West Glen. The Project, if implemented, would replace the existing residential on-site septic systems with a centralized wastewater collection and treatment system. This analysis included a review of two options: Extension of Boardman's sewer infrastructure and maintaining the status quo with continued reliance on individual septic systems with upgrades.

An extension of service from the City of Boardman would provide an effective system that addresses environmental health risks, ensures long-term regulatory compliance, and offers centralized management of wastewater. Replacing on-site septic systems could potentially reduce some nitrate introduction into the aquifer. Although the associated capital cost is significant, centralized sewer service reduces on-going risks, meets state wastewater standards, and provides the most sustainable and enforceable solution for the community.

A water feasibility study has been completed in parallel to this wastewater study. If reliable safe drinking water is provided to West Glen, there is no compelling reason to incur the costs of extending the municipal sanitary sewer service from the City of Boardman to the unincorporated community of West Glen from a clean water perspective.

In summary, if reliable safe drinking water is provided to West Glen, there is no compelling reason to incur the costs of extending the municipal sanitary sewer service from the City of Boardman.

2.0 BACKGROUND AND CONTEXT

West Glen is located just west of Boardman and falls under the jurisdiction of Morrow County. The community is currently not served by any municipal sewer system and relies entirely on individual on-site septic systems for wastewater disposal. Many of these systems are decades old, installed on undersized lots, and operate in areas with poor percolation or high groundwater tables. Residents and County officials have reported system failures, surface pooling, and ineffective drainage.

At the same time, the region is under scrutiny due to nitrate contamination in the groundwater, compounding risks associated with septic system failure. Oregon Department of Environmental Quality (DEQ) and the County Health Department have flagged West Glen as a priority area due to its combination of density, environmental risk, and lack of wastewater oversight.

The City of Boardman owns and operates a regulated, municipal wastewater collection and treatment system. The City system includes gravity sewers, lift stations, and a mechanical treatment plant with residual capacity for additional flow. Extension of this service to West Glen would allow for consistent performance monitoring, long-term reliability, and regulatory compliance.

3.0 PROJECT OBJECTIVES

A water feasibility study has been completed in parallel to this wastewater study. The primary objective of that study was to identify reliable safe drinking solutions for the West Glen area. The primary objective of this Wastewater Feasibility Study is to explore extending municipal sanitary sewer service from the City of Boardman to the unincorporated community of West Glen.

Providing centralized sewer service through a municipality would reduce environmental risks, protect groundwater quality, and comply with DEQ standards.

4.0 TECHNICAL FEASIBILITY

To extend sanitary sewer service to West Glen, approximately two to five miles of gravity collection mains would be required, depending on the alignment chosen. The topography generally slopes downward from south to north. This condition is advantageous for a traditional gravity collection system since the slope of the pipe can be designed to follow the natural terrain and prevent the system from becoming too deep to connect to the existing infrastructure. Appendix A shows a preliminary sanitary system layout. Appendix B provides a cost estimate for this system.

One or more lift stations would likely be needed to serve West Glen and more would probably be needed if the City decided to serve additional communities further out than West Glen, or planned to do so later. A force main could carry collected sewage to an existing connection point within Boardman's sewer system. Homes would be connected via individual service laterals, requiring trenching and right-of-way access within the community.

All costs associated with plumbing work within an individual lot to remove the residence from septic and placed into the gravity collection system would be the responsibility of the Owner. These costs will vary by household but are estimated to be between \$5,000 to \$15,000.

Discussions with the Boardman Public Works Director indicated that the existing treatment facility in Boardman has adequate capacity to accommodate average daily flow estimates from West Glen. Based on these factors, the Project is technically feasible and within the capacity of existing public utility infrastructure.

5.0 ECONOMIC AND FINANCIAL FEASIBILITY

Total capital costs are estimated to be \$3.6 million, based on the preliminary system design reflecting unit cost projections for pipeline installation, lateral service lines, and engineering. The range accounts for uncertainties in alignment, permitting, and contingencies. Again, see Appendix A and B for additional information.

Available funding options include USDA Rural Utilities Service Programs and the Oregon DEQ Clean Water State Revolving Fund. Morrow County may also dedicated funds from the State of Oregon to help finance construction of the system. Once constructed, operation and maintenance costs would be managed by the City of Boardman and subjected to typical residential sewer rates set by the City of Boardman.

While the initial cost is substantial, the Project is eligible for grant and loan programs that can reduce the financial burden on residents. On-going costs are consistent with other small urban and rural utility systems.

6.0 ALTERNATIVE SOLUTIONS EVALUATED

The "do nothing" scenario allows for the residents of West Glen to continue using private septic systems with the caveat that the reliable safe drinking water is provided. Nitrates found within the aquifer(s) providing well water to the community are not removed during the septic treatment process prior to returning the effluent into the ground. As a result, the nitrates that were pumped out of the ground are then returned to the same source point.

Providing water to the community that is not contaminated with elevated nitrate levels eliminates the need for residents to switch from a septic system to a municipal utility collection and treatment system.

7.0 ENVIRONMENTAL AND HUMAN HEALTH IMPACT

Replacing septic systems with a centralized sewer collection system would reduce the risk of untreated wastewater entering the environment. It would also help prevent further nitrate loading into a groundwater basin already designated as vulnerable. Municipal sewer service improves the overall sanitation and aligns with environmental protection efforts already underway in the region.

8.0 CONCLUSION

Extending the centralized sanitary sewer service from the City of Boardman to the community of West Glen is both technically and administratively feasible. It represents the only solution that addresses the systemic environmental and public health risks associated with aging septic systems in a nitrate-sensitive area. Although the capital investment is significant, it is consistent with long-term regulatory and infrastructure planning, and it qualifies for multiple external funding sources.

If safe reliable potable water is provided, then taking residents off of septic systems and onto the Boardman municipal collection system is not necessary.

The report recommends proceeding to the preliminary design and stakeholder engagement phase, with a focus on confirming infrastructure routing, establishing a service agreement with the City of Boardman, and preparing funding applications.

Appendix A

Preliminary Sanitary Sewer System Layout



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MORROW COUNTY
WEST GLEN UTILITY EXTENSION
FEASIBILITY STUDY
SANITARY SEWER COLLECTION SYSTEM

DWG. NO.
C-122
SCALE: 1" = 150'
ISSUE DATE: 03/05/19
JOB No. **9389**
REV. #

Appendix B

Sanitary Sewer Cost Estimate

SANITARY SEWER COLLECTION SYSTEM - COST OPINION

ITEM No.	DESCRIPTION	UNIT	ESTIM. QTY.	UNIT PRICE*	TOTAL
1.	8-inch polyvinyl chloride (SDR-35 ASTM D-3034) pipe, includes standard City of Boardman bedding and backfill, locator wire and all testing, complete in place, average for depths from 4 to 16 feet				
	4-foot to 8-foot depth	L.F.	3615	\$ 80	\$ 289,200
	8-foot to 12-foot depth	L.F.	2137	\$ 100	\$ 213,700
	12-foot to 16-foot depth	L.F.	1648	\$ 120	\$ 197,760
2.	10-inch polyvinyl chloride (SDR-35 ASTM D-3034) pipe, includes standard City of Boardman bedding and backfill, locator wire and all testing, complete in place				
	12-foot to 16-foot depth	L.F.	2920	\$ 150	\$ 438,000
3.	Jack & Bore installation of 8-inch polyvinyl chloride (SDR-26 ASTM D-2241) pipe under HCFC Channel, complete in place	L.F.	270	\$ 500	\$ 135,000
4.	4-foot diameter sanitary manhole, all depths, per details, complete in place.				
	Onsite	EA.	31	\$ 8,500	\$ 263,500
	Offsite	EA.	9	\$ 8,500	\$ 76,500
5.	6-inch polyvinyl chloride (SDR-26) service lead, including clean-out, bedding and backfill, complete in place				
	Near side with single wye	EA.	26	\$ 3,000	\$ 78,000
	Far side with single wye	EA.	32	\$ 5,000	\$ 160,000
6.	6-inch polyvinyl chloride (SDR-26) stacks per detail, including clean-out, bedding and backfill, complete in place	EA.	27	\$ 550	\$ 14,850
7.	Connect 8" sanitary sewer line to existing manhole, complete in place	EA.	1	\$ 1,500	\$ 1,500
8.	Post-Installation Television Inspection of sewer with with recording	LS	1	\$ 10,000	\$ 10,000
9.	Trench safety system, all depths, complete in place	LF	10320	\$ 3	\$ 25,800
10.	Lift Stations, 40,000 gallons per day	EA.	2	\$ 71,000	\$ 142,000
11.	Easement recording	EA.	4	\$ 2,500	\$ 10,000

12.	Removal and restoration of landscaping	LS	58	\$ 300	\$ 17,400
13.	Trench / traffic plates (at intersections, driveways, and 'far side leads' to allow local traffic. Assume max 1 street under construction at one time)	LS	1	\$ 20,000	\$ 20,000
14.	Traffic control devices (wood barricades with reflective surfaces and flashing lights;.)	LS	1	\$ 10,000	\$ 10,000
15.	Project Management	EA.	1	\$ 40,000	\$ 40,000
22	Canal Crossing	EA	1	\$ 50,000	\$ 50,000
CONSTRUCTION SUBTOTAL - SANITARY SEWER COLLECTION SYSTEM					\$ 2,193,210

COST OPINION SUMMARY

Construction of Sanitary Sewer Collection System		\$ 2,193,210
Engineering	15%	\$ 328,982
Performance Bond (RS Means 0131 1390 0xxx)	1.5%	\$ 32,898
Builder's Risk Insurance (RS Means 0131 1330 0xxx)	0.6%	\$ 13,159
Contingencies at Conceptual Stage (RS Means 0121 1600 0020)	25%	\$ 548,303
COST OPINION TOTAL		\$ 3,116,551

Consider 7% inflation for 2 Years = 14.49% increase \$ 451,588

COST OPINION TOTAL With 2 Years' Inflation	\$ 3,568,140
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This is a Rough-Order-of-Magnitude (ROM) opinion of probable construction cost.

- Notes:
1. No hydraulic modeling has been done for this estimate, so pipe sizes are estimated based on similar systems.
 2. The utility may want to upsize the main line to add capacity for future extensions beyond West Glen.
 3. Excavation thru rock is more expensive and has not been included.
 4. Likewise, dewatering of excavations was not anticipated or included.
 5. Estimate excludes the service line to house/buildings.
 6. Estimate is based on the prime Construction Contractor performing all the work.
 7. Contingency of 20% is consistent with RS Means for a Conceptual Design (ref RS Means 0121 1600 0020).