Los Olivos Community Services District Wastewater Collection & Conveyance Project

IMPROVING LOCAL WASTEWATER MANAGEMENT FOR COMMUNITY HEALTH AND SAFETY

JUNE 3, 2026

Project Overview and Purpose

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Summarizes the wastewater project options at 30% design to inform board and public on needs and alternatives.

Key Themes and Considerations

Focus on constructability, long-term operability, system reliability, cost, and long-term operational sustainability for decision-making.

Governance and Communication

Supports transparent, consistent communication to help the Public and Board make informed decisions.

Next Steps and Uncertainty

Highlights preliminary nature of data, ongoing design, negotiations, and public outreach efforts.

Background and Need for a Community Wastewater System

Community Profile and Wastewater Setup

Los Olivos has about 1,000 residents and 4,000-5,000 weekend/holiday visitors using decentralized septic systems.

Environmental and Regulatory Concerns

Septic system densities coupled with shallow groundwater have caused groundwater issues, leading to regulatory Special Problem Area designation.

Capacity and Reliability Challenges

Septic systems struggle with peak tourist wastewater demand, forcing use of portable toilets in some businesses.

Need for Centralized System

A community wastewater system will enhance health, environmental stewardship, and support needs.

Overview of Wastewater Collection and Conveyance Alternatives

Gravity Sewer Collection System

This system uses gravity to move wastewater through underground pipes to centralized lift stations for pumping to treatment (City of Solvang).

Septic Tank Effluent Pump (STEP) Collection System

Each property has an underground tank and pump sending liquid wastewater into a pressurized collection network. Solids remain in the tank, and the property owner is required to pump the tank on a regular basis.

Conveyance to Solvang

A pressurized pipeline (i.e. force main) to Solvang. A gravity pipeline to Solvang may also be an option if County approves attachment to the existing bridge crossings

Gravity Collection System Characteristics

System Design and Operation

Private property owners would have a gravity sewer lateral that would convey wastewater to the collection system. The collection system is comprised of 8-inch minimum PVC pipes that convey wastewater by gravity to a sewer lift station.

Construction Challenges

Deep trenching increases costs, especially in flat or utility-dense areas. Deep trenches may require dewatering.

Maintenance and Governance

Sewer laterals are privately owned to the property line. District owns and operates collection system.

System Vulnerabilities and Public Impact

Susceptible to infiltration and inflow; requires higher initial investment.

STEP Collection System Characteristics

Decentralized Wastewater Collection

STEP uses underground tanks with effluent pumps to send liquid wastewater through a pressurized pipe network (2"-4"), enabling shallower pipe installation and flexible layouts.

Construction Advantages

Operating under pressure reduces depth of excavation, reduces dewatering requirements, lowering initial District construction costs compared to gravity systems.

Maintenance and Operational Challenges

Mechanical pumps and tanks at each property increase maintenance and replacement needs, potentially raising costs and concerns about power outages, odors, and noise.

Cost and Responsibility Shift

While cost-effective for the District, STEP systems shift financial and operational burdens to homeowners, requiring careful communication and equity consideration. District may need to maintain easements on all private properties to maintain STEP system.

Construction Cost Comparison Between Alternatives

Construction Cost Overview

Gravity collection scenario estimates construction costs at $51.2 million primarily due to deeper trenches.

STEP Collection Cost Advantage

STEP system costs approximately $38.6 million, 25% less than a gravity system, primarily due to shallower trenches and smaller pressure mains. Costs do not include effort to obtain easements.

Cost Sensitivity and Key Uncertainties

Sensitivity Analysis Overview

Examined ±30% variation in major construction costs to assess impact on total project cost.

Key Cost Drivers

Construction methods like open-cut trenching and pressure main installation greatly affect construction cost.

Additional Uncertainties

Groundwater, asbestos water line risk, negotiations with the City of Solvang and the County of Santa Barbara, and easement feasibility influence project cost.

Risk Management Importance

Robust contingencies and proactive risk management are essential for successful project completion.

	Baseline	Low	High
Scenario 1	$51,180,900	$42,759,700	$59,602,000
Scenario 2	$38,643,900	$31,338,300	$45,949,500

30-Year Life Cycle Cost Comparison

Comprehensive Cost Analysis

The 30-year analysis includes construction, maintenance, energy, and equipment replacement costs for a complete cost overview.

District Costs Comparison

Gravity collection costs $52.9 million, while STEP costs $39.6 million over 30 years from the District perspective.

Private Property Owner Costs

STEP system incurs higher private property owner costs due to new tanks, pumps and energy consumption.

Note, the costs presented here and in the report are not the same as a rate study. Other costs, such as connecting to Solvang, are not included in this report.

30-Year Life Cycle Cost Comparison

		Scenario 1 (Gravity Collection & Pumped Conveyance)	Scenario 2 (STEP Collection & Pumped Conveyance)
A	Capital Costs (LOCSD)	$51,180,900	$38,643,900
B	Capital Costs per EDU (LOCSD, 761 EDUs)	$67,300	$50,800
C	Private Residential Capital Costs (per EDU)	$16,400	$39,200
D	Private Commercial Capital Costs (per EDU)	$16,400	$85,600
E	30-Year Life Cycle Cost (LOCSD) - NPV	$52,893,600	$39,605,700
F	30-Year Life Cycle Costs per EDU (LOCSD, 761 EDUs) - NPV	$69,600	$52,100
G	30-Year Private Residential Life Cycle Cost – NPV (per EDU)	$18,600	$45,400
H	30-Year Commercial Life Cycle Cost – NPV (per EDU)	$18,600	$109,800
I	**Estimated Total Residential Cost (30-Years)[1] (per EDU)**	**$88,200**	**$97,500**
J	**Estimated Total Commercial Cost (30 Years)[2] (per 6 EDUs)**	**$436,200**	**$422,400**

1. Calculation for the Residential 30 Year cost: F+G
2. Calculation for the Commercial 30 Year cost: (F*6) + H

Key Risks and Construction Challenges

Technical and Environmental Risks

Shallow groundwater and permitting challenges increase risks and complicate construction activities.

Utility Conflicts and Disruptions

Existing asbestos cement water pipes create risk for service interruptions and unplanned repairs during construction.

Community Impact and Mitigation

Traffic disruptions, noise, and access limitations require phased construction and effective communication with the community.

System-Specific Challenges

STEP system faces homeowner acceptance and pump maintenance risks, higher burden on property owners; gravity system involves higher costs and more disturbance.

Summary of Strengths and Weaknesses

	Scenario 1 (Gravity Collection & Pumped Conveyance)	Scenario 2 (STEP Collection & Pumped Conveyance)
Strengths	**Proven, long-established technology** Gravity sewers are widely used and well-understood by engineers, operators, and regulators.	**Lower installation cost** Uses shallower trenches and smaller diameter pipe.
	Low routine operational complexity Once installed, the system relies primarily on natural gravitational flow with minimal mechanical equipment.	**Reduced infiltration and inflow (I&I)** Sealed pressure pipes and buried tanks greatly limit unwanted water entering the system.
	Less dependence on power Except at lift stations, flow is not reliant on electrical service.	**Flexible alignment** Pipes can follow terrain with fewer constraints, reducing construction impacts.
Weaknesses	**High capital cost** Deep trenching, manholes, dewatering, shoring, and utility conflicts significantly drive-up installation cost.	**Higher operational and maintenance requirements** Each connected property has pumps, floats, and electrical components that must be maintained or replaced.
	Infiltration and inflow (I&I) risk Manholes, pipe joints, and cracks are common entry points for stormwater and groundwater, increasing flows.	**Power-dependent** Pump operation requires electricity; outages can affect reliability unless backup systems are installed. Septic tanks have limited capacity before overflows will occur.
	Larger construction footprint Deep excavations cause more disruption to roads, traffic, and adjacent utilities.	**Decentralized responsibility** Homeowners or utilities must maintain individual tanks and pumps—leading to more service calls and variability in upkeep. District will likely need to obtain an easement on all properties to access the septic tanks and pumps for maintenance
		Shorter equipment life Pumps typically require replacement every 8–12 years, adding to lifecycle costs.
		Sewer odors/Higher H2S Tanks must be periodically pumped and can generate odors if not serviced properly. Higher H2S at connection point to Solvang.
		Sewer Main Break In a sewer main break, all upstream connections are impacted until system is repaired. Bypassing is more difficult.
		Private Property Owner Upfront Costs Individual property owners will be required to front a higher upfront cost for the on-site improvements that cannot be financed through the District.

Board-Level Decision Considerations

Cost Sharing and Equity

Decision involves balancing cost distribution between District and private owners, with equity as a critical factor.

Operational Complexity

Consideration of how much operational complexity the District can manage effectively for each system alternative.

Public Acceptance and Communication

Systems that are simpler and less intrusive tend to have higher public acceptance and easier communication.

Recommended Next Steps and Conclusion

Project Refinement Activities

Refine the preferred alternative with additional surveying, geotechnical, potholing, and groundwater analysis to reduce uncertainties and improve cost accuracy.

Coordination with City Authorities and County of Santa Barbara

Maintain coordination with the City of Solvang to clarify conveyance needs, capacity issues, and cost-sharing opportunities. Continue discussions with County regarding hanging the force main on the bridge deck.

Governance and Funding Preparation

Prepare Engineer's Report and funding strategies to support rate-setting and financing for project implementation and determine a complete "all-in" project cost estimate.

Public Outreach and Engagement

Engage residents and businesses through outreach to explain alternatives and gather community input for informed decision-making. Additional survey required on private property for locating existing septic tanks.

Questions?