



Kline's Island Sewer System

Regional Sewer Plan

Update to the Lehigh County Authority Board of Directors

April 27, 2026

The time is now

Most components of the KISS were built in 1920s through the 1980s.

Past generations invested heavily in creating the system that supports the quality of life we enjoy today.

It is time to reinvest – to ensure these benefits continue for our region's future.

KISS municipal leaders have been working on sewer planning for many years – **now is the time to finalize our plans and get started.**



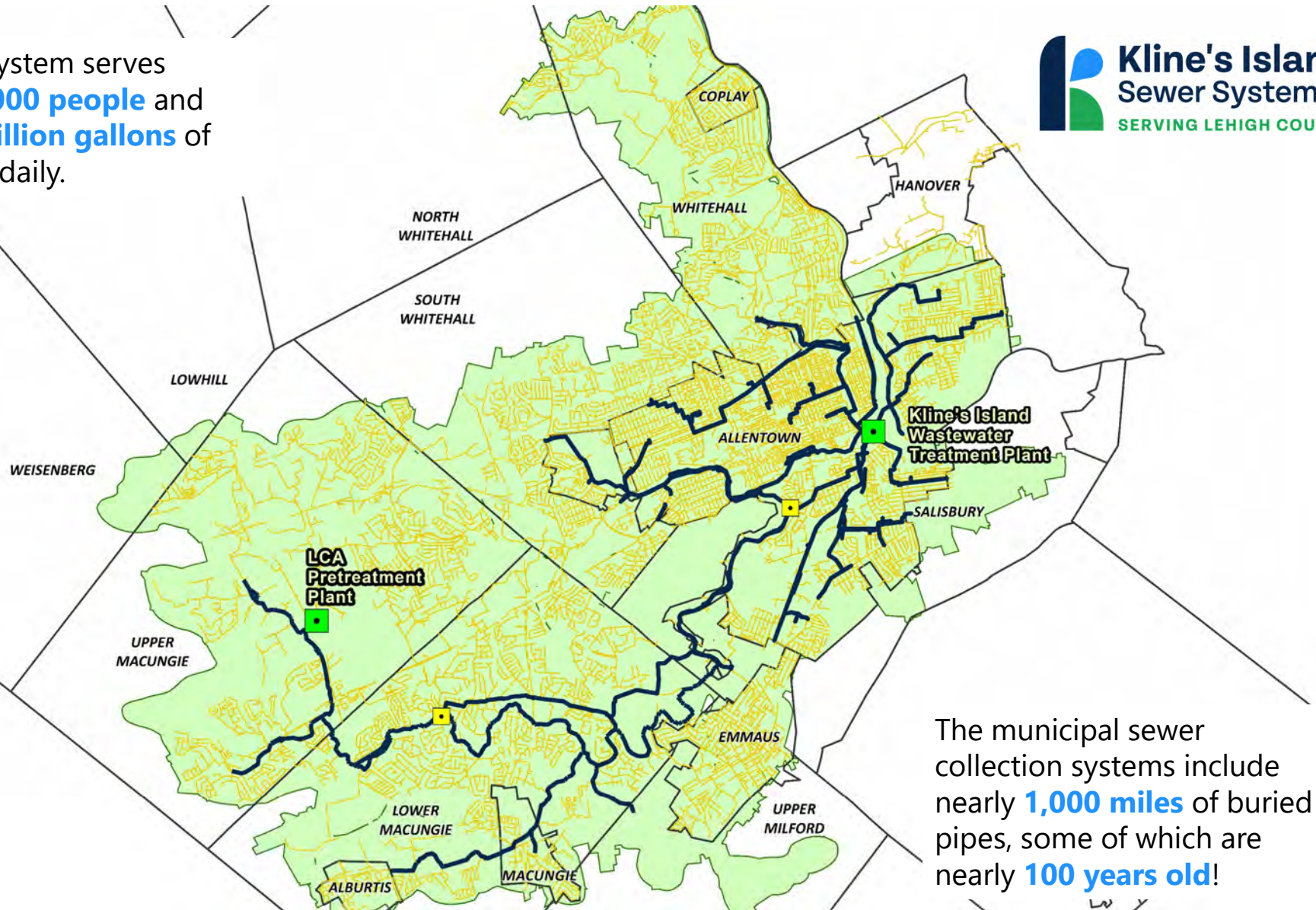
KISS Service Area

1. City of Allentown
2. Borough of Emmaus
3. Borough of Macungie
4. Borough of Alburtis
5. Borough of Coplay *
6. Upper Macungie Township
7. Lower Macungie Township
8. South Whitehall Township
9. Salisbury Township
10. Whitehall Township *
11. Upper Milford Township **
12. Hanover Township
13. North Whitehall Township *
14. Weisenberg Township **
15. Lowhill Township **

* The Borough of Coplay, Whitehall Township, and North Whitehall Township receive sewer service through an agreement with the Coplay-Whitehall Sewer Authority.

** Lehigh County Authority (LCA) owns and operates the sewer systems serving Upper Milford, Weisenberg, and Lowhill townships.

The sewer system serves about **270,000 people** and treats **32 million gallons** of wastewater daily.



The municipal sewer collection systems include nearly **1,000 miles** of buried pipes, some of which are nearly **100 years old!**

Kline's Island Sewer System (KISS) Faces Major System Challenges



Aging Infrastructure

Most KISS communities struggle with deteriorating infrastructure that is 50 to 100 years old, causing leakage and sewer overflows



Capacity for New Connections

Many system components are at capacity today, regardless of the wet weather challenges, stalling potential economic development and growth



Size of Existing Infrastructure

Our infrastructure is not designed for wet weather events that leak rainwater into the system, making sewer overflows worse



Regulatory Oversight

System overflows and permit violations have increased regulatory oversight, restricted new connections, compelling us to take action



Inflow and Infiltration

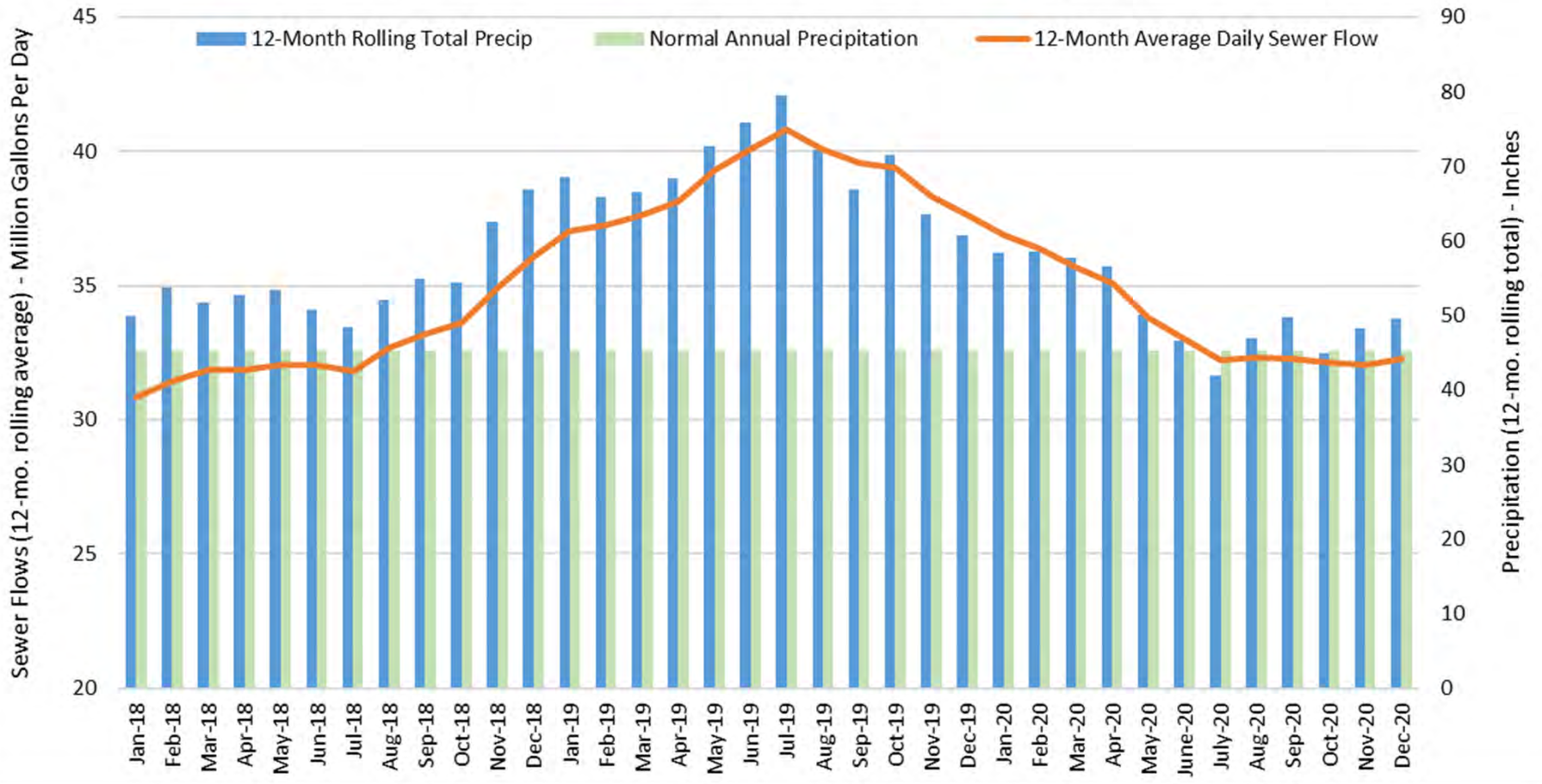
Our hydraulic model shows that **160 million gallons of water per day** enter the sewer system during wet weather.

The treatment plant can only process about half of that. When there's no place for the water to go, overflows happen.

And when it's not raining, nearly **10 million gallons of water** enters the system every day through leaking pipes.



12-Month Rolling Totals - Sewer Flows vs. Precipitation



Regulatory Action: A Brief Overview

Administrative Orders

2007 – 2009

U.S. EPA issues Administrative Orders (AOs) due to excessive sanitary sewer overflows and plant bypasses during wet weather

Wet Weather

2018 - 2019

Wet weather makes it clear the system needs significant investment

DEP Corrective Action

2019

System overload triggers corrective action with DEP, new connections limited until Act 537 Plan developed

2007 - 2017

2018 - 2019

2020 - 2025

Regional Collaboration

2009 – 2018

In response to AOs, some municipalities begin working together on regional sewer monitoring, with increased collaboration over time

Administrative Orders Lifted

2019

In response to regional collaboration, AOs are lifted, and oversight is transferred to the Pa. DEP

Act 537 Planning

2020 - 2025

DEP requires Act 537 Plan to be submitted by 2025, including solutions to overflows and plans to address long-term needs

Major Alternatives Reviewed

1. Pretreatment Plant Conversion

- Upgrade pretreatment plant to full treatment
- Create new discharge point
- Divert XX MGD from KISS to new discharge point
- Reduce downstream investments needed

2. Expand Existing Infrastructure

- Upgrade Kline's Island to handle wet-weather flows
- Expand interceptors to remove bottlenecks
- Address pretreatment needs separately / directly with industries
- Reduce inflow & infiltration

KISS Act 537: 5-Year Plan

| Plan Component | Cost Estimate |
|---|------------------------------|
| Municipal Sewer Rehabilitation Programs | \$55 – \$60 million |
| Kline’s Island Wastewater Treatment Plant | \$60 – \$65 million |
| Proposed Relief Interceptor | \$0 million |
| Western Lehigh Interceptor System | \$8 – \$10 million |
| TOTAL ACT 537 PLAN COST ESTIMATE | \$123 – \$135 million |

Other Potential Projects:

Other Municipal Projects

TBD if needed

Pretreatment Plant

Cost under review w/ industries

Act 537 Plan Review & Approval Process

| Action Steps | Start Date | End Date | # of Days |
|--|------------|------------|------------|
| Final Draft of Act 537 Plan | Ongoing | 4/15/2025 | n/a |
| Planning Commission / Agency Review | 4/15/2025 | 6/16/2025 | 62 |
| Responses to Planning Review Comments | 6/16/2025 | 7/2/2025 | 16 |
| Publication / Advertisement Date | 7/2/2025 | 7/2/2025 | 0 |
| Public Comment Period | 7/2/2025 | 8/1/2025 | 30 |
| Responses to Public Comments | 8/1/2025 | 8/16/2025 | 15 |
| Final Act 537 Plan Delivered to Municipalities | 8/16/2025 | 8/16/2025 | 0 |
| Municipal Adoptions by Resolution | 8/16/2025 | 9/27/2025 | 42 |
| Compiling Documents | 9/27/2025 | 10/14/2025 | 17 |
| Submission to DEP | 10/14/2025 | 10/14/2025 | 0 |
| Municipal Review / Approval Process | | | 182 |

What's in the Plan? The Seven KISS Commitments

- 1. Future Flow Characterization Study** – To show results of I&I removal work and plan for future projects.
- 2. Possible New Intermunicipal Agreements** – New cost-sharing approaches and support for regional collaboration.
- 3. Regular Reporting to DEP** – I&I projects completed and cost-effectiveness of continued sewer rehab work.
- 4. I&I Source Reduction** – Projects completed in accordance with each municipality's planned work.

What's in the Plan? The Seven KISS Commitments

- 5. Sewage Billing Meters** – Real-time flow data captured and shared with municipalities for improved accuracy.
- 6. Kline's Island WWTP Pump Upgrades** – Increasing capacity for peak wet-weather flows.
- 7. Continued Connection Management Plan** – DEP's control of new connections continues while this work is implemented.

Connection Management Plan (CMP) Overview

- ✓ DEP approves a specific amount of flow allocation for new connections in advance
- ✓ Detailed quarterly reporting to show withdrawals from the “bucket” of new connections
- ✓ Full-scale planning modules required while under a Connection Management Plan
- ✓ From 2020-2025, the Plan has been administered by LCA for each individual KISS municipality

| <u>KISS Municipality</u> | <u>2020-2025 CMP Balance (gpd)</u> |
|---|------------------------------------|
| Borough of Alburtis | 2,230 |
| City of Allentown | 688,193 |
| Coplay-Whitehall Sewer Authority* | 145,984 |
| Borough of Emmaus | 57,345 |
| Hanover Township | 28,673 |
| Lehigh County Authority | 151,640 |
| Lower Macungie Township | 348,832 |
| Lowhill Township | 2,230 |
| Borough of Macungie | 20,166 |
| Salisbury Township | 36,783 |
| South Whitehall Township | 339,373 |
| Upper Macungie Township | 155,157 |
| Upper Milford Township | 28,321 |
| Weisenberg Township | 2,230 |
| Previously Approved DEP "Adder" | 1,132 |
| 2020-2025 CMP Allocation Remaining | 2,008,289 |

DEP Approves KISS Plan!

April 3, 2026



Key Elements of DEP's Approval

- Seven KISS Commitments must be implemented
- Projected future flows of 3.8 MGD can be approved as part of ongoing CMP
- Allocation for new connections to be granted by DEP in stages:
 - 1 MGD – Immediately upon plan approval
 - 2 MGD – Upon submission of KISS update on SRPs (due October 4, 2027)
 - 0.8 MGD – When sewage billing meter program is implemented
- Continued quarterly reporting to DEP of new connections
- And a few other items...

“The plan is approved with the following comments:”

Re-rate of the Kline’s Island WWTP hydraulic capacity to 48.4 MGD subject to Water Quality Management Part II permit.

“The Department encourages continued regional discussions for collaborative, system-wide based solutions.”

KISS update report on municipal I&I work (via the SRPs) must be submitted to DEP by October 4, 2027.

KISS Next Steps – April 13, 2026 Memo

Easier Items:

- ✓ Permit application for hydraulic re-rate
- ✓ KISS subcommittees:
 - Sewage Billing Meter Program
 - I&I Program
- ✓ Facility tours and ongoing meetings

KISS Next Steps – April 13, 2026 Memo

Challenging Items:

Intermunicipal Agreements

- Start with “Term Sheet” as the basis for negotiations
- Updated cost-sharing and billing methods
- Removing complexity
- Updated terms based on current regulations
- Looking ahead at future system expansion costs
- Can all 15 municipalities agree to change?

KISS Next Steps – April 13, 2026 Memo

Challenging Items:

Intermunicipal Agreements

Regional Surcharge Program

- Complicated by LCA Pretreatment Plant upgrade project
- New awareness that organic loading is a real system constraint
- Lack of robust data on industrial users in most municipalities
- This is an industry best practice & many sewer utilities have a surcharge program that we can learn from!

KISS Next Steps – April 13, 2026 Memo

Challenging Items:

- Intermunicipal Agreements
- Regional Surcharge Program
- Connection Management Plan
 - First 1 MGD of new allocation from DEP managed regionally
 - Maintains unpopular sewage planning module process
 - Eases decision making for new connections, but complicates LCA administration of the program
 - Quarterly reporting to DEP

We did it!

Now the work begins.

Summary



Discussion / Questions

Learn More: lehighcountysewer.org

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