Lehigh County Authority

Update on Western Lehigh sewer service area and EPA Administrative Order to eliminate sanitary sewer overflows.
Primary Issues – What to focus on?

- Baseline Inflow & Infiltration (I&I)
- Rain-Derived I&I / Peak Flows
- Conveyance Capacity
- Treatment Capacity
- Restrictions Based on Agreement
These data show:
- Overall treatment capacity is available for growth
- Supports DEP’s 2014 directive to LCA that expanding the plant is not needed
Water & Sewer Usage Comparisons

<table>
<thead>
<tr>
<th></th>
<th>2009 Precip = 44.56 Inches</th>
<th>2017 Precip = 50.18 Inches</th>
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<th></th>
<th>Wastewater Treatment Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCA</td>
<td>6.28</td>
<td>6.76</td>
<td>9.29</td>
<td>8.78</td>
<td>10.78</td>
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* Water sales are from LCA’s Central Lehigh Division meter data, excludes water sales in Alburtis & Macungie. Figures shown in Million Gallons per Day

These data show:
- LCA’s sewer flows trend with metered water sales, showing growth in LCA service area is driving higher flows
- For now, LCA has adequate treatment capacity available for growth
Managing / Removing Wet-Weather I&I

• LCA already managing system flows for the entire region via Park Pump Station (dry-day and wet-weather flows)
• LCA construction of flow equalization basin in 2010
• Flow metering and modeling to identify where to focus I&I rehab efforts
• Rehab work on LCA’s regional interceptors (31 miles)

• Municipal programs to address collector systems in Western Lehigh service area (250 miles)
• Other non-Western Lehigh municipalities (another 300+ miles in Allentown, South Whitehall, Coplay-Whitehall, Salisbury, Hanover & Emmaus)
Western Lehigh Sewerage Partnership

Work completed to date:

• Flow equalization basin
• Flow metering / modeling
• LCA test & seal – trunk lines
• LCA manhole evaluation
• Lower Macungie & Upper Macungie – lined nearly 100% of clay pipes
• Basement inspection & sump pump removal programs
Western Lehigh Sewerage Partnership

Work still to do:

• $22 million committed for I&I removal in municipal systems
• Rehab of all LCA-owned pump stations & interceptors
• Expect 27% reduction in wet-weather I&I
• Capital improvements to address hydraulic restrictions in the conveyance system
• Projects sized for current and future flows
Trexlertown area identified as having hydraulic restrictions that need to be addressed for both dry-day and wet-weather flow management.
Regional Flow Management Strategy

EPA asked the 16 municipalities in the Kline’s Island Sewer System to work together on a Regional Flow Management Strategy that addresses the following critical elements:

• System Characterization
• Flow Monitoring
• Collection System Operation and Maintenance
• Inflow and Infiltration Removal

Joint submission: August 1, 2018
Current Status (January 2019)

• Record-setting rainfall August – December 2018
• LCA aggressively pursuing investigation / rehab of interceptors
• LCA has met with DEP twice to discuss Trexlertown area concerns and project planning – will continue to work with DEP on this project
• Board presentation of Trexlertown options – January / February 2019
• WLSP flow metering kicked off in December
• No response from EPA on status of Administrative Order
• DEP has asked region to respond by 3/29/19 to questions relating to:
  • Timing and approach for flow monitoring / system characterization
  • Individual municipal I&I reduction programs
  • Individual municipal maintenance programs
  • Hydraulic & treatment capacity constraints
  • How growth will be addressed
Discussion