

# EPA ADMINISTRATIVE ORDER

Lehigh County Authority Board Presentation

**REGIONAL FLOW MANAGEMENT STRATEGY**

June 25, 2018



# Background & Timeline

- 2009 AO issued to City, City Signatories, LCA and LCA Signatories, DEP CAP for LCA
- 2009 System wide flow metering completed in Western Lehigh Interceptor (WLI) and LCA Signatory systems
- 2009 Western Lehigh Sewerage Partnership (WLSP) was formed by agreement
- 2010 WLSP Hydraulic model developed
- 2010 LCA Flow Equalization Basin (FEB) constructed to manage wet weather flows

# Background & Timeline

- 2014 Original EPA deadline for eliminating SSOs extended with plan required by 12/31/2017
- 2015 Began regional discussions on cost sharing
- 2017 Nov. 2: EPA suggests different approach
- 2018 Meeting 3/23/18 with EPA and DEP suggesting AO can be terminated if Regional Flow Management Strategy is developed – with 8/1/18 submission deadline

# Regional Flow Management Strategy

## Critical Elements Requested by EPA:

1. Collection system operation & maintenance (O&M)
2. System characterization
3. Inflow and infiltration removal (Source Removal Plan = SRP)
4. Flow monitoring

# City & City Signatory Collaboration Process

2015 – 2017

- Worked on a Memo of Cooperation (not successful)
- City wet weather project cost sharing based on peak flows (not successful)
- Improving reliability and accuracy of sewage billing meters (SBM) by developing a set of common standards (not successful)

# City & Signatory Collaboration Process

2018 (April through June)

- Regional Flow Management Strategy (RFMS)
- Flow monitoring details – when and where
- Evaluation and approval process for SBMs to utilize for flow monitoring program
- Peak flow reporting plant flows  $> 60$  mgd
- Agreement on joint submission, format & retained municipal programs

# City & Signatory Collaboration Process

## Developing the RFMS:

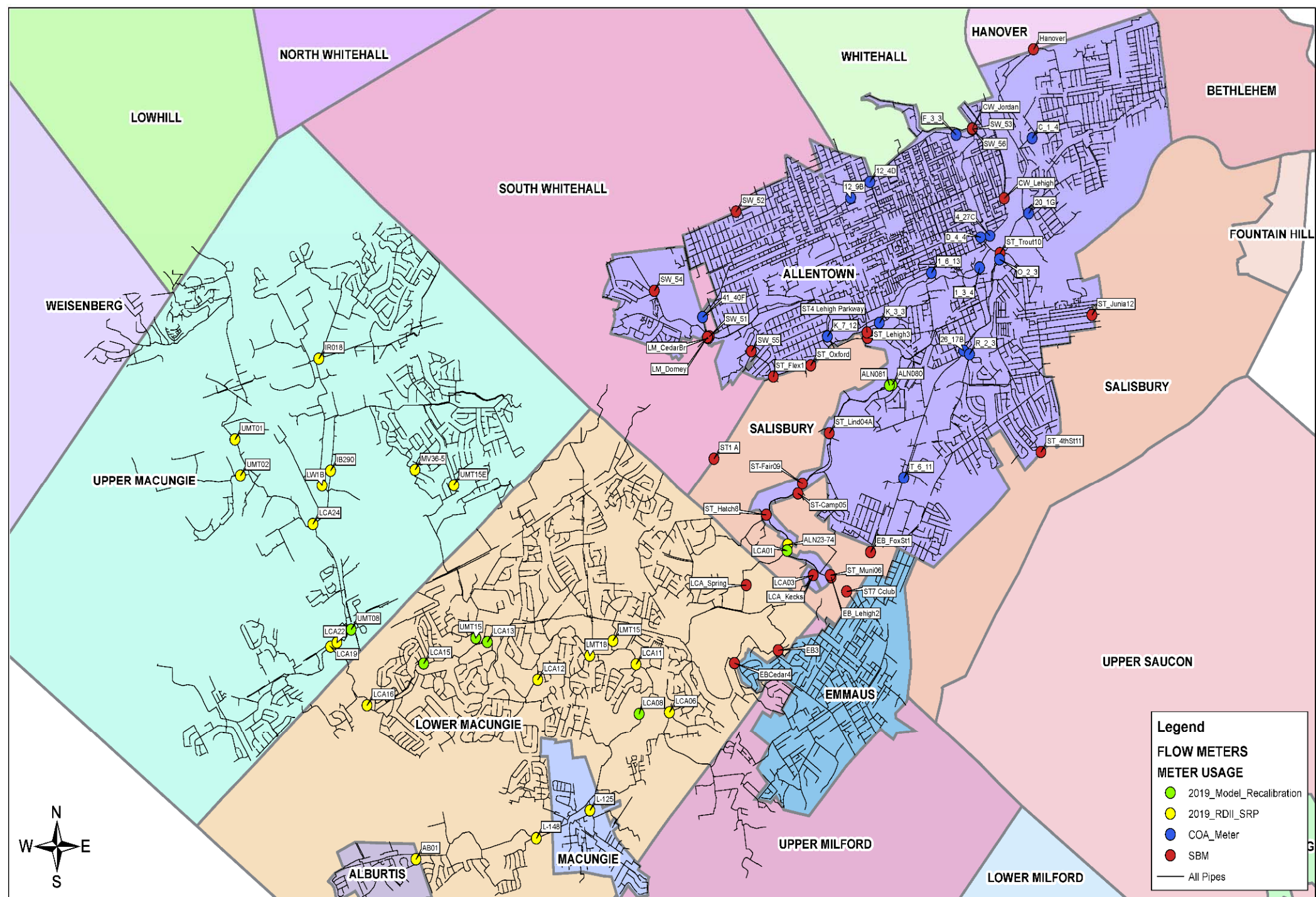
- City, LCA and Signatories / WLSP all participated
- Represents broad levels of commitment to cooperation and ongoing improvements
- Includes commitment to cooperative efforts to improving SBMs (LCA drives this effort)
- Includes commitment to ongoing wet-weather flow monitoring, regional flow monitoring & modeling, and future capital improvements planning
- Each Signatory generates its own SRP and O&M plan

# City & Signatory Collaboration Process

## Flow monitoring as part of the RFMS:

- Includes 2 flow monitoring projects to capture dry- and wet-weather flows at jurisdictional level (from each Signatory) – 2019 and later
- Includes hydraulic modeling of regional conveyance system to support capital improvements planning
- Models projected future development flows and commits to future Act 537 planning when needed
- LCA / WLSP will do more detailed flow monitoring of its large service area – City/Signatories can too!





# Regional Flow Management Strategy

## Structure of the RFMS:

- Joint cover letter by LCA & City – indicating collaboration between owner and operator of Kline’s Island Wastewater Plant
- Cover letter from each Signatory indicating support for RFMS and associated collaboration required
- RFMS document capturing primary areas of committed cooperation & collaboration
- Individual Operation and Maintenance Plan for each Signatory
- Individual I&I Source Removal Plan (SRP) for each Signatory
- Progress to be reported to DEP annually via Chapter 94 Report (LCA compiles, reviews and submits as a single report)

# Lehigh County Authority's Role?

## As operator of City system, LCA will manage:

- Implementation of City's SRP – to be determined / paid by City
- Implementation of City's O&M plan – LCA's responsibility
- Implementation of signatory SBM evaluations for accuracy & future electronic data capture
- Develop ongoing flow-monitoring process with signatories for wet-weather events >60 mgd at Kline's Island
- Implementation / participation in regional flow monitoring and modeling efforts (cost shared by all signatories)
- Compile, review and submit annual progress reports to DEP
- Careful review of sewage planning modules in City service area

# Lehigh County Authority's Role?

## As owner of WLI facilities, LCA will manage:

- Ongoing collaboration with WLSP partner municipalities as they complete their O&M and SRP work
- Implementation of O&M and SRP work for WLI facilities, Upper Milford, Weisenberg & Lowhill townships
- Develop extended flow monitoring / modeling data for WLSP communities, in parallel with broader regional program
- Capital improvements to address conveyance capacity restrictions for current / future flows in WLI system
- Annual DEP reporting & connection management plan administration – includes careful review of sewage planning modules in WLI service area

# WLSP I&I Source Removal Plan (SRP) (SCARP Implementation Outline)

- Includes plans for all Partners, including LCA's WLI system and municipal systems
- Flow characterization anticipated in 2019 and 2026 (we would like it to be concurrent with flow monitoring included in RFMS!)
- Flow projections of anticipated growth to be included in characterization
- Ongoing rehabilitation effectiveness monitoring to administer Connection Management Plan

# WLSP I&I Source Removal Plan (SRP) (SCARP Implementation Outline)

## LCA's Rehabilitation Projects for WLI System:

- Rehabilitation (test and seal) of Alburdis-Macungie Trunk line (completed 2016)
- Rehabilitation of WLI if necessary – test and seal (2018-2019)
- Manhole rehabilitation WLI (2018-2019)



# WLSP I&I Source Removal Plan (SRP) (SCARP Implementation Outline)

## LCA's WLI System - Capacity Improvements:

- Park Pump Station Refurbishment to restore to design capacity (ongoing – to be completed in 2019)
- Park Force Main and Air Release Valve Rehabilitation (ARV) (2019-2021)
- Spring Creek Pump Station Force Main and ARV Rehabilitation (2020)
- Trexlertown Interceptor Paralleling (2022-2023)
- Regional Park Pump Station (2028)

# WLSP I&I Source Removal Plan (SRP) (SCARP Implementation Outline)

## Rehab & Capital Improvement Costs:

PROJECT	WHO PAYS?	Spend Year	Spend Year Capital
WLI Trunkline Rehab	WLSP	2016	\$ 1,225,613
Park Pump Station Refurbishment	WLSP	2018	\$ 4,287,281
WLI Main Rehab 2	WLSP	2019	\$ 4,004,989
Park Force Main Refurbishment	WLSP	2018	\$ 1,756,741
Flow Characterization Update	WLSP/SIGNATORIES	2019	\$ 1,000,000
Trexlertown Interceptor	WLSP	2021	\$ 14,504,440
Flow Characterization Update	WLSP/SIGNATORIES	2026	\$ 1,000,000
Regional Force Main	SIGNATORIES	2028	\$ 21,253,937
Regional Pump Station	SIGNATORIES	2029	\$ 16,813,466
Kline's Island WWTP Wet Weather Facility	SIGNATORIES	2029	\$ ??????????
Kecks Bridge Park Interceptor	WLSP	2030	\$ 24,127,349
Upper Milford Relief Trunk Line	WLSP	2032	\$ 6,323,084
AMTL Relief Trunk Line	WLSP	2034	\$ 7,415,419
Ancient Oaks Interceptor Phase 2	WLSP	2036	\$ 12,285,034



# LCA Operation and Maintenance Plan

- Developed by the LCA Operations group for the WLI system, Upper Milford, Weisenberg and Lowhill systems
- Only covers LCA-owned/operated systems – other WLSP partners have their own O&M plans!
- Sections include pump stations, force mains, gravity sewers, laterals, low pressure sewers and more
- Each section covers purpose, overview, goals and performance measures, preventative maintenance, reactive maintenance, SOPs, equipment and spare parts, staffing, and information management

## What's Next? Path to EPA Submission

- Municipal and LCA review of RFMS
- Execution of individual municipal cover letters committing to working together collaboratively
- Signatories complete and submit their SRPs and O&M plans to LCA / City
- Submission of RFMS including all Signatory SRPs & O&Ms to EPA by 8/1/18

## What's Next? LCA's 2018 Action Plan (in addition to our O&M work and capital projects!)

- Signatory SBM evaluation and approvals
- Investigate technology / costs for electronic data submission for all SBMs
- Develop process for Signatory wet-weather flow reporting (flow events >60 mgd at Kline's Island)
- Initiate DEP discussion about future Connection Management Plan for Kline's Island service area
- Careful review of all sewage planning modules

LCA BOARD PRESENTATION EPA SUBMISSION

QUESTIONS / DISCUSSION

