Phase 1 Accomplishments

**Collection System Improvements**
- Constructed 87 miles of sewers & lined 54 miles of sewers
- Developed industry leading risk-based prioritization tool for capital needs
- Evaluated more than 47,000 building sewers with Duke Energy

**Treatment & Pumping Improvements**
- 145 projects constructed to improve all 7 WWTPs
- 45 Pump Stations eliminated or upgraded
- Emphasis on robust control for off-site odors

**Watershed Management Improvements**
- 2 Wet weather treatment and 6 storage facilities constructed
- Wet Weather SCADA system initiated
- Green Infrastructure opportunities explored & under review

**Neighborhood Improvements**
- Constructed 75 projects to eliminate 703 HSTS
- Installed nearly 1,0000 sewer backup prevention devices
- Lick Way Greenway cornerstone project for overflow mitigation
Phase 1 Lessons Learned

• **Hyper focus on wet weather projects**
  – has over-shadowed asset management needs

• **Innovative approaches will inform future solutions**
  – Lick Run, Werk and Westbourne Facility, Real Time Controls

• **10-Year program duration**
  – Tried and true length for Phased Implementation
  – Short enough that assumptions are likely to hold, long enough to provide real benefit

• **Parametric curves for estimated construction cost**
  – 2006 estimates did not include local build and natural conditions

• **Asset Management provides wet weather benefits**
Competing Objectives

In addition to Consent Decree mandates we have important local considerations that essentially compete for funding.
Phase 2 Work Plan Activities

The Phase 2 Work Plan’s 600 tasks can be categorized into five program drivers.

- **Overflow Eliminations**
- **Remaining Overflows**
- **Sewer Backups**
- **Phase 1 Construction**

**Status of Sewer Overflows**

- **Technical Evaluations**
  - Affordability
  - Green Infrastructure
  - Watershed Studies
  - Facility Plans
  - Asset Management

- **Technology Reviews**
  - EHRT
  - Regulator Improvements
  - Interceptor Capacity
  - Dynamic Controls

- **Updated Cost Estimates**
  - Project Budgets for All Cost Activities
  - Preliminary Scope for Estimates

- **Modeling**
  - Updated Bundle Planning Models
  - Phase 1 Models
  - Forecasted Phase 2 Model
Phase 2 Capital Program Basis

- 4 Focus Areas for maximum public health & environmental benefit for the ratepayer dollar

- Attachment 2 WWIP Projects in Priority Order
- Integrated Planning Opportunities
- Overflows Mitigated

- Consent Decree Projects

- $1.7 billion assets
- Pump Stations & WWTP
- Equipment reaching end useful life
- Process upgrades every 10-20 years

- Treatment Asset Management

- $9.5 billion sewer assets 3,280 miles
- Climate change impact on finite capacity
- $3B building sewers
- Risk-based priorities

- Wet weather SCADA
- Dynamic control
- Optimize existing capacity
- High rate treatment & in-line storage

- Watershed Operations Strategy

- Sewers Asset Management

Co-Defendants will be engaging the Regulators & Public in 2017

Anticipated Open Houses in Spring and Newsletters to Interested Parties

Anticipated Public Hearings in May 2017

Official Regulatory Submittal in June 2017