Kings Run Project Public Meeting

July 31, 2014
Tonight’s Agenda

- Welcome and Overview
- Lower Mill Creek - Kings Run Project Details
- Q&A
- Kings Run Project Stations (opportunity to talk to MSD staff)
Our Challenge

MSD is under a federal mandate (Consent Decree) to reduce sewer overflows into local streams and rivers.

Combined sewers carry both sewage and stormwater in the same pipe.
More than half of the combined sewer overflows (CSOs) are into the Mill Creek.
Our Solution

- Project Groundwork is our plan to reduce sewer overflows
- Includes hundreds of sewer and stormwater management projects across Hamilton County

Phase 1
- 2009 – 2018
- $1.4 billion (2006 dollars)

Phase 2
- Post 2018
- $2.1 billion (in 2006 dollars)
Under Phase 1, MSD required to eliminate 1.78 billion gallons of CSOs annually into Lower Mill Creek – called the Lower Mill Creek Partial Remedy (LMCPR)

Regulators approved a sustainable/hybrid, watershed-based solution in May 2013

Cost is $244 million (in 2006 dollars), about $200 million less than the tunnel

Includes a mix of green and gray projects in Lick Run, Bloody Run, West Fork and Kings Run
Overall Benefits of Lower Mill Creek Solution

Questions:

- Current Conditions in the Community:
  - The Cincinnati Enquirer: Property value at a substantial decline
  - Improve traffic flow, pedestrian accessibility, and safety

- Leverage MSD’s Investment:
  - Expand & improve parks and greenspaces
  - Opportunities for improved mixed-use and affordable housing
  - Incentives for business retention or redevelopment

- Community’s Vision for the Future:
  - Economics and sustainability
  - Infill, jobs, bike trails
  - Recreational opportunities, better education, community gardens
  - Quality place, community assets
  - Parks, active recreation areas

MSD - Metropolitan Sewer District

Investment to reduce sewer overflows and meet federal mandates

Project Groundwork:
Your pipeline to clean water
Trades jobs are predominantly laborers, operators, and drivers positions.
Kings Run Watershed

- About 1,000 acres in size
- Includes portions of College Hill, Spring Grove Village and Winton Hills
- Drains to the Mill Creek
- Named after the Kings Run stream
- Stream used to flow into the Mill Creek but was piped into the combined sewer system
Kings Run Watershed Communities

College Hill, Spring Grove Village and Winton Hills
Kings Run Project Background

• A large combined sewer collects sanitary sewage and stormwater from the watershed

• During heavy rains, this combined sewer overflows at two locations:
  - CSO 217 into the Kings Run stream
  - CSO 483 into the Mill Creek
About 300 million gallons overflow from the watershed during a typical year
  – About one-third from CSO 217 into the Kings Run stream
  – About two-thirds from CSO 483 into the Mill Creek

Overflows at CSO 217 contribute to overflows at CSO 483
  – The two CSOs are nested (connected)
  – Overflows at CSO 217 go into the Kings Run stream
  – The Kings Run stream connects back into the combined sewer system and contributes to overflows at CSO 483 into the Mill Creek
Projects focus on managing stormwater and reducing CSOs

- Restore historical connection between Kings Run stream and the Mill Creek
- Reduce overflows at CSO 217 and CSO 483
  - ~90% control of combined sewer flows into the Kings Run stream
  - ~85% control of combined sewer flows into the Mill Creek
Projects include:

- **Stormwater Detention Basins** - slow stormwater flow into the combined sewer or Kings Run stream

- **Sewer Separation** - take stormwater flow out of the combined sewer and redirect it to Kings Run stream or the Mill Creek

- **CSO Storage Tank** – capture and store CSO flows to reduce overflows into the Kings Run stream

- **Stream Stabilization** – slow flow of water and reduce erosion in the Kings Run stream
Lower Mill Creek - Kings Run Project Map

Legend:
- Combined sewer overflow (CSO)
- Proposed CSO storage tank
- Proposed stormwater detention basin
- Proposed stormwater biofiltration basin
- Stormwater channel
- Kings Run stream
- Proposed stream stabilization
- Combined sewer to be converted to storm sewer
- Proposed new combined sewer
- Proposed new storm sewer
- Proposed new sanitary sewer
- Kings Run watershed

Stormwater Detention Basins
Stormwater Detention Basins

- Four basins in College Hill and Winton Hills
- Capture and hold stormwater; slowly release it
- Dry between rain storms; will rarely fill up
Basin 1 Description

- Existing low spot
- 0.6 acres
- Sloped sides, ~8 feet deep
- Channel to direct low flows to outlet
- Planted with grass/native grasses
- Discharges slowly to combined sewer

Photo of Basins 1 and 2 area
Basin 2 Description

- Existing low spot
- 0.3 acres
- Sloped sides, ~10 feet deep
- Planted with grass/native grasses
- Discharges slowly to combined sewer

Example of similar-type basin (not actual)
Basins 1 and 2: College Hill

Legend:
- Proposed new storm sewer
- Proposed stormwater detention basin
- Existing storm sewer
- Existing combined and/or sanitary sewer
- Potential access road

Map showing locations of Basins 1 and 2, Golden Leaf Baptist Church, and other streets and landmarks.
• Retrofit of existing detention basin
• 1.7 acres
• Sloped sides, ~22 feet deep
• Planted with grass/native grasses
• Discharges slowly to combined sewer

Photo of Basin 3 area
Basin 3: College Hill

Legend
- Proposed new storm sewer
- Proposed stormwater detention basins
- Existing combined and/or sanitary sewer
- Existing storm sewer
- Potential access road
- Earthen berm

Gray Road Landfill
Basin 4 Description

- Basin 4 consists of three basins: 4A, 4B and 4C

- Basin 4A:
  - Existing detention basin that will be retrofitted
  - Will discharge into the Kings Run stream
  - Will mimic a wetland with native plantings for enhanced water quality

- Basins 4B and 4C:
  - Smaller basins that will be constructed to add more storage capacity
  - Will discharge into Basin 4A
  - Also used for settling of sediment
Basin 4: Winton Hills (Gray Road Landfill)
Basin 4A Description

- 1.1 acres
- Sloped sides, ~16 feet deep
- Will mimic a wetland
- Discharges slowly to Kings Run stream
• Description of 4B:
  – 0.4 acres
  – Sloped sides, ~8 feet deep
  – Planted with grass/native grasses
  – Discharges slowly to Basin 4A

• Description of 4C:
  – 0.1 acres
  – Sloped sides, ~3 feet deep
  – Planted with grass/native grasses
  – Discharges slowly to Basin 4A
Basins will not permanently hold water (with the exception of Basin 4A), so they will slowly drain out.

Basin 4A will mimic a wetland (shallow water at bottom).

Basins 1 and 2 include a ~12-foot-wide flat buffer rim around the entire basin for improved safety.

Signage will be placed to deter access.

Basins are designed to blend into the natural space so will not be fenced.
Lower Mill Creek - Kings Run Project Map

Sewer Separation (Winton Road)
Sewer Separation (Winton Road)

- Sewer separation in College Hill, Winton Hills and Spring Grove Village
  - ~5,600 feet of new storm sewer on Winton Road
  - ~2,700 feet of new sanitary sewer on Winton Road
  - Conversion of existing combined sewer to a storm sewer on Winton Road

- Small bioinfiltration basin (rain garden) at Water Works reservoir in College Hill
CSO Storage Tank and Stream Stabilization
CSO Storage Tank

- Currently in planning phase
- Includes storage tank, access road and relocation of existing CSO 217
- How does it work?
  - Combined flows enter the tank
  - Stored for less than a day
  - Flows released back to combined sewer
  - Excess flows are discharged to the stream (~90% control)
CSO 217 Storage Tank (cont.)

- Will hold ~1.5 million gallons of combined sewage
- Probably circular in shape
- Primarily below ground (3-8 feet will remain aboveground)
- ~16-18 feet tall, ~140 feet in diameter
- Includes screening mechanism to remove debris
- Includes washing mechanism to clean out tank
Kings Run Stream after a heavy rain
Erosion of Kings Run stream
• Currently in planning phase
• Identifying areas for stream stabilization along 3,000 feet of stream
Kings Run Stream Stabilization (cont.)

- Wetland near CSO 217
- Riffles and rock and log steps in select locations
- Stabilization of bottom and sides of stream bank in select locations
- Trees and other plantings along banks

Example of rock and log steps at Ault Park
Sewer Separation (Kings Run Dr and Winton Ridge Ln)
Sewer Separation (Kings Run Dr & Winton Ridge Ln)

- Sewer separation in Winton Hills and Spring Grove Village
  - ~1,000 feet of new storm sewer along Winton Ridge Lane between Kings Run Drive and Winton Road
  - ~4,300 feet of new combined sewer along Kings Run Drive between Winton Road and Este Avenue
  - Conversion of existing 14 x 8’ combined sewer to a storm sewer that will discharge to the Mill Creek
  - Relocation of CSO 483

- Kings Run stream will flow into the converted storm sewer and once again connect to the Mill Creek
Property Needed

• MSD needs to purchase private property/easements for this project:
  – Temporary/permanent easements from 43 property owners
  – Purchase portions of 10 properties
  – Purchase 2 full properties
• Temporary construction impacts along:
  – Argus Road/Homeside Avenue
  – Winton Road
  – Winton Ridge Lane
  – Kings Run Drive
  – Este Avenue

• Lane restrictions will occur, but no detours planned

• Coordinating with Cincinnati Department of Transportation
Traffic Impacts (cont.)
Construction Schedule

• 4 phases of construction:
  – Phase A-1: 4 Stormwater Detention Basins
    Early 2016 to Fall 2016
  – Phase A-2: Sewer Separation along Winton Ridge Lane
    and Kings Run Drive
    Summer 2016 to Summer 2017
  – Phase B: CSO Storage Tank and Stream Stabilization
    2017 to 2018
  – Phase C: Sewer Separation along Winton Road
    2017 to 2018
Project Summary

- Restores connection between Kings Run stream and the Mill Creek
- Reduces overflows at CSO 217 and CSO 483
  - ~90% control of combined sewer flows into the Kings Run stream
  - ~85% control of combined sewer flows into the Mill Creek
Kings Run Website:
www.projectgroundwork.org/kingsrun

MSD Customer Service:
(513) 557-3594
MSD.Communications@cincinnati-oh.gov
Questions?
Project Stations