Community Advisory Panel
October 29, 2013
Outline

• Why we are here
• Sewers 101
• When it Rains...
• Blueprint Columbus
• Neighborhoods
• Prioritization
Why We Are Here

• Blueprint Columbus is a potential new approach
  – Instead of just building a bigger sewer, focus on getting rain water out of sewers
  – And use green infrastructure to improve streams

• Purpose of CAP is to provide guidance to City

• Tonight focus on background and seek input from CAP
  – How the City should prioritize neighborhoods
Why Blueprint?

• City is under orders to stop sewer overflows
  – There is no “do nothing” alternative
  – $2.5 billion over next 30 years

• Traditional approach: bigger sewers (tunnels)
  – Treats the symptom not the cause

• Blueprint Columbus
  – Treat the cause – too much water
Sewers 101

- The north side of the City is at a higher elevation than the south side
- Water flows from north to south toward the Ohio River
- Scioto River Watershed
Sewers 101

- Sewers take advantage of gravity
- Sewers run near rivers because they have a low elevation
- The sewer system brings flow to two wastewater treatment plants
Sewers 101

- There are three types of sewers
  - **Separate sanitary sewers** – conveys sewage from homes and businesses to wastewater treatment plants
  - **Storm sewers** – collects rain water from streets, rooftops and parking lots and conveys it to streams
  - **Combined sewers** – conveys both sewage and rain water to wastewater treatment plants
Separate Sanitary Sewers

- More modern sewers
- Intended to carry only sewage
- Over 95% of the City
- Carry wastewater to the treatment plants
- Built in parallel with storm sewers
Storm Sewers

- Carry only stormwater (rain)
- Rain picks up pollutants (dirt, oil, grease, fertilizer, trash, animal waste)
- Dry when not raining
- Curb inlets feed this system
- Directly discharge into streams, no treatment
Combined Sewers

- Largely built prior to 1930s
- Designed to carry both sewage and stormwater
- In dry weather, all flows to wastewater plants
- During periods of heavy rain designed to overflow to streams
When it Rains...

- Combined sewers
  - Designed to overflow into the rivers for large rain events
  - Permitted and regulated by Ohio EPA and the Clean Water Act
  - Monitored continuously
  - These events are called Combined Sewer Overflows (CSOs)

**Combined sewers are NOT the focus of Blueprint Columbus**
- Largely under control
When it Rains...

• Storm sewers
  – Fill with rainwater
  – On its way to the storm sewer the rain picks up pollutants (dirt, oil, trash, etc.)
  – The storm sewers quickly carry the rain and pollutants directly to the stream
When it Rains...

- Sanitary sewers
  - Rain water can enter sanitary sewers through leaky joints, cracks, roof gutters, old sewers, and foundation drains
    - This is known as Infiltration and Inflow (I/I).
  - These sewers are not designed to convey rainwater and therefore can overflow
  - These events are called Sanitary Sewer Overflows (SSOs)
  - SSOs are prohibited
When it Rains...

- Water In Basement events
  - Overwhelmed sewers back up into basements
  - Called WIBs
  - Not part of the Consent Order, however City strives for low WIBs
  - Project Dry Basement
Solutions

• Bigger pipes, larger treatment plants (treating the symptom)
  – This was the 2005 plan
  – Wet Weather Management Plan

• Or, focus on the cause – which is too much water in the sanitary sewer
  – The City is now investigating an alternative new approach
  – Blueprint Columbus

• In addition, use green infrastructure to treat the stormwater
Example of a Green Technology: Porous Pavement
Blueprint Video
Blueprint Columbus

• Plan is due to Ohio EPA on September 15, 2015
• Will need to demonstrate how the City will eliminate SSOs citywide
• There are 13 large areas across the City that contain the City’s SSOs
• These 13 areas will be divided into approximately 1000-acre projects for Blueprint implementation
• First two: Clintonville and Linden (but not all of either)
Blueprint Areas
Future Blueprint Areas

• Clintonville
• Kenny Henderson
• Maize Morse
• Driving Park
• Linden/Northeast Area
• Fifth by Northwest
• Hilltop
• Barthman Parsons
• James Livingston
• Franklinton
• Miller Kelton
• Plum Ridge
• Far South
Prioritization
Where Do We Go Next?

- City needs to develop a way to prioritize the Blueprint Areas
- Need to develop a list of key criteria that are important to City and the community
- Weights will be given to the criteria according to relative importance
- The areas will then be ranked to schedule future work
Proposed Criteria for Ranking Each Area

- Number and size of overflows
- Leaky sewers having a downstream impact
- Public Exposure to overflows
- Water In Basement events
- Structural / Operations and Maintenance concerns
- Water Quality
Sanitary Sewer Overflows

- The number of overflows in the 1000-acre project areas
- How often they activate
- How much volume
Downstream Impact

- Makes sense to start with leaky areas that are causing problems further down the sewer
Public Exposure to Overflows

• Special consideration might be given to overflows that:
  – Are accessible to the public
  – Are located in a public park
  – Discharge into a tributary stream/sensitive water
Water In Basement Events

• When the sewers are full during a rain event water can back up into basements (WIBs)
• Basement backups are not the focus of the Consent orders, but the City strives to minimize
• Areas with numerous basement backups might receive higher ranking
Structural / Operations and Maintenance

- There are sewers that we know have problems
  - Require more maintenance from the City
- Starting with these sewers can provide double benefit
  - Reduce maintenance costs
  - Address leaks in sewer
Water Quality

• Some Blueprint areas contribute to a stream’s inability to meet Ohio EPA requirements

• Priority might be given to areas that have small tributary streams
  – Pollutants
  – Rapid changes in flow
  – Bank erosion
What are we missing?

• Unlike traditional sewer projects, Blueprint will be more noticeable in the neighborhoods
• Should we try to add other factors, such as geographical diversity?
• How?
• Need to meet our core mission cost effectively
Comments or Questions?