Worthington Utilities “Fast Facts”

Sanitary Sewer Rehabilitation,
and OEPA Compliance Update
March 2017
Service & Engineering Staff Represented

- Dan Whited, Director
- Steve Tennant, Superintendent
- Robb Wetmore, GIS Manager
Service & Engineering

Provides high level of services to the residents of Worthington

- Installation, maintenance, repair of City owned utilities & infrastructure,
- Snow and ice control, leaf collection, street cleaning and maintenance, sanitary sewer, drinking water, and storm drainage services, traffic control, & grounds maintenance,
- Administers Street Improvement Program,
- Maintains record drawings of plats, streets, utilities and City buildings,
- Engineering support for all departments,
- Assists with community events,
- Manages the solid waste collection services,
- Keeps the City rolling by maintaining all City vehicles and equipment,
- Maintains all City buildings
- Geospatial data & attributes on all City infrastructure
Worthington Utilities
Sanitary Sewer Fast Facts

• Sewer Utility Background
• Sewer Regulatory Requirements
• Sanitary Sewer Studies & Projects
• “Other Sewer Stuff”
• Q&A
Sewer Utility Background

Our Sanitary Sewer System

• Service & Engineering maintains > ninety miles of gravity sanitary sewer
• First sewers were installed in the 1920’s
• No designed “combined” sewers in Worthington
• All sewerage is treated by the City of Columbus per agreement
• There are 89 homes still on private HSTS
• No publicly owned or maintained lift stations
• Eight sewer districts (based on topography)
Maintenance Goals:

- Clean and video every sewer once every 8 years
- Log all video with our Pipeline Assessment Certification Program (PACP)
- Respond to every complaint or report of water in basement (WIB)
- Clean sewers with heavy fats, oils and grease (FOG) quarterly
- Treat all sewers that have been identified with heavy root intrusion biannually
- Repair sewers we can fix in house with our Spot Lining System
- Repair broken lines as identified
- Maintain GIS database
Regulatory Requirements

- 2005 OEPA issued Director’s Final Findings and Orders (DFFO’s) to the City of Columbus

- City of Columbus contended that satellite communities contribute to sanitary sewer overflows and capacity issues

- OEPA issued “DFFO’s” in 2008 to “satellite communities” that contribute to the City of Columbus
Directors Final Findings and Orders (DFFO)

DFFO Requirements

• Sewer System Evaluation Study (SSES) of all sanitary sewers owned by the City of Worthington within 15 years

• Identify, report and mitigate all Sanitary Sewer Overflows (SSO)

• Develop a Capacity, Management and Operation Maintenance program (CMOM)
The City was divided into four study areas, each with two sewer districts for SSES review.
Sewer Study Benefits

Provide Flow & Response Data

Help Identify Problems
Provide cost estimates for repairs needed

Pipe Segments 03-0154 to 03-0153 (CIP 618-15):
Based on the capacity evaluation of the current peak wet weather flows, DLZ recommends these existing 8-inch sewer segments be replaced with approximately 529 feet of new 12-inch diameter sewer for improved hydraulic capacity. These improvements correlate with WIB events described in Section 2.2, which occurred in June 2014 relative to East North Street and Crandall Drive. It should be noted, these improvements are to be implemented as part of the City’s ongoing CIP No. 618-15. These sewer improvements are highlighted in green on Figure 5-1 and are located along East North Street, between the intersections of Hartford Street and Morning Street. The opinion of probable cost for this project is provided below.

<table>
<thead>
<tr>
<th>Probable Construction Cost</th>
<th>$165,000</th>
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</thead>
<tbody>
<tr>
<td>Engineering Cost (10%)</td>
<td>$17,000</td>
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<tr>
<td>Construction Contingency (20%)</td>
<td>$33,000</td>
</tr>
<tr>
<td><strong>Opinion of Probable Project Cost</strong></td>
<td><strong>$215,000</strong></td>
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</table>

Ensures that the sewer system is designed and operating per the 10 state standards
Southeast Sewer Shed

Districts 4 and 6
average year built 1946
Southeast Sewer Study Update

Southeast Sewer Shed SSES:
Study completed in 2011, recommended improvements ongoing

Completed

- 2012 Lined 5500 feet of sewer Manhole rehabilitation
- 2013 Removal of Siphon and line trunk sewers
- 2015 Lined 4300 Feet of sewer
Southeast Sewer Study Update

Completed Projects

SANITARY SEWER BASINS 6 & 8 REPAIR AND LINING
Project Number 568-11

Southeast (4&6)
Southeast Sewer Study Update

Ongoing Projects

- **2016** – began easement discussions, Northbrook Phase II sewer replacement
- **2017** - replace sewer in Northbrook Phase II (Northbrook Dr. to High St.)
- **2018** - design/replace Kenyonbrook Sewer (High St to New England Ave. E.)
- **2018** - Hardy Way; install sewer into r.o.w., remove sewer from under homes
Southeast Sewer Study Update

Trunk Sewer Replacement

SE District CIP Projects

CIP Year
- 1991
- 2013
- 2017
- 2018

Southeast (4&6)
Central Sewer Study Update

Study began in 2015
Districts 3 and 5
Average year built 1959
Central Sewer Study Update

Figure 5.1: Recommended Improvements

- CIPP Lining in 2016/2017
- CIPP Lining in 2017/2018
- Point Repair by City in 2016/2017
- Sewer Replacement with CIP 618-15
- Sewer Replacement with 2017 CIP
- Future Sewer Replacement (if warranted by WPS)
Central Sewer Study Update

Study completed in 2016

Identified Repair/Replacements

- **2016** - South St W. sewer repair / Completed
- **2016** - Recommended sewers to be lined is in process
- **2017** - Hartford/North St manholes need realignment (Design)
- **2017** - Design and replace sewer on North St. E. from Hartford to Ridgedale
- **2017** - Design/replace sewer on Morning St from Wilson Dr. to Morning St Alley
- **2017** – In house spot repairs identified in study to eliminate infiltration
North Sewer Shed

Districts 1 and 2
Average year built 1968

- Study to begin in 2017
- Repairs to begin in 2019 and 2020 if needed
In House Data Collection

Data Collected by staff and potential Repairs and Replacements in the North Sewer Shed

North (1&2)
West & Industrial Sewer Sheds

Districts 7 and 8
Average years built, 1980 West & 1968 Industrial

- Study to begin in 2020
- Repairs to begin in 2021 if needed, complete by 2023
Other Sewer Stuff

Home Sewer Treatment Systems (HSTS)

- Plumbing vent
- Septic tank
- Leachfield/drainfield
- Effluent absorption and purification

Sewers Outside of Recorded Easements
Home Sewage Treatment Systems (HSTS)

89 Private Sewer Treatment Systems
Alrojo*, Samada Dr*, Olentangy River Rd, Olen Dr,
Plesenton Dr*, Linworth Rd, Castle Crest*
## 2017 Projects

### 2017-2021 Capital Improvement Program - Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Dept.</th>
<th>Category</th>
<th>CIP Fund</th>
<th>Bonds</th>
<th>Assessment</th>
<th>License Tax</th>
<th>State</th>
<th>Other</th>
<th>Total</th>
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<tbody>
<tr>
<td><strong>Year: 2017</strong></td>
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<tr>
<td>Northbrook Relief Sewer Phase II (design update and construction)</td>
<td>S&amp;E</td>
<td>LM</td>
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<td>$460,000</td>
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<td>Replacement of the trunk sanitary sewer between High Street and Northbrook Subdivision. This project was recommended in the Southeast Sewer Shed Study / Master Plan, which was conducted in compliance to the Consent Order between the Ohio Environmental Protection Agency and the City of Worthington. Prior to bidding the project, the design will be reviewed and updated in consideration of the changes made to the Kenyonbrook Siphon Removal plans.</td>
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<tr>
<td>Central District Sanitary Sewer Rehabilitation - (Morning Street Design &amp; Construction)</td>
<td>S&amp;E</td>
<td>LM</td>
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<td></td>
<td></td>
<td></td>
<td>$215,000</td>
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<td>Replacement of 565 feet of sanitary sewer on Morning St. from Wilson Drive to the end of the street. Manholes 03-0158/03-0156 and 03-0156/03-0155. This section of sewer was identified in the Central District Sewer Study as in need of replacement.</td>
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<tr>
<td>Central District Sanitary Sewer Rehabilitation - North &amp; Hartford St Reconfiguration (Design &amp; Construction)</td>
<td>S&amp;E</td>
<td>LM</td>
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<td></td>
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<td>$62,000</td>
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<td>Sewer line reconfiguration at North Street &amp; Hartford Street. Manholes were identified in the Central District Sanitary Sewer Study as in need of reconfiguration.</td>
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<tr>
<td>Central District Sanitary Sewer Rehabilitation - North St Sewer Replacement (Hartford to Morning)</td>
<td>S&amp;E</td>
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<td></td>
<td></td>
<td>$215,000</td>
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<td>Replacement of 530 feet of sanitary sewer from Hartford Street to Morning Street on East North Street. Manholes 03-0153.1/03-0153 and 03-0154.03-0153.1. This section of sewer was identified in the Central District Sewer Study as in need of replacement.</td>
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<td></td>
<td>$392,000</td>
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<td>Replacement of 1,125 feet of sanitary sewer on East North Street from Morning Street to Ridgedale Drive. This section of sewer was identified in the Central District Sewer Study as in need of replacement.</td>
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<td>North Districts Sewer Study</td>
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<td>Sanitary Sewer Evaluation Study (SSES) of the north sanitary sewer districts as mandated by the Director’s Findings and Orders issued to the City by the Ohio EPA.</td>
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## 2017 Projects

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>Est Cost</th>
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<tbody>
<tr>
<td>2016 CIPP*</td>
<td>$160k</td>
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<tr>
<td>Northbrook Relief Sewer Phase II</td>
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<tr>
<td>Central District Sanitary Sewer Rehabilitation (Morning Street)</td>
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<tr>
<td>North Districts SSES</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$1.67M</strong></td>
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</table>
March 20, 2017
Council Meeting

WATER UTILITIES IN THE CITY OF WORTHINGTON
THANK YOU!

City of Worthington
Service & Engineering

Dan Whited, Director
Steve Tennant, Superintendent
Robb Wetmore, GIS Manager