



Photo Credit: Aerial Agents

2025-26 Watermain Infrastructure Improvements: A Clean Water Lakewood Project

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Mark Papke, PE, CPESC – City Engineer and Brian Shields, PE – Project Manager



Agenda

1. Introduction to Clean Water Lakewood
2. What lies beneath the streets
3. Project overview and timeline
4. Our commitment to you and your neighborhood
5. How to help us help you
6. Thank you!

Note: This presentation will be uploaded to the project website page.

2025-26 Watermain, Sewer, & Pavement Improvements



Introducing Clean Water Lakewood

Our 100-year-old sewer system combines sanitary sewage and storm water, and we must upgrade it to protect the Rocky River and Lake Erie.

This Clean Water Lakewood project will modernize the infrastructure that is below your street so we can meet the demands of the next century and comply with the Clean Water Act and the city's Interim Partial Consent Decree.

Benefits to residents:

- Improved water quality and water flow
- Improved flow to fire hydrants
- Better storm drainage
- Protection for the environment
- Newly paved streets
- New concrete curbs and driveway aprons



Integrated Wet Weather Improvement Plan (IWWIP)

Plan and work type is normally based on individual watershed location

<u>Street</u>	<u>Limits</u>	<u>Watershed/Outfall</u>
Northland – North	Madison to Detroit	CSO-002/RRES1145
Northland – South	Hilliard to Delaware	CSO-052/RRES1160
Norton	Webb to Granger	CSO-002/LEWS1295

Northland – North will be the only street with sewer manhole separations that will be prepared for future private property source control work in the future.

Northland-South is being handled with CSO-052 6.1 MG Storage Facility being constructed in 2026-28 at the Lakewood WWTP.

Norton watershed is planned for relief sewers in other areas of the watershed in future years.

Integrated Wet Weather Improvement Plan (IWWIP)

Due to condition of the sanitary and storm sewer laterals in the Right-of-Way encountered during the design phase, all sewer laterals and cleanouts (a.k.a. Test Tees) will be replaced in the Right of Way on all three streets and all sanitary mains will be lined with a cured in place lined per the city's Interim Partial Consent Decree.

This is a City-funded and budgeted project

- There is no assessed cost to property owners
- The City is funding this project through:
 - Ohio Water Development Authority Grant/Loan
 - Water, sewer, and impervious surface fees
- Property owners and utility customers will see no additional specific fees for this project on their utility bill.

What lies beneath the streets?

Constructed in early 1900's

- 100 to 117-year-old watermain and sewer mains
- Water flow to fire hydrants is too low; a potential safety hazard
- Lead pipes bring water from the watermain in the street to curb box; a potential water quality hazard
- Northland (South and North) approximately 12-13 years since streets were resurfaced. Norton has not been resurfaced since 2003.

Typical Useful Life of Infrastructure:

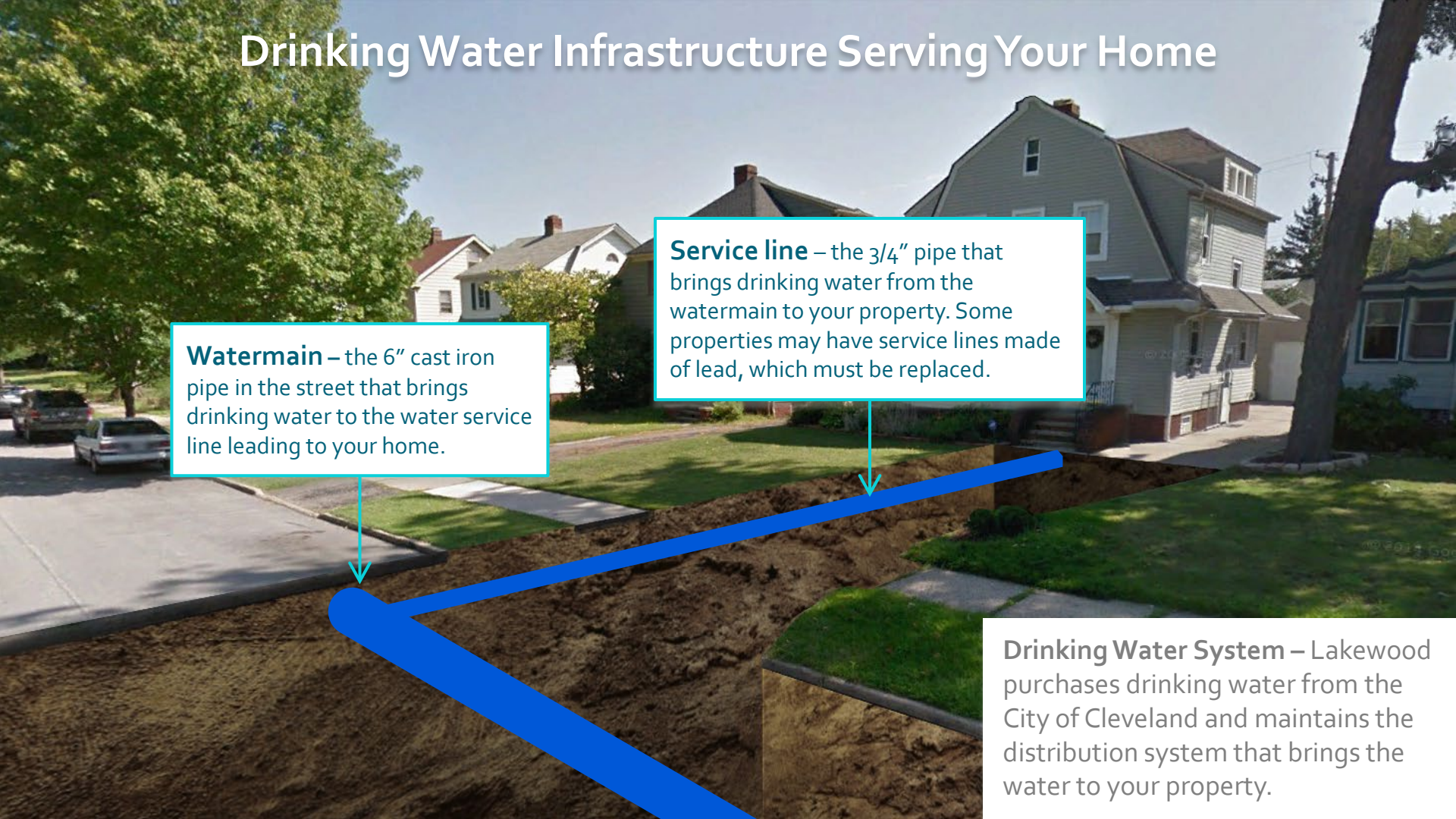
- New sewers and watermains last 50 years
- Newly resurfaced streets last +/-15 years

Drinking Water Infrastructure Serving Your Home

Watermain – the 6" cast iron pipe in the street that brings drinking water to the water service line leading to your home.

Service line – the 3/4" pipe that brings drinking water from the watermain to your property. Some properties may have service lines made of lead, which must be replaced.

Drinking Water System – Lakewood purchases drinking water from the City of Cleveland and maintains the distribution system that brings the water to your property.





**6" Diameter
Cast Iron
Watermain**

**Typical Lakewood
watermains of this age
are heavily corroded,
which reduces the flow
by half**

Photograph from a 2016 watermain replacement project.

Sanitary Sewer Infrastructure Serving Your Home

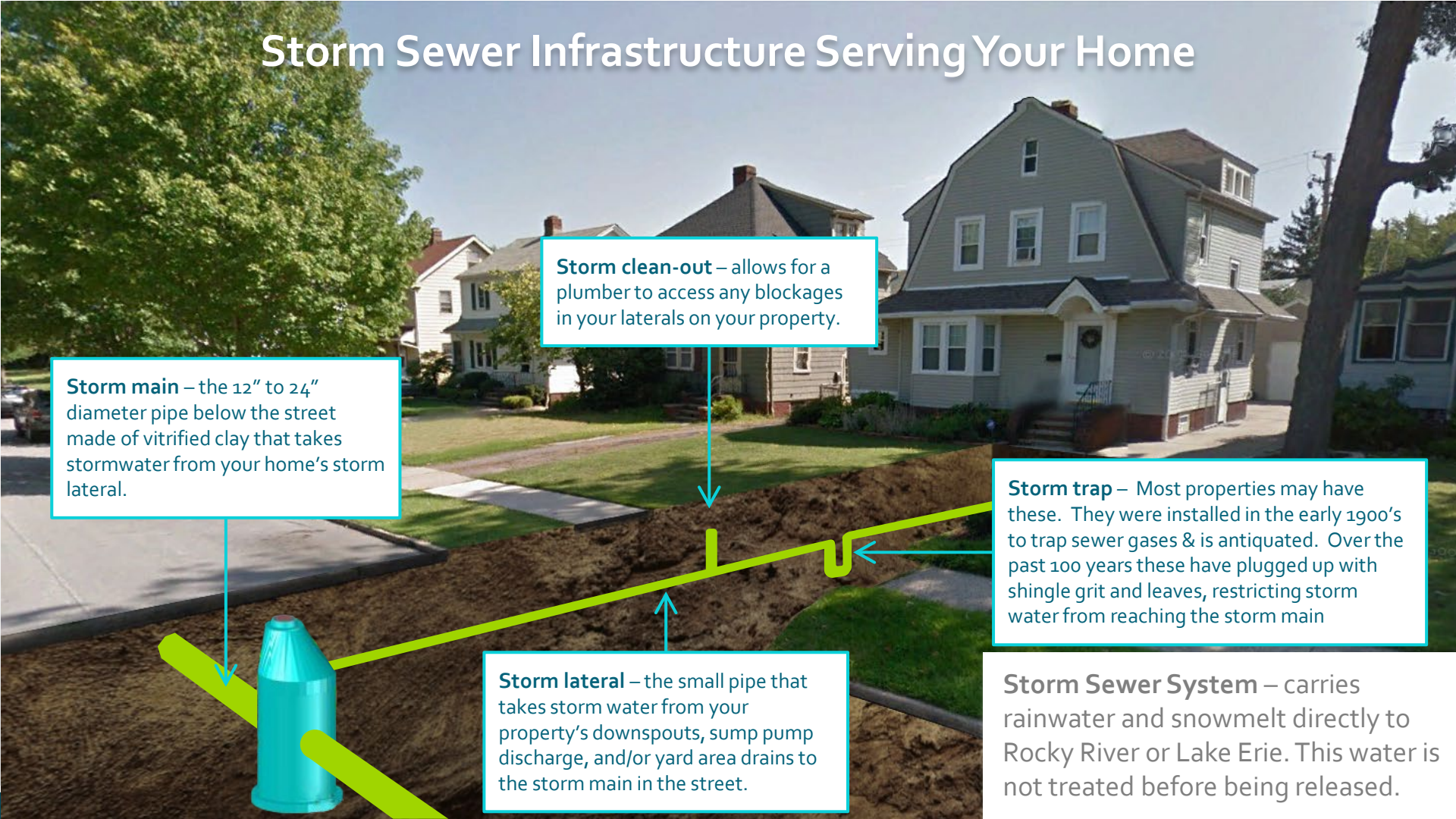
Sanitary clean-outs – allows for a plumber to access any blockages in your laterals on your property.

Sanitary main – the 8" to 10" diameter pipe below the street made of vitrified clay that takes sanitary sewer (wastewater or sewage) from the sewer lateral on your property.

Sanitary lateral – the small pipe made of vitrified clay that takes wastewater from your inside house and garage drains and delivers it to the sewer main.

Sanitary Sewer System – carries sewage from your property to the City wastewater treatment system to be cleaned before the water is released to Lake Erie.

Storm Sewer Infrastructure Serving Your Home

A cross-section diagram of a residential street trench showing storm sewer infrastructure. A large blue pipe (storm main) runs along the street. A smaller blue pipe (storm lateral) connects to it from a house. A blue trap is installed on the lateral pipe. A blue clean-out access point is shown on the main pipe. A blue rainwater downspout is shown on the left, connected to the lateral pipe. The trench is dug into the ground, with houses and trees visible in the background.

Storm clean-out – allows for a plumber to access any blockages in your laterals on your property.

Storm main – the 12" to 24" diameter pipe below the street made of vitrified clay that takes stormwater from your home's storm lateral.

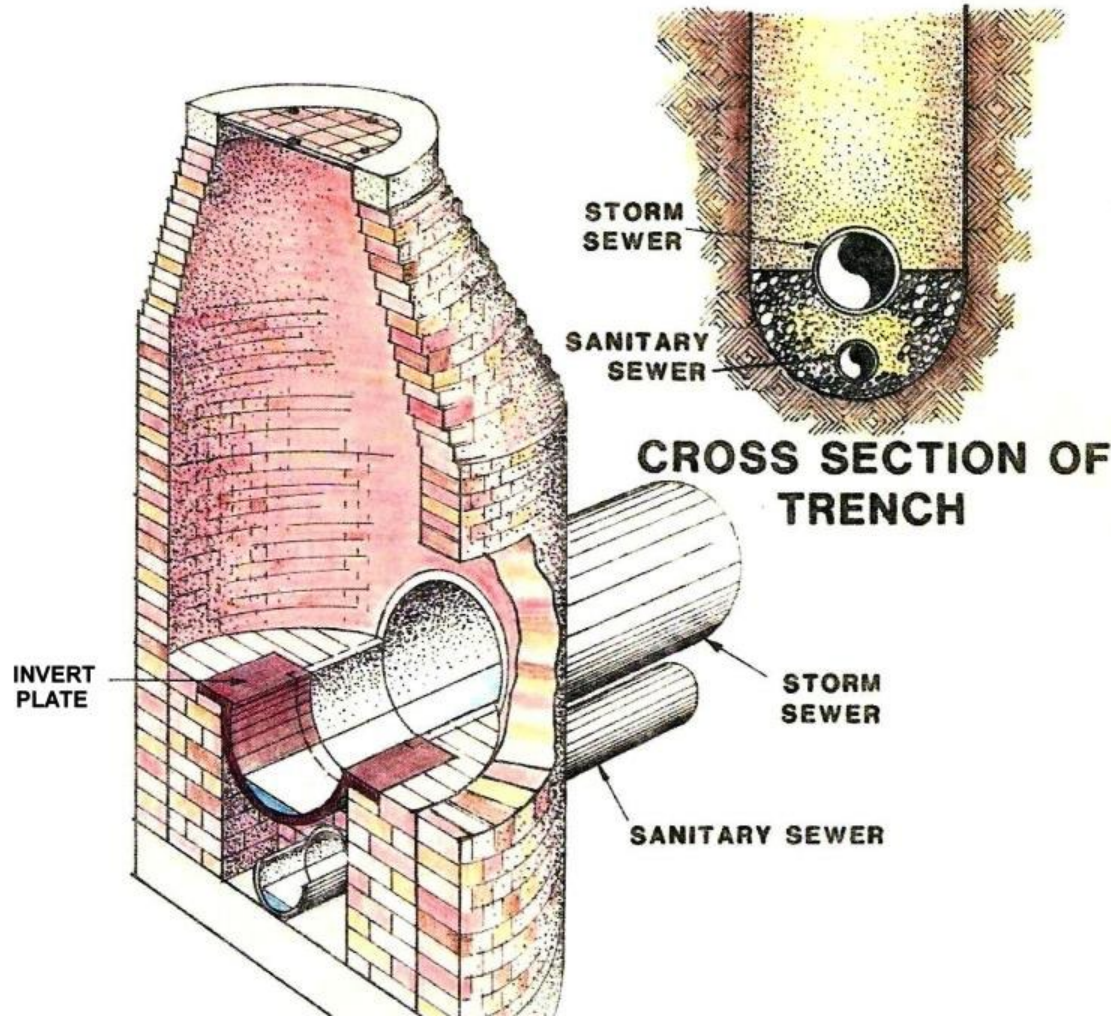
Storm trap – Most properties may have these. They were installed in the early 1900's to trap sewer gases & is antiquated. Over the past 100 years these have plugged up with shingle grit and leaves, restricting storm water from reaching the storm main

Storm lateral – the small pipe that takes storm water from your property's downspouts, sump pump discharge, and/or yard area drains to the storm main in the street.

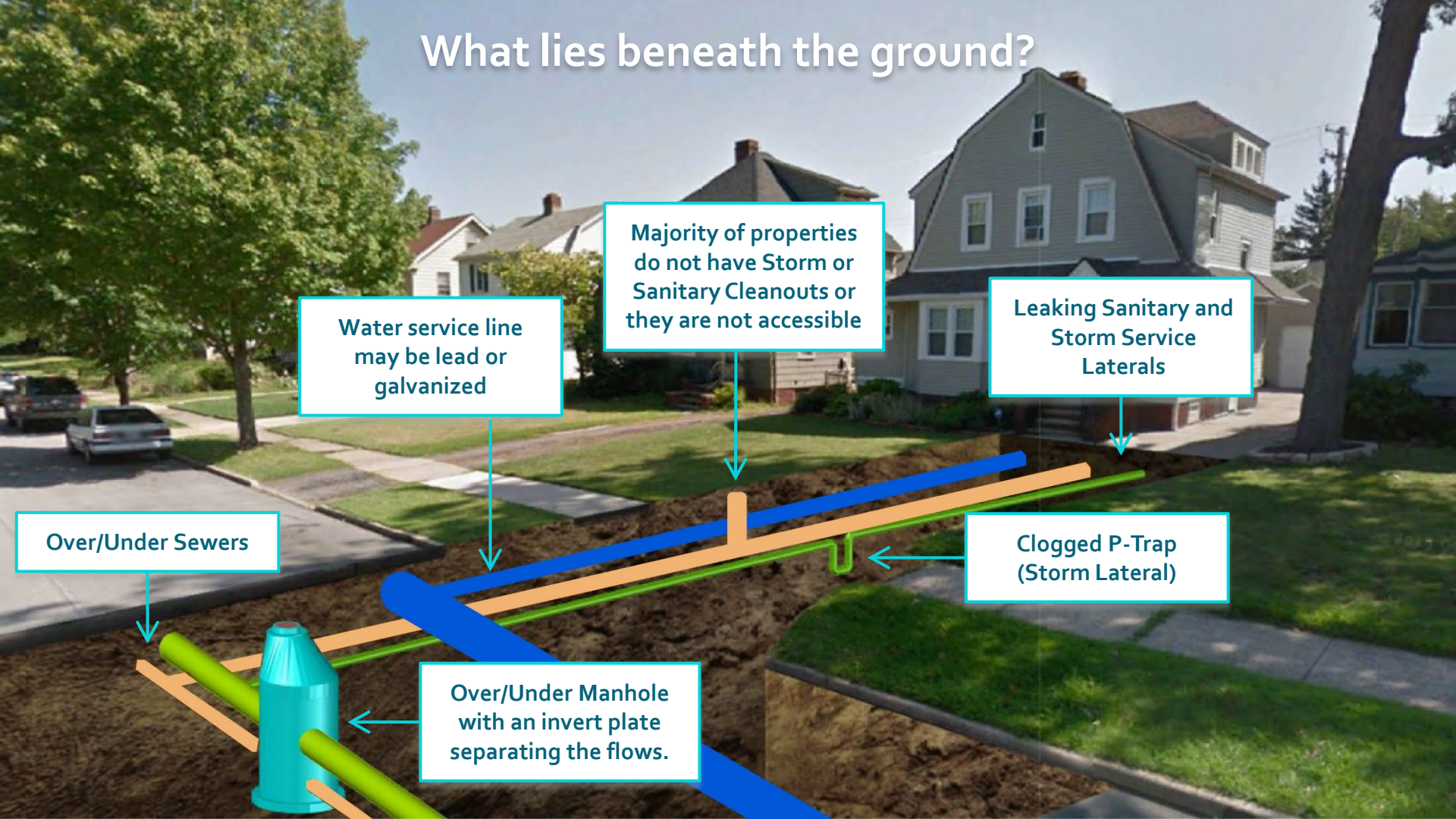
Storm Sewer System – carries rainwater and snowmelt directly to Rocky River or Lake Erie. This water is not treated before being released.

Sewer configuration must be modernized

- Shifted or missing invert plates can increase storm sewer water leaking into the sanitary sewer
- The sanitary sewer becomes too full, which lifts the invert plate and forces sanitary sewer water into the storm sewer. This polluted water discharges directly to Rocky River or Lake Erie
- Sewer mains are made up of two-foot sections of clay pipe and leak at the joints



What lies beneath the ground?



Majority of properties do not have Storm or Sanitary Cleanouts or they are not accessible

Water service line may be lead or galvanized

Leaking Sanitary and Storm Service Laterals

Over/Under Sewers

Clogged P-Trap (Storm Lateral)

Over/Under Manhole with an invert plate separating the flows.

This Clean Water Lakewood project will:

All 3 Street Segments

- ✓ Replace the watermain
- ✓ Replace lead or galvanized water service lines with copper water service lines public and private
- ✓ Rehab by lining the sanitary mains in the street to prevent leaks
- ✓ Sewer spot repairs
- ✓ Install new curbs (with new underdrains) along each side of the street.
- ✓ Install new driveway aprons along each side of the street.
- ✓ Resurface the street and restore the site with street trees and landscaping.

- ✓ New colored crosswalks at Delaware, Margaret, Hilliard, Madison, Detroit, Granger, and Webb.

Northland – North only

- ✓ Separate the sanitary and storm sewer manholes on Northland-North (Detroit to Madison)
- ✓ Install new curb bump-outs at Detroit and Madison crosswalks
- ✓ Install new red colored concrete (brick stamped) in some tree lawn areas
- ✓ Install new tree well pits in the sidewalk area along the west side of Northland (adjacent to the Shopping Plaza)

Project Timeline

There may be times when the contractor will be working on all three (3) street segments at the same time and there will be times when the work on your street may be idle.

It is expected that the work on Norton will be completed by November 2025 and the work on each section of Northland will occur through the winter months (weather permitting) and completed around July 2026



What You Will See on Your Street and on Your Property

Northland - North Steet Work

Storm System Bypasses Existing Shared Manhole, New Separate Storm Manhole Provided

Replace Storm and Sanitary Laterals within the ROW

Install New Storm Cleanouts and Remove P-Traps

Sanitary Sewer Main Re-Lined

Install New Sanitary Cleanouts

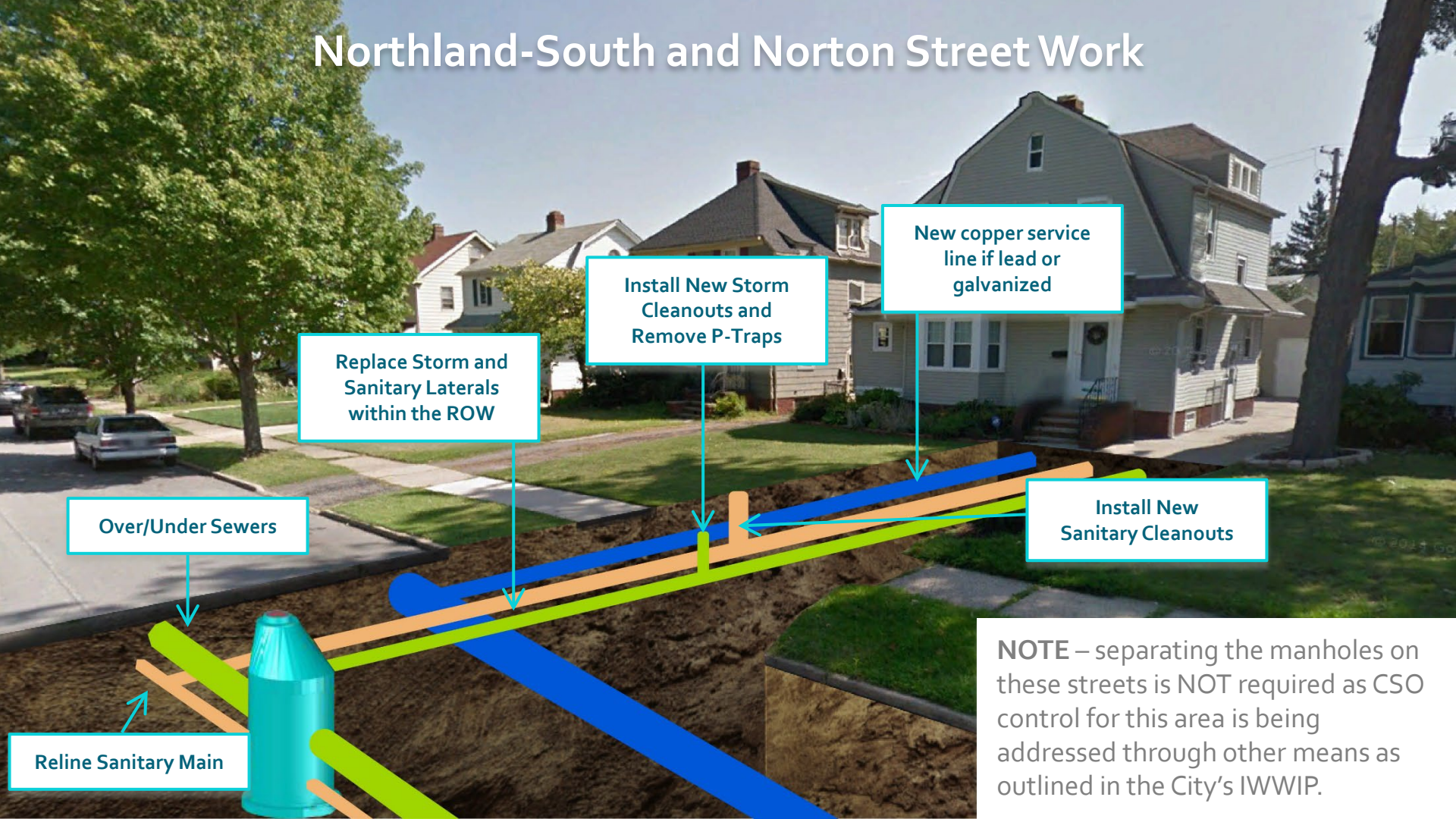
New copper water service line if lead or galvanized





Separating the
storm and sanitary
sewer so they can
no longer co-mingle

Northland-South and Norton Street Work



New copper service line if lead or galvanized

Install New Storm Cleanouts and Remove P-Traps

Replace Storm and Sanitary Laterals within the ROW

Install New Sanitary Cleanouts

Over/Under Sewers

Reline Sanitary Main

NOTE – separating the manholes on these streets is NOT required as CSO control for this area is being addressed through other means as outlined in the City’s IWWIP.



Watermain replacement
requires trenching the street



Replacing Water Service Lines



Relining Sanitary Sewer to Prevent Leaks

Street Excavation Means New Pavement

Leaving your
neighborhood with
newly paved streets
and new crosswalks

- We will restore sidewalks and driveways, impacted by the project back to pre-construction condition.
- We will ensure our paving contractor permanently installs a final street patch as soon as the crews complete their work, and the weather is suitable for paving.
- A temporary patch on the street will be in place if the weather is not suitable for paving until final paving can occur

Installing Curbs and Drains

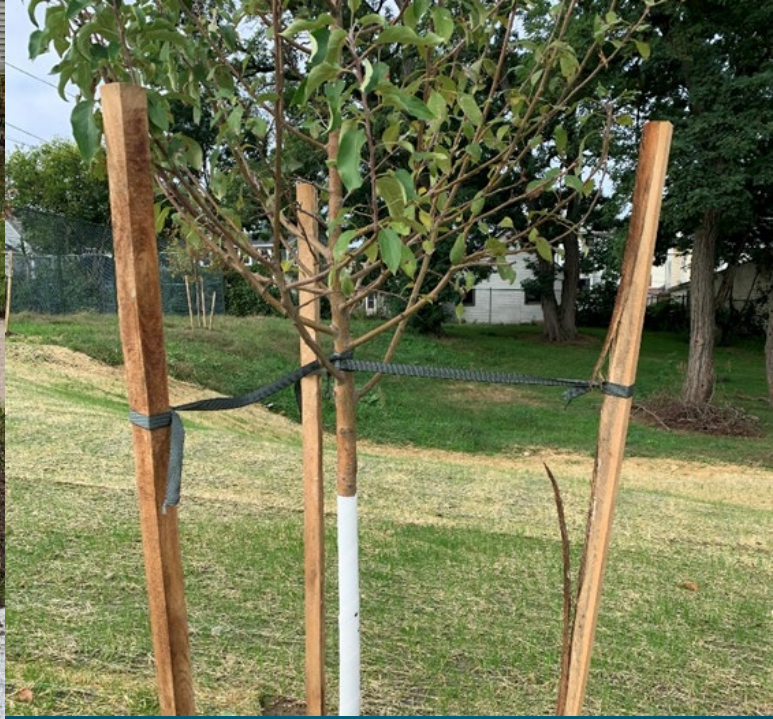




Replacing Driveway Aprons



Adding Red-Colored Crosswalks and Repaving Streets



Restoring Trees and Landscaping

Plans for Street Trees and Landscaping

Trees and landscaping
help keep our City
beautiful

- Some street trees will need to be removed and will be replaced during site restoration.
- The City arborist has selected replacement trees compatible with the site and per Tree City USA standards.
- We will restore landscaping back to pre-construction condition.
- Upon completion of the project, The City Streets & Forestry Department will plant new trees in the locations where it was necessary to remove the existing trees to perform the work.



Digital message boards are used to help direct traffic and alert residents of project and parking updates

Parking Restrictions

Help us complete the project as quickly as possible

- No on-street parking will be permitted 7 AM to 6 PM Monday through Friday, and some Saturdays when necessary.
- We will accommodate residents who need special parking considerations due to physical limitations.
- On-street parking will be allowed on the east side of the street (Northland – North and South) and north side of Norton after 6 PM Monday through Friday and on weekends.
- Parking restrictions will change as the project progresses. Signs and digital message boards will be used to display parking restrictions.
- Vehicles will be ticketed and towed if they are parked where they shouldn't be.

Street Access

Controlling traffic keeps people and drivers safe

- One way traffic will be primarily SOUTHBOUND for Northland North and South, and primarily westbound for Norton throughout the project.
- When phasing permits for two-way traffic flows, it is possible that one end of the street will be blocked during storm and sanitary sewer manhole separation AND lateral work or crosswalk installation.
- A few times throughout the project, you can expect access to driveways to be delayed as work crosses your property or is performed directly in front of your property.
- There will be several times that driveway access will not be permitted.
 - A few hours during water service and sewer lateral work.
 - A few hours for curb drain install work.
 - 48 - 72 hours curb installation and driveway apron replacement. Roadway cones and/or caution tape will be placed across the apron when access is **NOT** permitted. You will be notified 48 hours in advance to starting this work phase.



Equipment, Materials, Supplies, and Contractor's Vehicles will be positioned along the street throughout the project.

Our Commitment to You and Your Neighborhood

Preparing You Means Fewer Surprises

We will tell you in
advance, so you
know what to expect

- Paved surfaces will be aggregate stone, asphalt millings or cold patch, or steel plates until surface is restored.
- Project work will create dust that we will control to lessen the impact on residents. **DRIVING SLOWER WILL HELP KEEP THE DUST DOWN.**
- Sewer lining may have a distinct odor. A notice will be provided in advance explaining how to fill your floor drain traps with water to prevent the odor from entering your home.

Preparing You Means Fewer Surprises

We will tell you in
advance, so you
know what to expect

- Refuse Collection will take place at 6 AM the normal day of collection or holiday collection schedule
- We expect to find lead and/or galvanized service lines on private property that must be replaced at no cost to you. We will notify you in advance. The Contractor will need to have an agreement with you to complete the work with your permission.
 - Note: We will only make repairs to masonry and/or the concrete floor where the waterline enters the house. All other restoration shall be the property owner's responsibility.

Strategies to Manage Parking and Street Access

Looking out for your
neighbors makes
things easier on
everyone

- Help your neighbors out by parking in driveways as much as possible overnight and on weekends to free up street parking.

Working Carefully to Prevent Damage

We want to protect
your property

- OUPS utility markings – DO NOT remove any flagging or stakes
- Prior to construction, the site is videotaped. This protects the property owner and the contractor.
- Per contract, the contractor is liable for all damages caused by their work.
- If you have an underground sprinkler system or buried pet fence, we'll provide a way for you to notify the City so we can note that for our contractor.

We're Part of Your Neighborhood

Our commitment to keeping you informed

- A project specific website page is available at <https://www.lakewoodoh.gov/northland-norton-project/> and will include bi-weekly updates as construction progresses.
- Notices regarding planned interruptions to water, gas, or sewer service and prolonged restricted driveway access will be provided at least 48 hours in advance.
- Communication with you is our priority. We typically respond the day of your communication.

We're Part of Your Neighborhood

Our commitment to keeping you informed

- We will have a full-time DLZ inspector on-site that will become familiar with you and will respond to your needs.
- Signs and digital message boards will be used to help you navigate project changes.
- Sign-up on the project page to receive bi-weekly updates via email or regularly check the project page under "Project Communications" tab for the latest updates.

Changes Will Happen

We'll do our best to keep you informed when the unexpected happens

- With 100-year-old plus buried infrastructure surprises do happen that may disrupt driveway access, utility service, or prolong the project.
- Weather, equipment, supplier, material and workforce shortages, COVID, etc., can change what we plan to do.
- Please understand that circumstances can change daily.

Here's What You Can Do Now

We care about your needs

1. **Have special needs or concerns?** We are available to discuss this with you privately.
2. **Moving? Remodeling? Have a big event planned?** Let us know so we can try to accommodate your needs.
3. **Need parking accommodations due to a physical limitation?** Let us know now.
4. **Do you have sprinkler lines? New landscaping in the tree lawn? Buried Pet Fence?** We need to know now so we can turn the system on and mark all the heads.

We Know Projects Like This Are Difficult

Thank you for your
patience and
understanding

- This project includes major infrastructure improvements that will benefit you and enhance your property value.
- Curb and driveway apron installation will be the most impactful. Working together to share parking in driveways or provide on-street parking will be important.
- Expect delays and reach out if you are experiencing issues.
- DRIVE SLOWLY and have patience, expect some short periodic delays to your drivetime.
- Our workers need to return home safely to their families each day. Please keep an eye out for them.

Project Contacts

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Thank you for attending!

Sign-up to receive project updates
via email through the project
website page

<https://www.lakewoodoh.gov/northland-norton-project/>