

Watershed Advisory Committee

Cuyahoga River South

October 20, 2020

NORTHEAST OHIO REGIONAL SEWER DISTRICT



REGIONAL
STORMWATER
MANAGEMENT
PROGRAM

Agenda

- Sewer District Updates
- Stormwater Master Plan
- Stormwater Inspection and Maintenance
- Cuyahoga County Office of Emergency Management
- Stormwater Design & Construction
- Looking Ahead

Program Highlights

Frank Greenland, Director of Watershed Programs

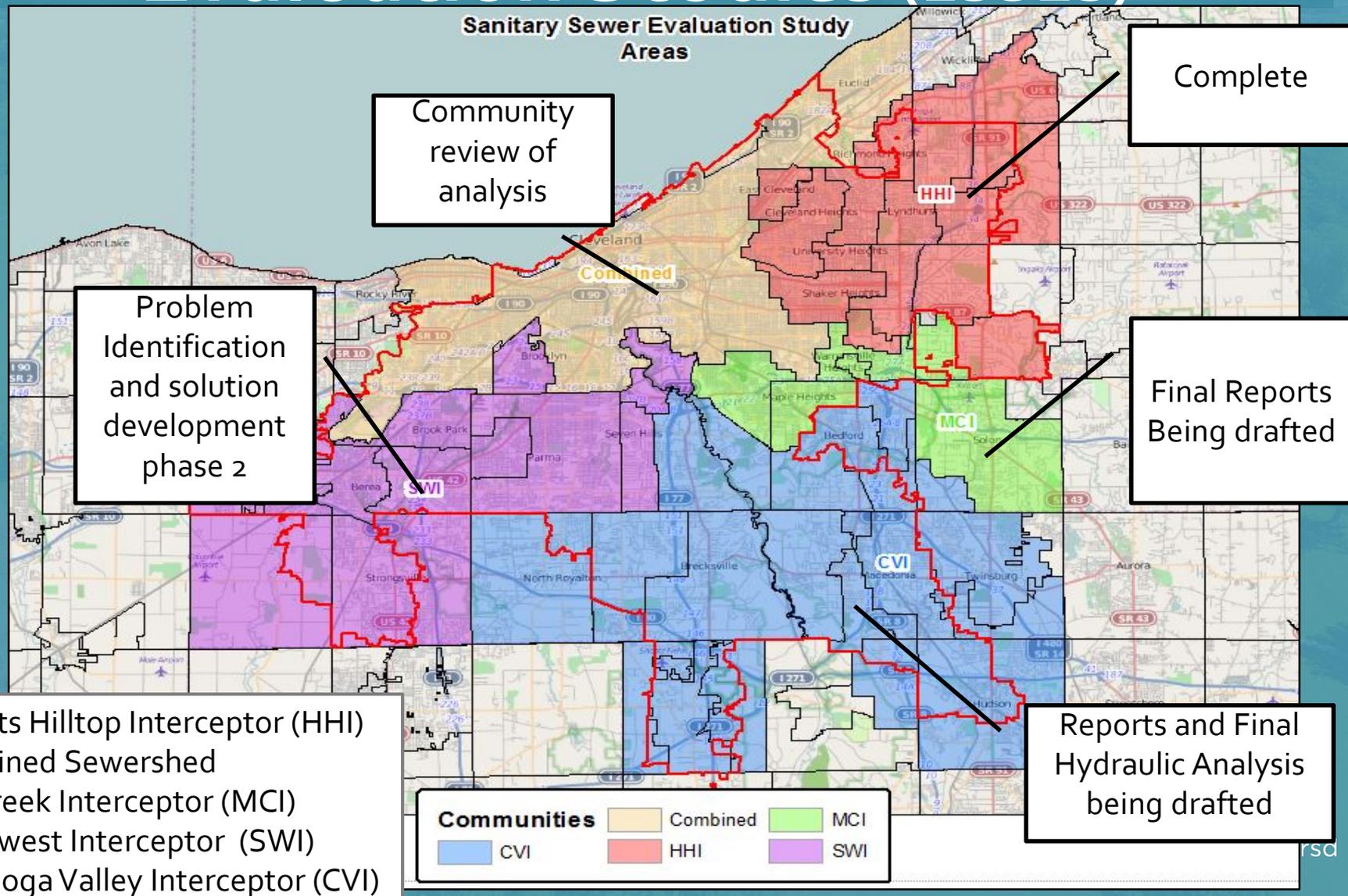
Matt Scharver, Deputy Director of Watershed Programs

Community Cost-Share: 2020

- CCS Funds Balance (9/31/2020) \$29,717,238
- 82 projects w/ executed agreements \$8,402,435
- 31 projects w/ agreements in progress \$3,472,662
- CCS Funds available to Member Communities \$17,842,140
- 21 approved allocation agreements \$9,827,806

55 of 55 Member Communities have participated

Local Sewer System Evaluation Studies (LSSES)



2021 MCIP Funding Reduced

- Sewer District currently tracking \$40-\$50M revenue decline for 2020
- 2021 MCIP funding decreased to \$2.5M
- 7 projects awarded for funding in 2021
 - 3 Design & Construction projects
 - 4 Design-Only projects

2021 Member Community Infrastructure Program

7 Funded Projects

APPLICANT	PROJECT TITLE	DESIGN & CONSTRUCTION REQUEST
South Euclid	Oakmount Road Infrastructure Improvement Project	\$ 365,973.00
Maple Heights	Maple Heights Manhole Sewer Separation Project - Phase 2 (Northeast Quadrant)	\$ 1,021,887.00
Lorain County Commissioners	Westview I & I Remediation	\$ 359,300.00
	TOTAL	\$ 1,747,160.00

APPLICANT	PROJECT TITLE	DESIGN REQUEST
East Cleveland	Wheeler Avenue Sanitary Sewer Improvement Study and Design	\$302,340.00
Shaker Heights	Lynnfield & Lomond SSO 11 Control Project	\$112,500.00
Parma	Krueger Avenue Area Sewer Improvements	\$260,000.00
Parma	Green Acres Area Sewer Improvement Project	\$78,000.00
	TOTAL	\$752,840.00

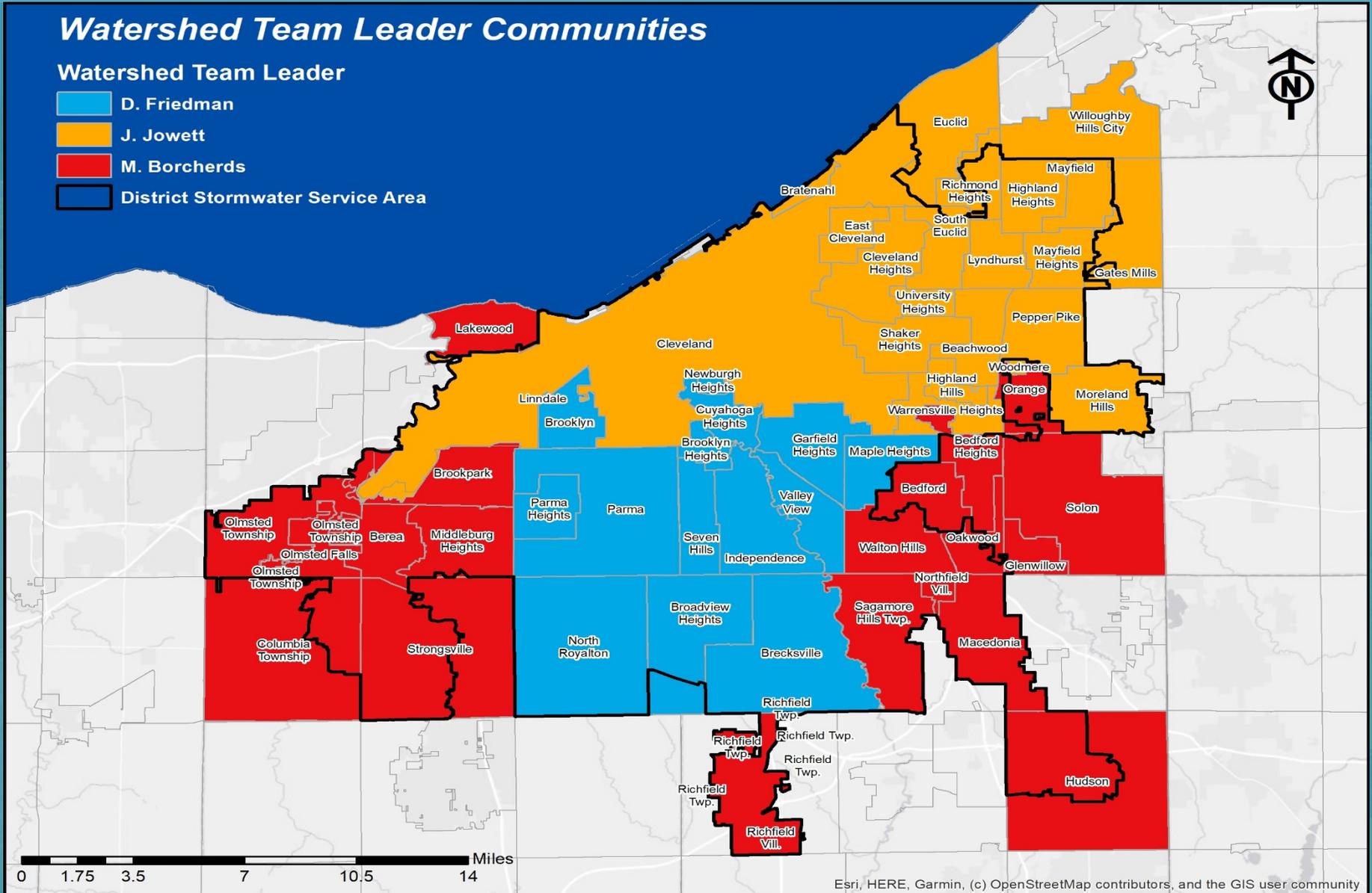
Future MCIP Funding

- 2022 MCIP funding anticipated
- Level of funding will be determined by 2021 rate study
- Design & Construction and Design-Only

Watershed Team Leader Communities

Watershed Team Leader

-  D. Friedman
-  J. Jowett
-  M. Borchers
-  District Stormwater Service Area



0 1.75 3.5 7 10.5 14 Miles

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Questions



Furnace Run in Brecksville (FR00175)

Special Features

Acquisition, Demolition & Property Owner Communications – *Lilah Zautner, Project Manager for Property Acquisition*

Partner Grant Support Request Process – *Paul Kovalcik, Stormwater Project Specialist*

Water Resource Project Property Acquisition

Program Goals

- Support Design and Construction project needs
- Mitigate the threat of erosion and flooding
- Protect functioning regional stormwater assets
- Leverage acquisition dollars through partnerships

Success to date: Threat Mitigation/ Asset Protection

- Fee Simple : 41 properties/ \$ 8,944,650
- Permanent Easements: 86/ \$691,254

Success to date: Partnerships

- Flood / Erosion Mitigation: 17 homes
- District Dollars invested: \$1,218,904
- Dollars Leveraged: \$3,549,969

Acquisition Process

Outreach

Appraisal

FMV Offer

Board Approval

Closing /Leasing

Maintenance and
Inspection

Water Resource
Project

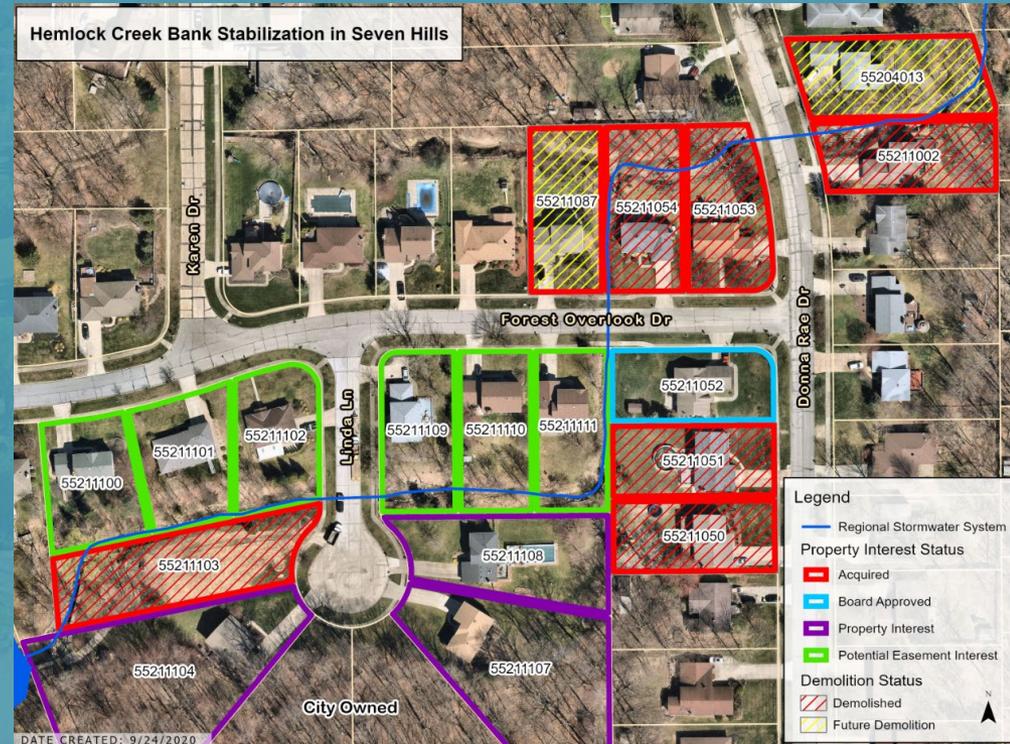
Hemlock Creek Bank Stabilization - Seven Hills

Land Assembly

- Planned acquisition of 12 residential properties
- 9 properties secured, 6 demolished
- Land assembly began in 1Q, 2019
- Close coordination with the City, including Emergency Services training
- Phase 2 of land assembly will continue in 2021

Total Investment to Date

\$2,484,691



Partner Grant Projects



Royalton Farms 319 Project

Partner Grant Projects

\$500,000

Annual match available from the District



Planting at the East Branch of Euclid Creek

Partner Grant Projects

\$300,000

Maximum request per project



Doan Brook – Improving Fish Passage

Partner Grant Projects

Application

1. A NPSIS project summary sheet.
 - a. expanded project description with anticipated outcomes
 - b. line-item cost estimate
2. Concept graphic
3. Requested match
4. Email to: kovalcikp@neorsd.org

Partner Grant Projects

12/31/20

Deadline for a request to the District



Mill Creek Phase 1 – Highland Hills

Partner Grant Projects

- Applications will be nominated to the District's stormwater construction plan and ranked.
- Funding will be distributed according to rank.
- The District can be available to assist with developing concepts, sediment/nutrient estimates, costs, etc.
- The District may provide in-kind services if District funds are not awarded.
- Projects must include Design and Construction that result in improvements to the District's RSS.

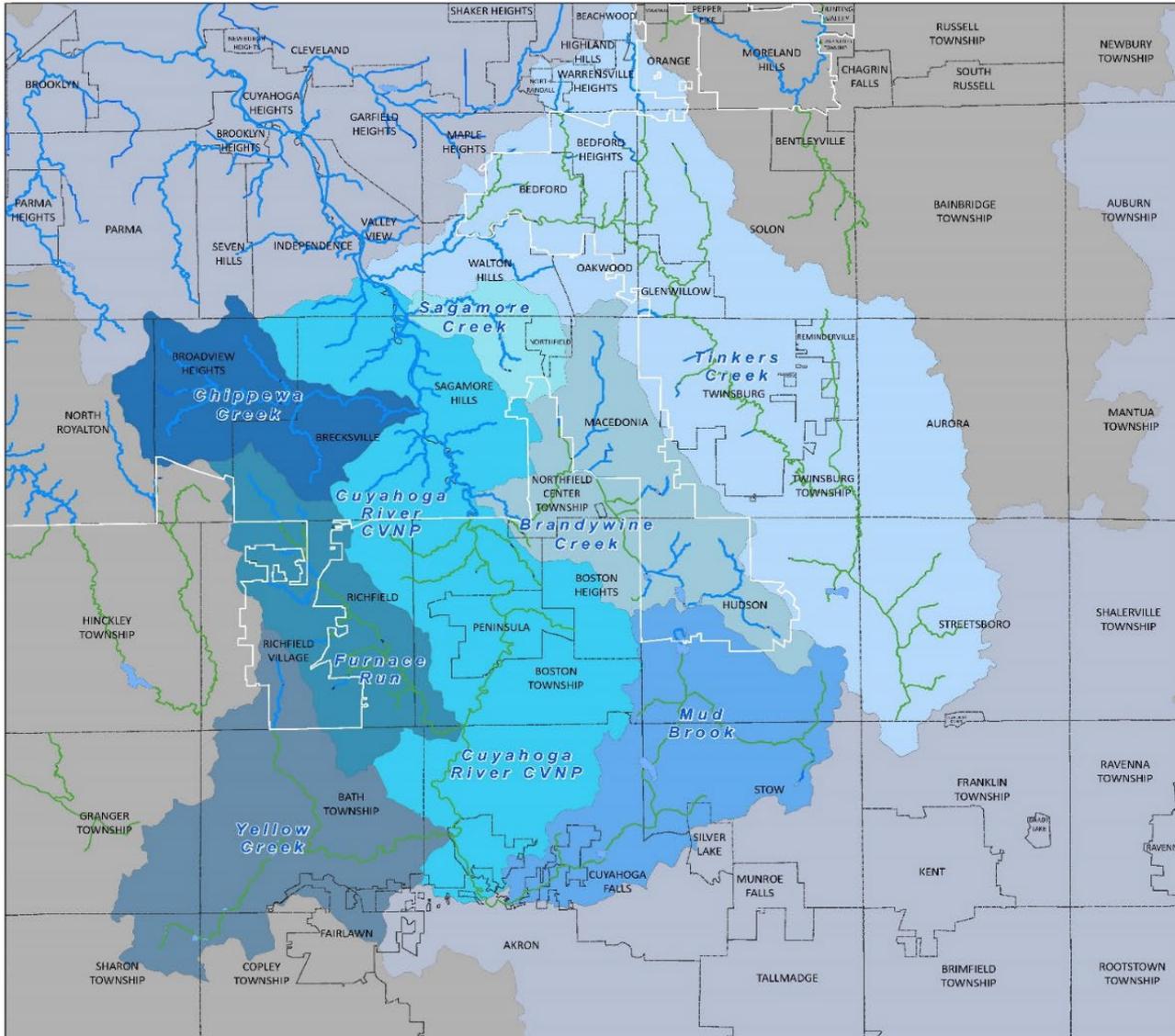
Questions



Lilah Zautner
Project Manager for Property
Acquisitions, Watersheds
ZautnerL@neorsd.org
216-881-6600 x6455

Paul Kovalcik
Stormwater Project Specialist
KovalcikP@neorsd.org
216-881-6600 x6875

Stormwater Master Plan



Cuyahoga River - South

-  Regional Stormwater System in NEORSR Service Area
-  Regional Stormwater System not in NEORSR Service Area
-  Service Area
-  Community



Coordinate System : Ohio State Plane North
 Datum : NAD 1983 , NAVD 1988
 Projection: Lambert Conformal Conic
 Sources: NEORSR GIS

Map Created: October 2017 1:72,379 

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Stormwater Master Planning (Status through 8/1/2020)

Cuyahoga River South

Completion Date: June 2019



■ Remaining ■ Completed
100 % Complete

Cuyahoga River North

Completion Date: July 2020



■ Remaining ■ Completed
100% Complete

Rocky River

Completion Date: November 2020



■ Remaining ■ Completed
96% Complete

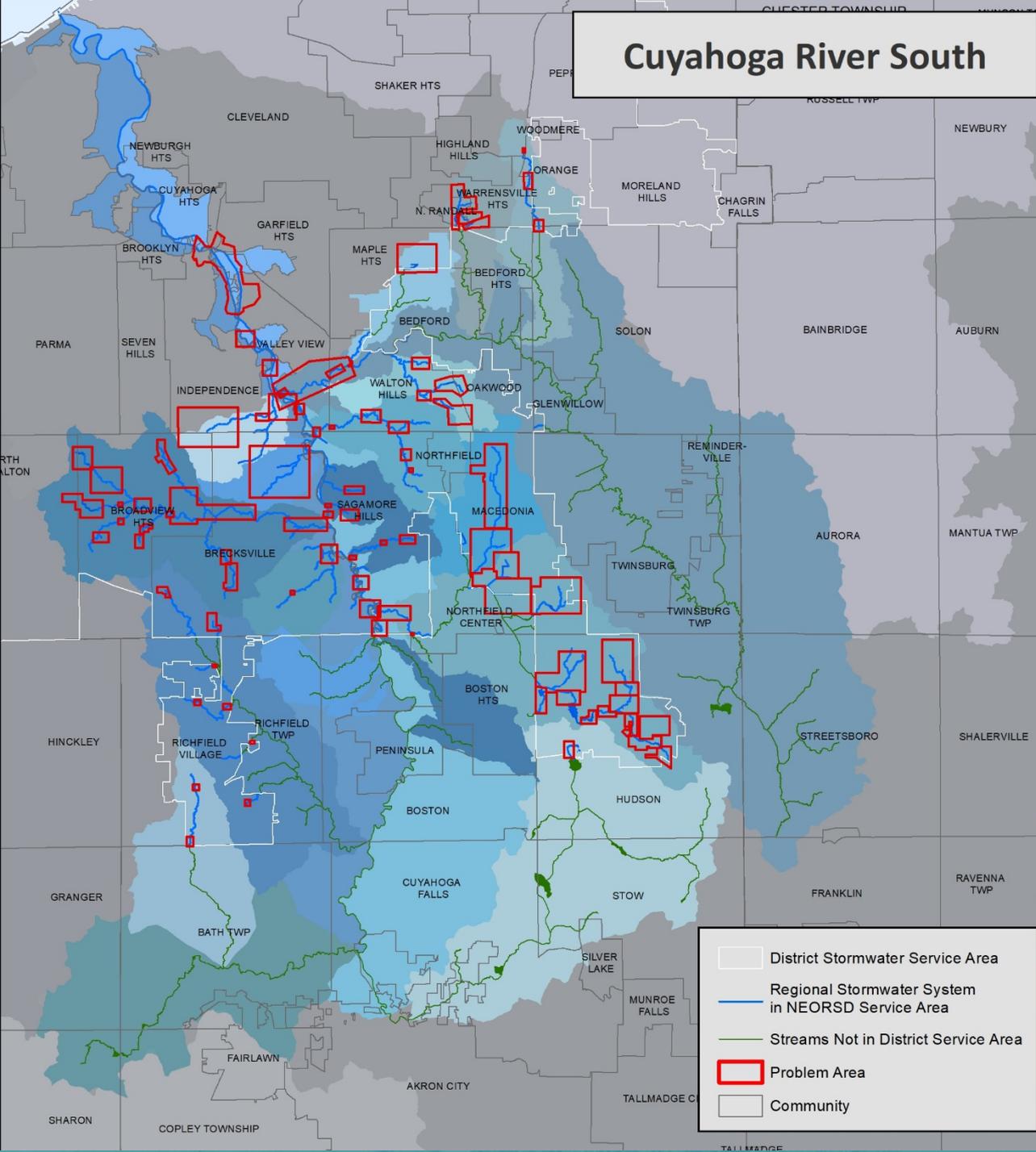
Chagrin River / Lake Erie Tribs

Completion Date: May 2021



■ Remaining ■ Completed
67% Complete

Cuyahoga River South



Cuyahoga River South Stormwater Master Plan

80+ Problem Areas with Planning Level Recommendations

56 Problem Areas nominated to SW Construction Plan in 2018 and 2019

\$195 Million in Project Costs



Implementing Master Planning Recommendations

System Enhancement

Recommendations (large RSS projects):

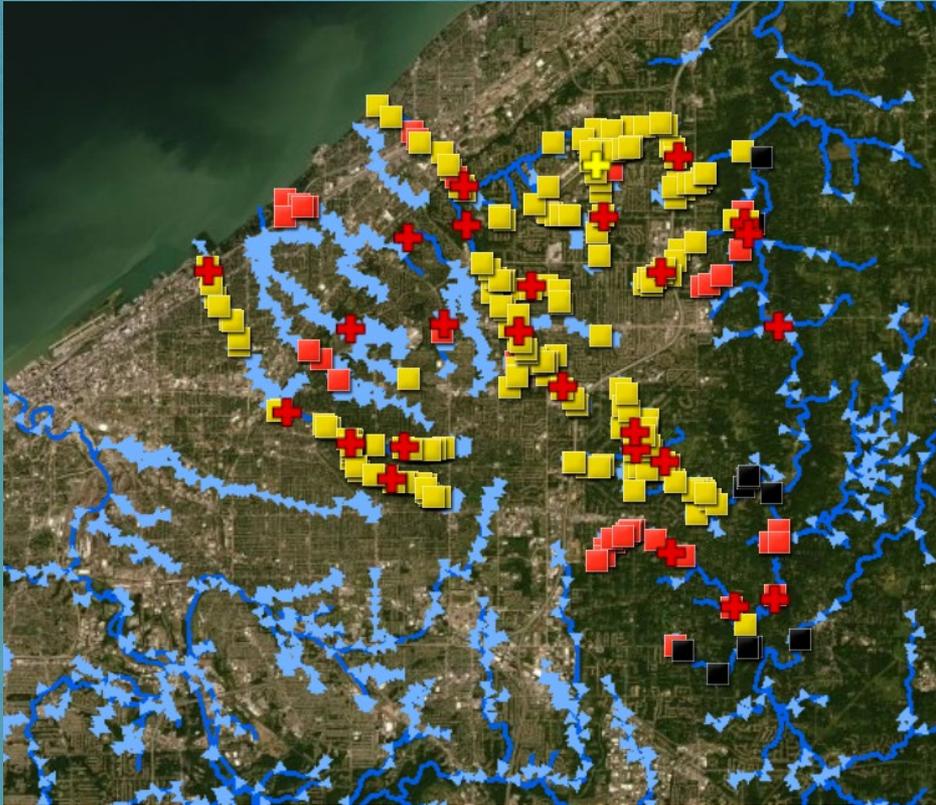
- SW Construction Plan prioritization – Problem Area preferred alternative were:
 - Prioritized and scheduled,
 - Identified for property acquisition,
 - Submitted for advanced SW planning, or
 - Deferred

Advanced Stormwater Planning

- Provide support for the implementation of the Stormwater Construction Plan with the goal of readying projects for full design
 - Projects that contain complex components
 - Projects that are cost prohibitive w/o phasing
 - Projects that require additional information to understand the full impacts to the RSS

Stormwater Master Plan

Data Sharing with Community Members



- Culverted Stream CCTV/PACP Reports
- Spherical Imagery of Open Streams
- Inventory of RSS Crossings
- SWMM Models of Sub-watersheds
- SWMP Report



Questions



Stormwater Inspection & Maintenance (SWIM)

- Inspection Program
- Maintenance Program
- Culverted Stream Inspections
- Labor Day Storm Event

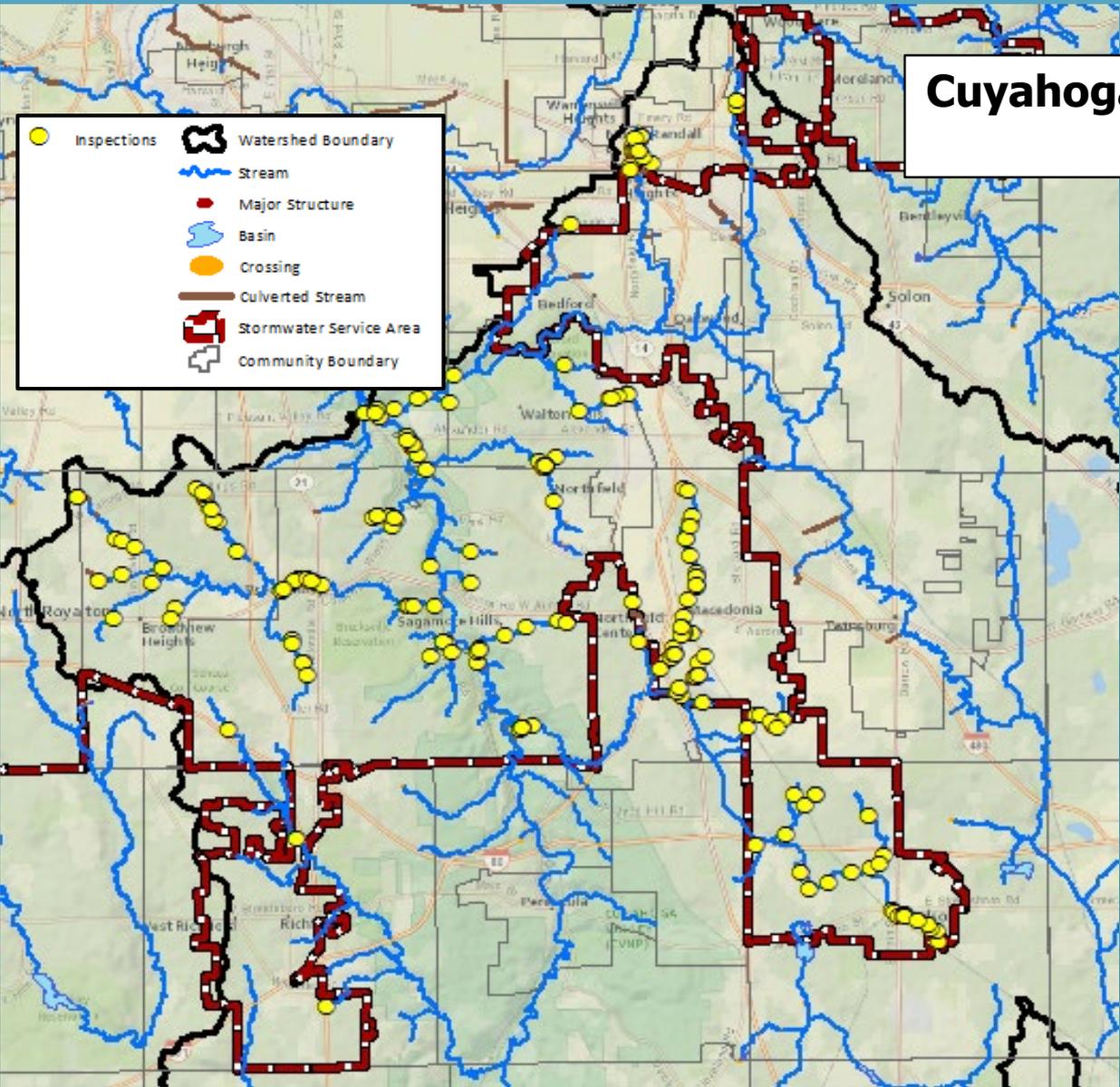
SWIM

2020 Inspection Program



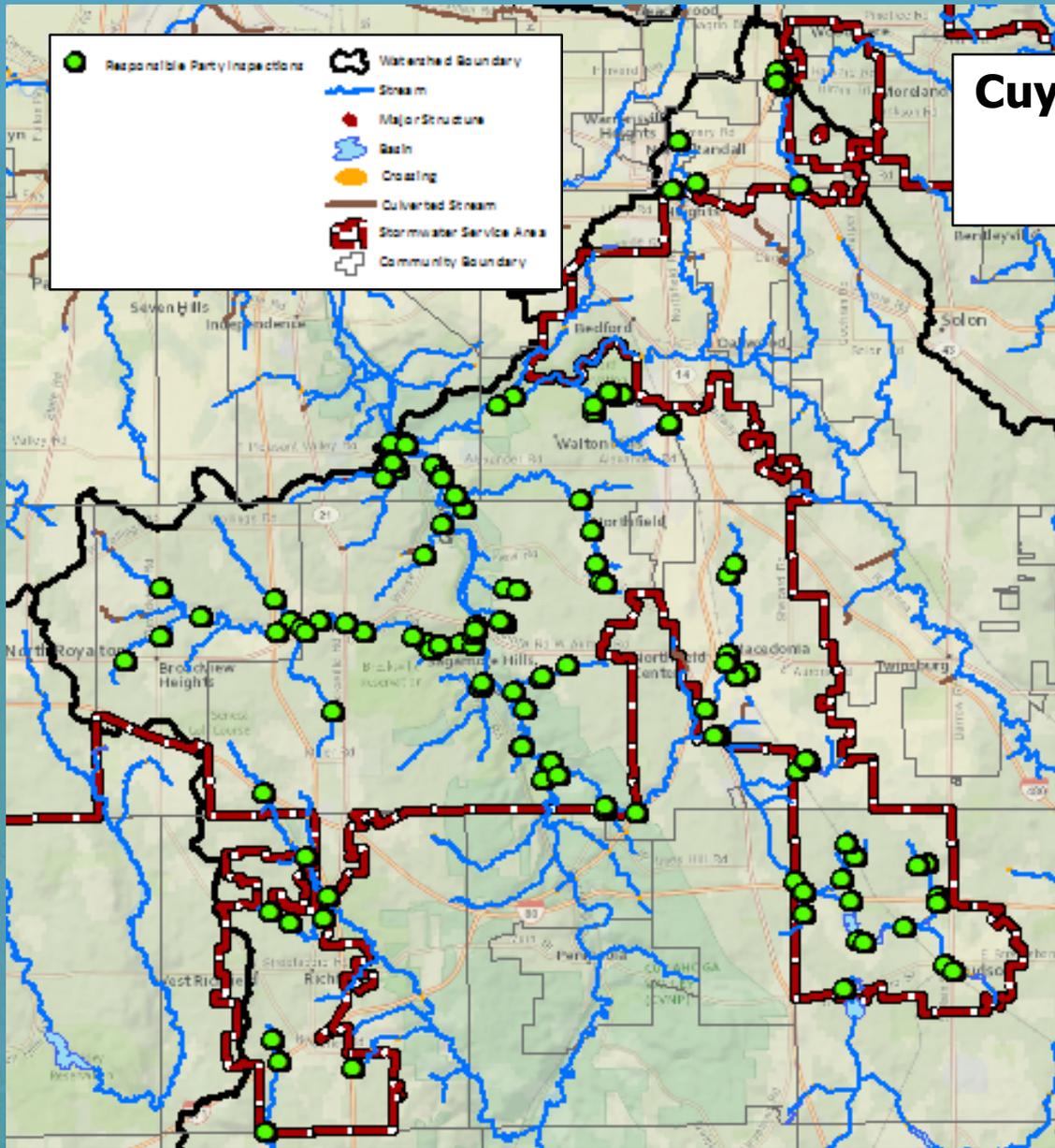
Cuyahoga River South Watershed Inspections

2020 Completed Inspections
226



Cuyahoga River South Watershed

Responsible Party
Benchmark Inspections



126 responsible party
benchmark inspections in
Cuyahoga River South
Watershed

SWIM

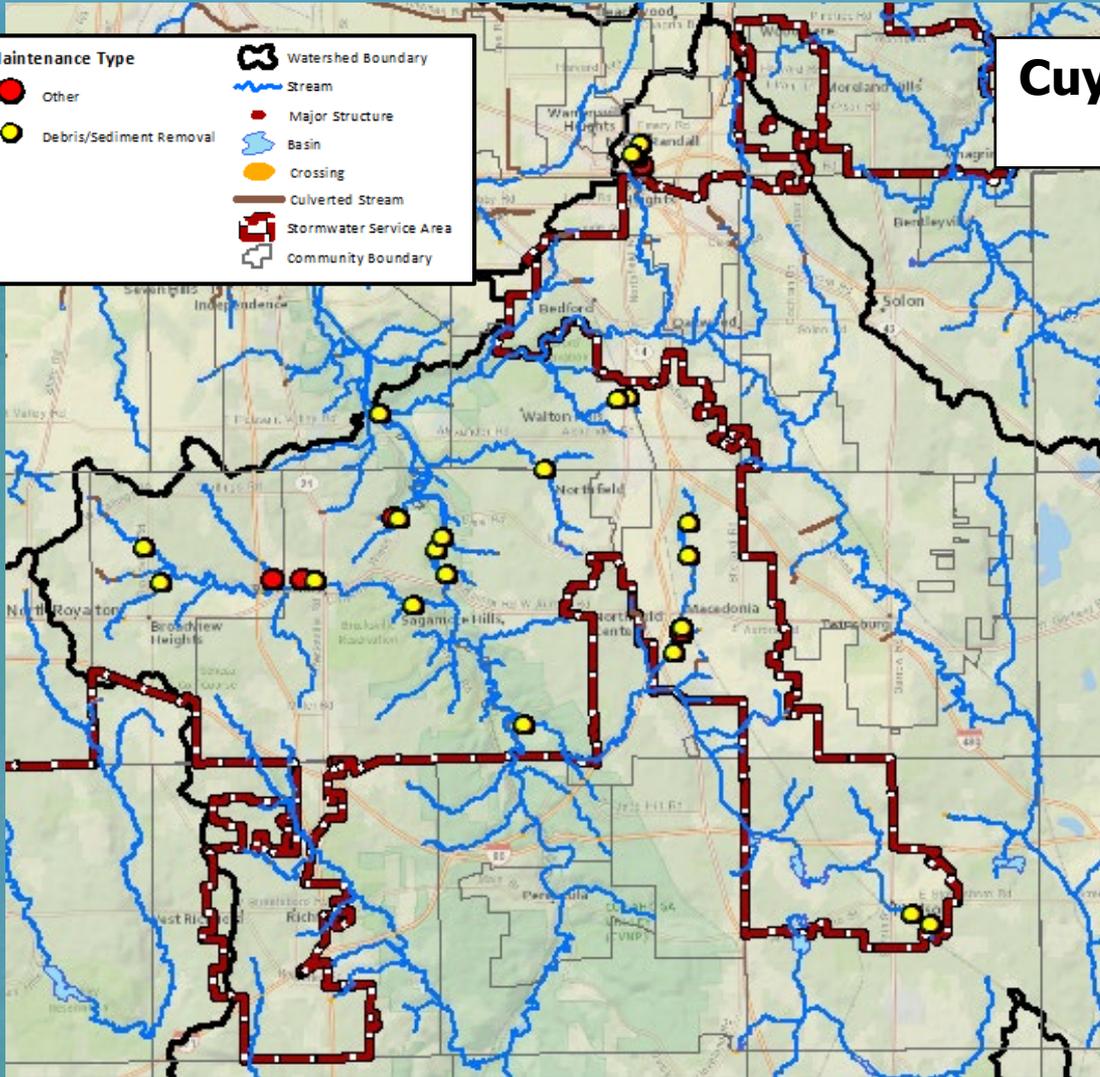
2020 Maintenance Program



Cuyahoga River South Watershed Maintenance

Maintenance Type

-  Other
-  Debris/Sediment Removal
-  Watershed Boundary
-  Stream
-  Major Structure
-  Basin
-  Crossing
-  Culverted Stream
-  Stormwater Service Area
-  Community Boundary



2020 Maintenance Tasks

Project Type	Projects (Count)	Debris Removed (CY)	Sediment Removed (CY)
Sediment & Debris	28	394	1,220
Other	5		
Total	33	394	1,220

Other Projects are:

- 3 streambank stabilization projects at BA00162, BR00234, IC00063
- Vault door adjustment at CW00005

SWIM Maintenance Task: Tinkers Creek



TC00007
Tinker's Creek
Valley View

SWIM Small Scale Maintenance Streambank Stabilization



BA00162
Bear Creek
North Randall

SWIM

2020 Maintenance vs 2019 Maintenance

2019

- 202 Projects
- 3,746 Cu. Yds. Debris
- 7,255 Cu. Yds. Sediment

2020

- 214 Projects
- 3,562 Cu. Yds. Debris
- 5,856 Cu. Yds. Sediment

SWIM

Culverted Stream Inspection Update



SWIM

Culverted Stream Inspection Update

- Reviewed SWMP CCTV and PACP inspection reports
- Comparing SWIM findings to SWMP to verify maintenance recommendations
- To date have completed 68 follow up inspections out of 113 service area wide

SWIM

Culverted Stream Inspection Update

TU00011

Small Tributaries to Tinker's Creek

Walton Hills

SWIM Recommendation: Spot repair RCP/Replace CMP Section



SWIM

Culverted Stream Inspection Update

CW00007, Brecksville
SWIM Recommendation: Replace



SWIM

Labor Day Storm Event



Big Creek / Maplegrove Ave / North Royalton



**Northeast Ohio
Regional Sewer District**



@neorsd

Urgent Storm Response

September 7th – *Summary of Rainfall*

- **0.83 – 4.55 inches** of total rainfall over **7-hour period** (6-hour Recurrence Interval: <1-YR to <200-YR; Average: 25-YR)
- **0.76 – 1.67 inches** of total rainfall over peak 1-hour period (1-hour Recurrence Interval: <1-YR to <10-YR; Average: 2-YR)
- **0.32 – 0.81 inches** of total rainfall over peak 15-minute (15-min Recurrence Interval: <1-YR to <5-YR; Average: < 1-YR)

Urgent Storm Response

September 7th – USGS Stream Gauge Data

Major Flood Stage:

- Big Creek @ Cleveland,

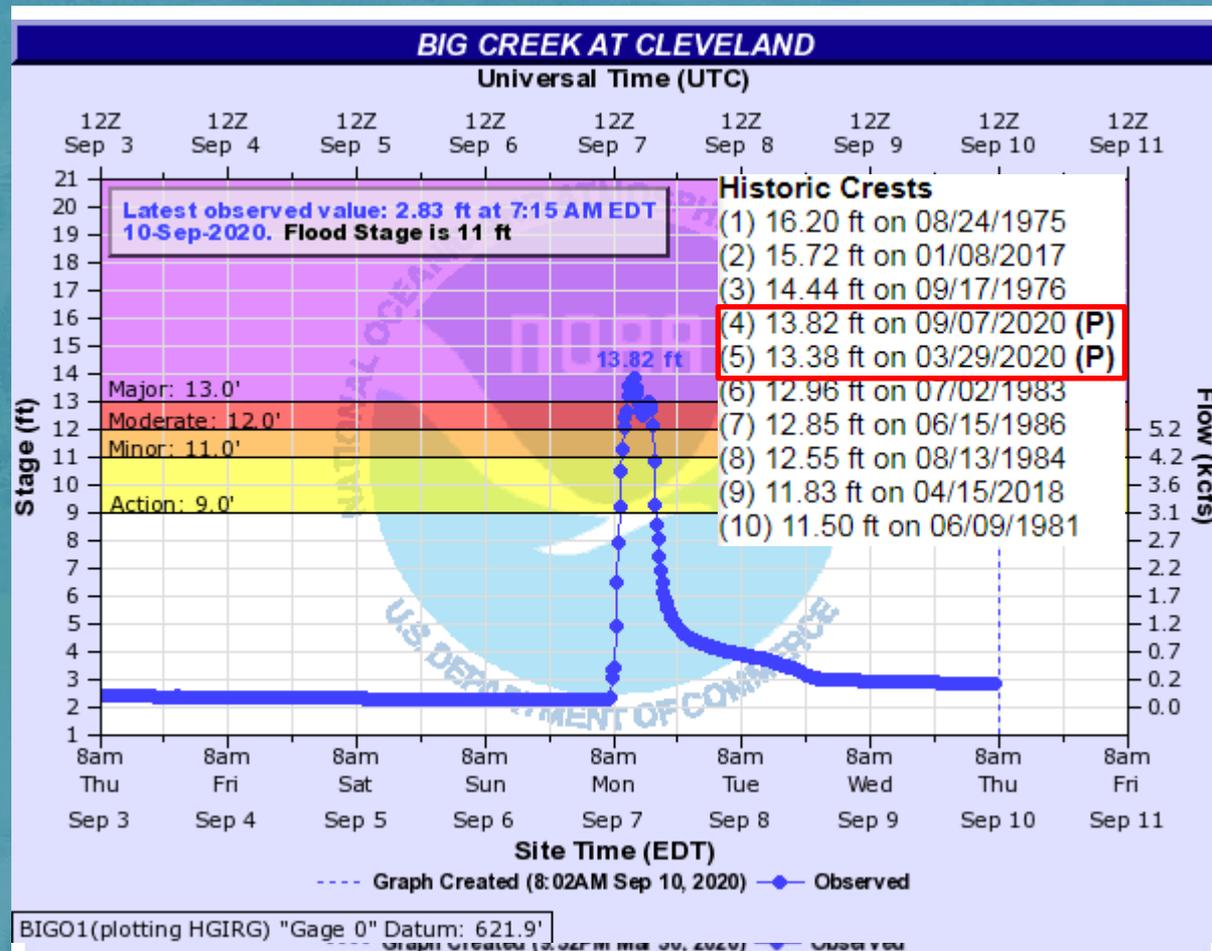
Moderate Flood Stage:

- Cuyahoga River @ Independence
- Mill Creek @ Garfield Parkway

Minor Flood Stage:

- None

9/7/20 was the fourth highest recorded event. September, May, and March 2020 events all in the top 10 highest on record.



SWIM

Labor Day Storm Event



Big Creek at Jennings Road

SWIM

Labor Day Storm Event



Customer Submittal/Upstream Sagamore Rd. /Sagamore Hills

SWIM

Labor Day Storm Event



South Bedford Rd/ Macedonia

SWIM

Labor Day Storm Event - Summary

- Inspection staff completed 90 observation inspections
- Maintenance staff responded to 29 maintenance work orders
 - 812 Cu. Yds. of debris removed
 - ~\$86,000
- SWIM received 18 Customer Service calls

SWIM

March 30th – September 7th Comparison

March 30

September 7

71

Inspections

90

47

Maintenance Projects

26

1,097

Cu. Yds. Removed

812



Cuyahoga County
Together We Thrive

Office of Emergency Management

- Preparedness Presentation
- Cuyahoga County Public Library - Independence, Ohio
- May 9, 2019

Discussion Points

- **Overview of Cuyahoga County Office of Emergency Management**
- **Why Prepare?**
- **What You Can Do**



Tornado damage at Ursuline College, 2013

Perception v. Reality



<https://youtu.be/3jXlhPGs0T8>



What is Emergency Management?

Emergency management is the process of preparing for, mitigating, responding to and recovering from emergencies or disasters.





Cuyahoga County *Demographics*



>60 Law Enforcement Agencies



51 Fire Response Agencies



25 Public Safety Answering Points (PSAPs)



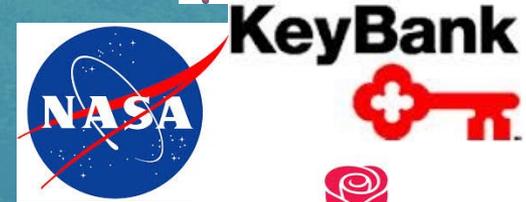
31 School Districts



Cuyahoga County *Demographics*

Cuyahoga County is home to...

- The corporate headquarters of many large companies.
- Three airports: Cleveland Hopkins International Airport (CLE), Burke Lakefront Airport (BKL), and the Cuyahoga County Airport
- Three top tier hospital systems: the Cleveland Clinic (the area's largest employer), University Hospitals, and The MetroHealth System.
- NASA also maintains a facility in the County, *the Glenn Research Center*.





Cuyahoga County *Demographics*

- Cuyahoga County has **billions of dollars in infrastructure**, including high rise buildings, professional sports venues, several universities, and public buildings.
- Both **freight and passenger rail operations** occur within Cuyahoga County.
- The **Port of Cleveland** is situated in the County along Lake Erie, on the east side of the Cuyahoga River. The Port exports locally-made products to U.S. and foreign markets and also receives a variety of raw materials for area manufactures.
- Cuyahoga County has a robust **transportation infrastructure**: 7 interstate highways, 5 U.S. routes, over 1,200 bridges, and more than 4,300 miles of municipal roads in the County.





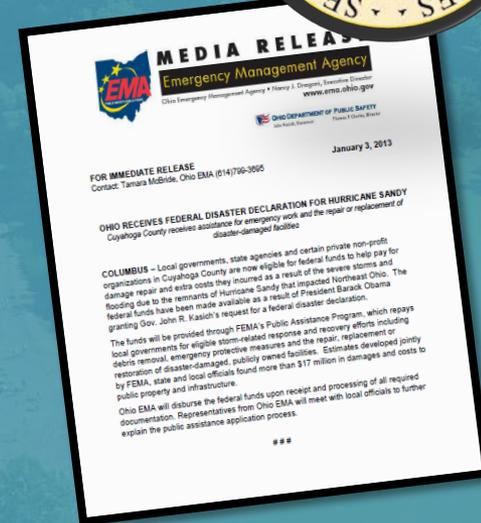
Cuyahoga County *Threats & Hazards*

Cuyahoga County and its communities are at risk of a range of natural, human-caused, and technological hazards... *including freezing lighthouses and flammable rivers.*



Cuyahoga County *Threats & Hazards*

<u>Type of Incident</u>	<u>Presidential Declaration Date</u>
• Heavy rains and flooding	March 24, 1964
• Tornado	April 14, 1965
• Heavy rains and flooding	July 15, 1969
• Storms and flooding	July, 1972
• Storms and flooding	April 27, 1973
• Floods	September 11, 1975
• Severe Blizzard	January 26, 1978
• Heavy rains and flooding	July 21, 2003
• Regional Power Outage	August 14-15, 2003
• Heavy rain and flooding	July, 2006
• Destructive winds	January 3, 2013



Cuyahoga County *Threats & Hazards*

Although the lighthouse has since thawed and the water quality of the Cuyahoga River has been significantly improved; emergencies continue to occur in Cuyahoga County.

The **Cuyahoga County Office of Emergency Management** recognizes the need to continually enhance planning and coordination with the **Whole Community**, especially it's 59 political subdivisions.



What We Do

CCOEM works closely with public safety forces, government agencies, non-governmental organizations, businesses, and the public to enhance **preparedness, planning, and effective response** to natural hazards, man-made catastrophes, and emergencies.



WHEN A DISASTER OR EMERGENCY OCCURS, MOST OF WHAT WE DO, WE'VE ALREADY DONE.

Organizational Structure

OPERATIONS

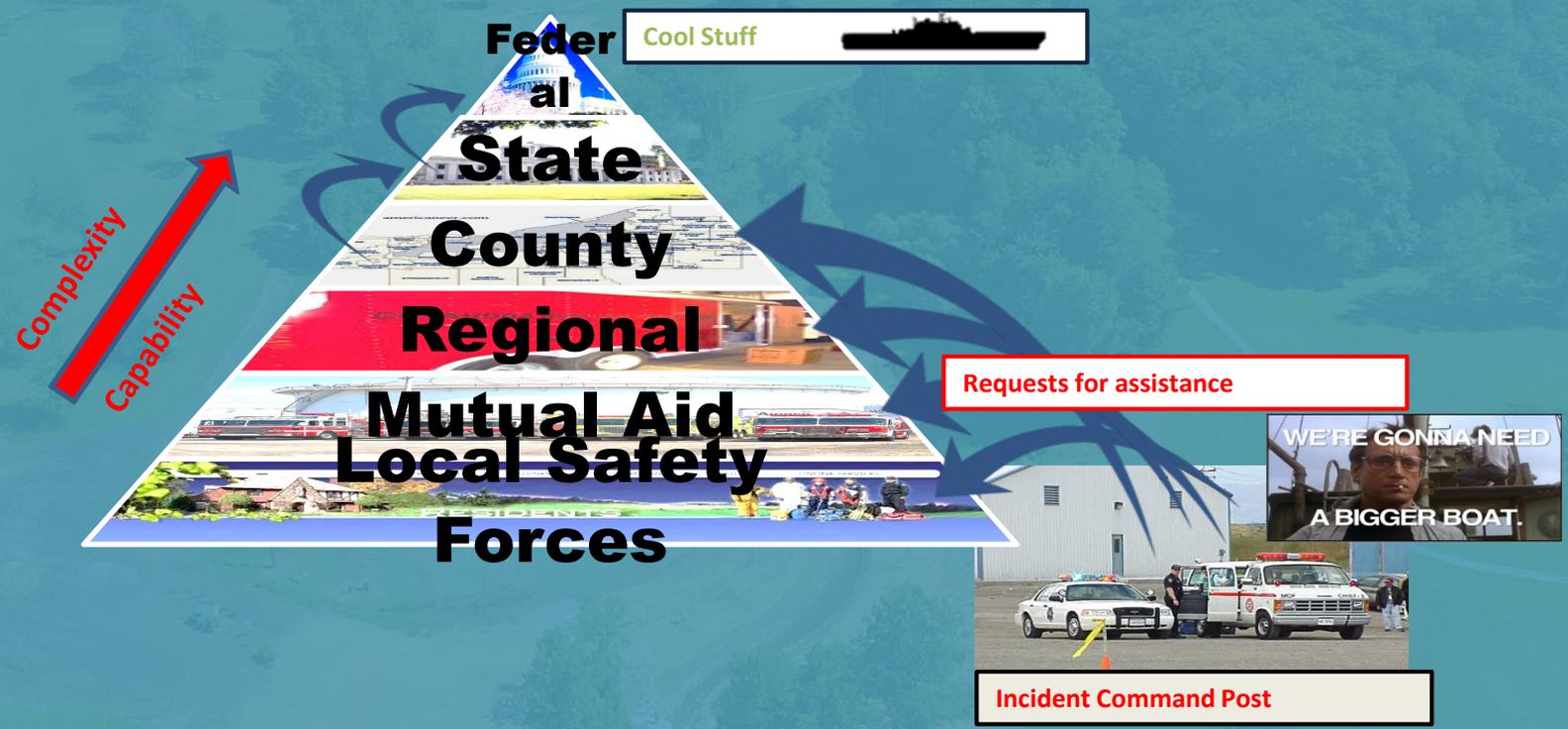
- Emergency Operations Center (EOC)
- Damage Assessments
- LEPC Support
- All-Hazards Exercises
- MYTEP
- Office Administrative support

PLANNING

- County Response and Recovery Plans
- Public Safety Trainings
- Outreach
- Office newsletters, magazine, social media
- Technical assistance and guidance for community and partner agencies



National Incident Management System (NIMS)



Thank you. Questions?

Kevin Friis, Planning Manager
Cuyahoga County Office of
Emergency Management
9300 Quincy Ave., 2nd floor
Cleveland, OH 44106

O: (216) 348-4222 C: (216) 543-4690
F: (216) 443-5253

KFRIIS@CUYAHOGACOUNTY.US



Stormwater Design and Construction Program

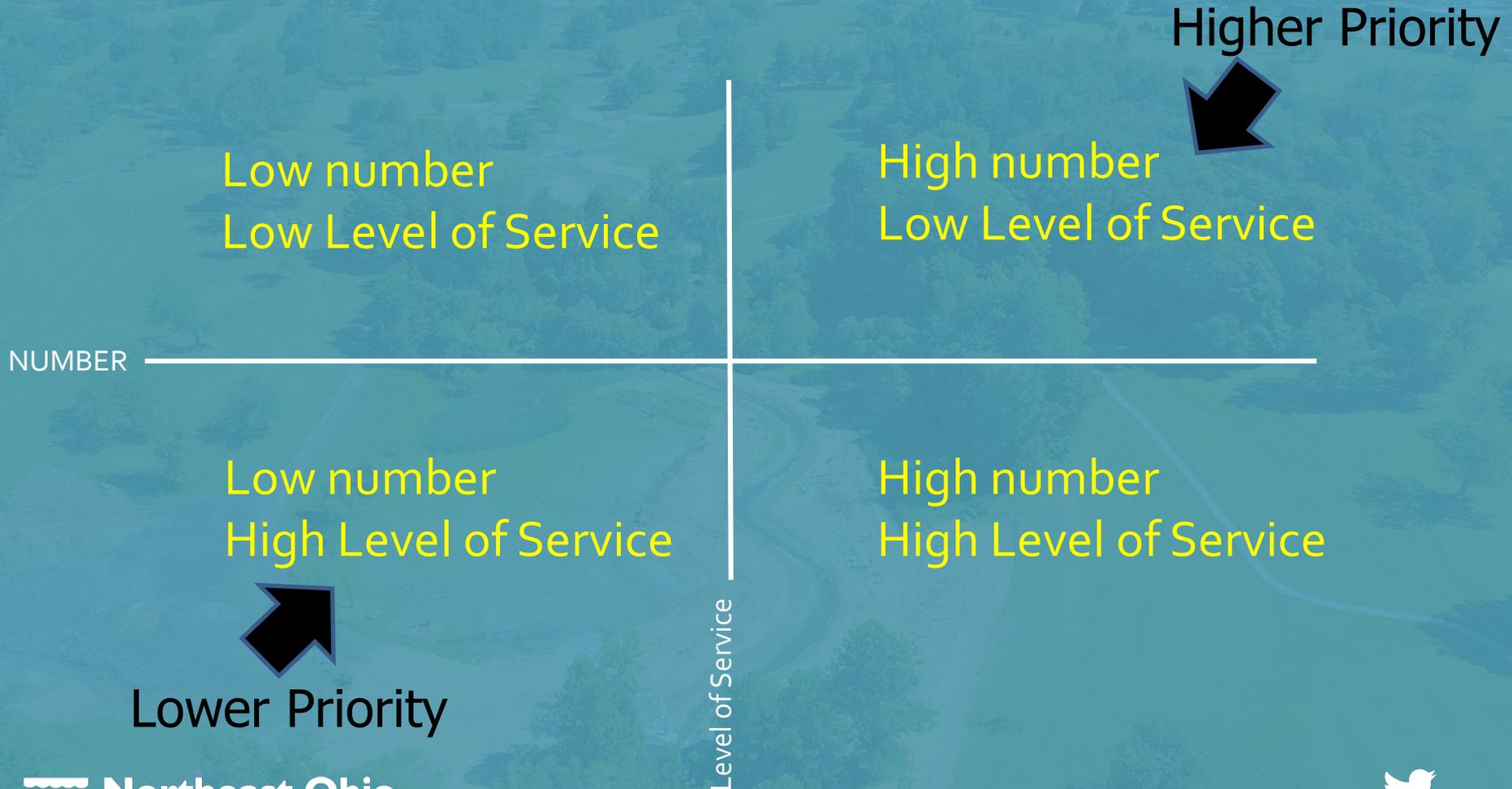


**Northeast Ohio
Regional Sewer District**

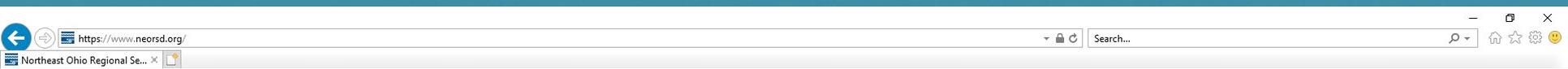


@neorsd

Project Prioritization



Stormwater Storymap



NOTICE: Southerly Electrical Infrastructure I

Doing business with us ▸

Industrial Customers ▸

Engineering & Construction

Plan Review

Procurement

Register as a New Vendor /
iSupplier Login

Bids and Proposals: Active,
Closed, and Awarded

Business Opportunity Program:
Get certified

Event Calendar

GovDeals Surplus Items

Capital Improvement Plan

Stormwater Construction
Program

Opportunity Corridor on-site
stormwater management
strategy report

*qualify for a lower
? We can help.*

ograms

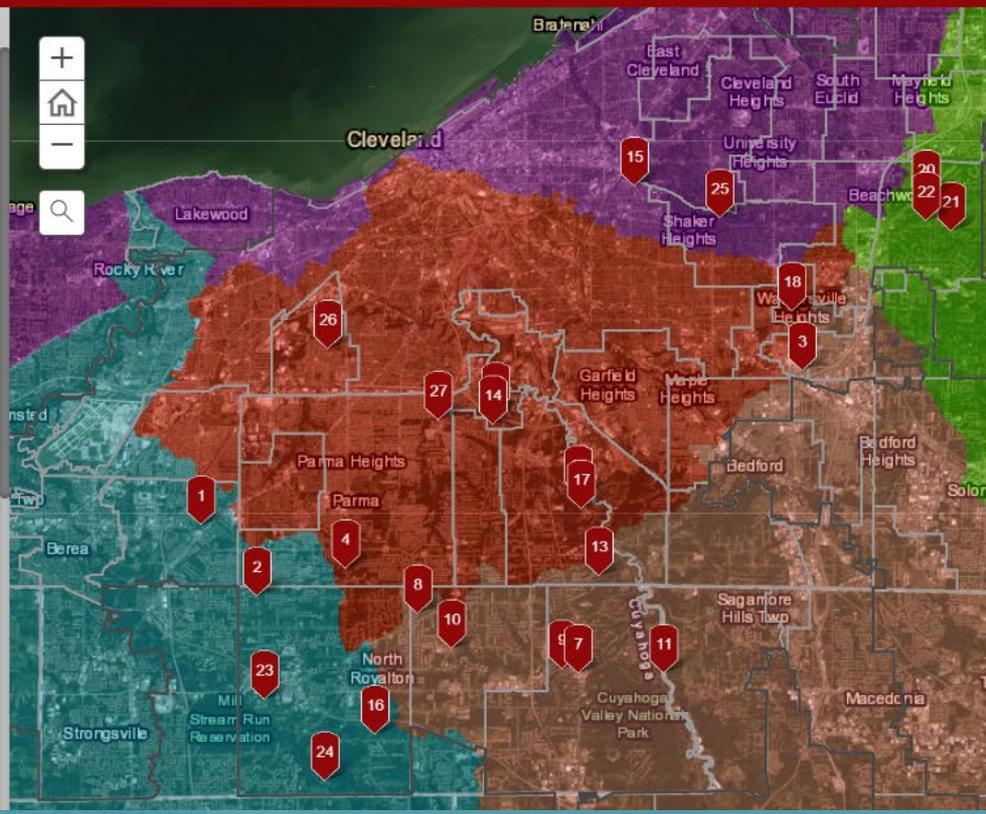
NEORSD Stormwater Design & Construction Program

Navigate using the tabs below and by clicking the images to view more details on our completed, current design, and current construction stormwater projects. Zoom in to view satellite imagery and Regional Stormwater culverts, conduits, etc). Use the "Zoom To" drop down menu to locate your watershed.

- All Projects
- Design**
- Construction
- Complete



 1 Abram Creek / Big Creek Parkway Detention...	 2 Baldwin Creek Stabilization Near Abb...	 3 Bear Creek Culvert Removal	 4 Big Creek Stream Stabilization Upstream...
 5 Brandywine Creek - Barlow Community...	 6 Brandywine Creek - Owen Brown Bridge...	 7 Chippewa Creek Bank Stabilization at Route 21	 8 Chippewa Creek Flood Reduction Near Echo...
 9 Chippewa Creek Stabilization at...	 10 Chippewa Creek Stream Stabilization Near...	 11 Cuyahoga River Bank Stabilization Brecksville	 12 Cuyahoga River Bank Stabilization at Railway...



Design





City of Brooklyn - Stickney Creek Stream Restoration- August 28



City of Brooklyn - Stickney Creek Stream Restoration- August 28

Pepper Luce Creek at Lander Road City of Pepper Pike

Pepper Luce Creek Streambank Stabilization

- Arrest streambank erosion
- Protect utility assets
- Create & expand floodplain

Professional Service Firm: Jacobs
(GES Contract Task Order)

Design Phase: Bid Opening – October 6, 2020

Request to Enter into Construction Contract:
4th Quarter 2020

Estimated Construction Cost: \$760,000

Failed gabion baskets &
streambank erosion



City of North Royalton - Ridge Road Repair and Rocky River Tributary Stabilization

Problem: Bank erosion adjacent to Ridge Road

Project benefit to RSS:

- Reduces sediment deposition
- Creates a new stable stream channel

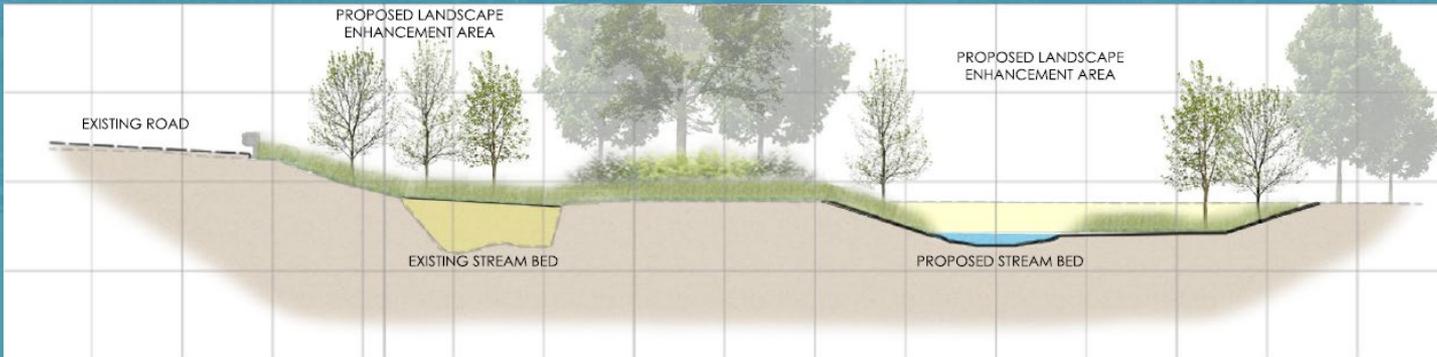
Construction Award:

October 15, 2020

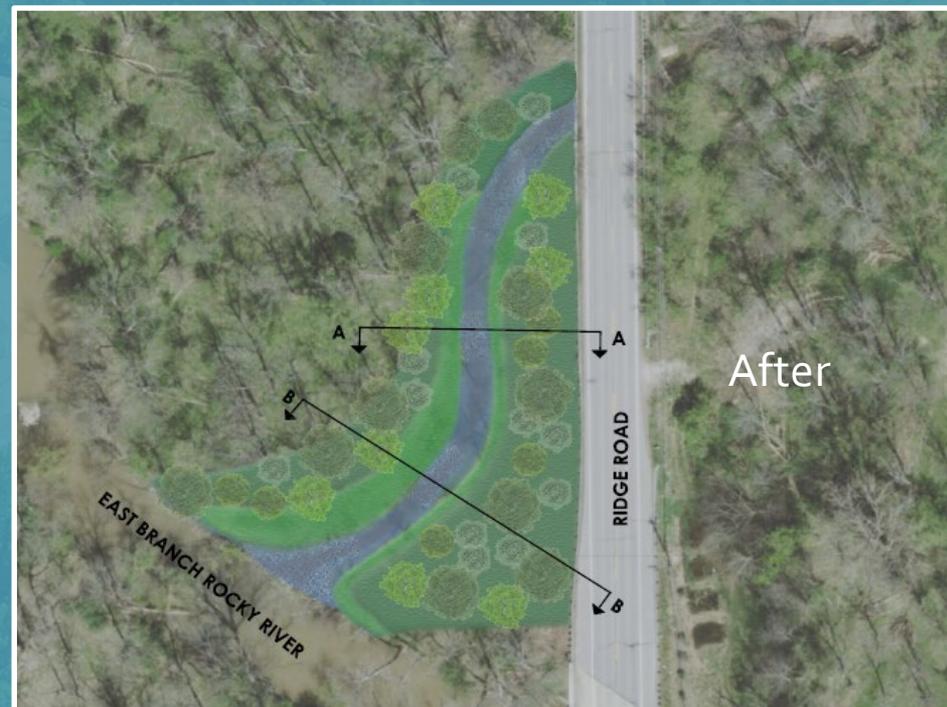
Cost: \$438,471.10



City of North Royalton - Ridge Road Repair and Rocky River Tributary Stabilization



Before



After

Chippewa Creek near Broadview Road

City of Broadview Heights

Chippewa Creek Streambank Stabilization

- Arrest streambank erosion
- Protect local sanitary utility assets
- Relocate stream away from gabion basket retaining wall
- Create & expand floodplain

Professional Service Firm: GPD
(GES Contract Task Order)

Design Phase: 90% Design

Request to Advertise for Bid: 1st Quarter 2021

Estimated Construction Cost: \$1,522,000



Threatened gabion basket retaining wall



Big Creek Upper Ridgewood Basin Modifications

City of Parma

RSS Flooding in City of Parma along Big Creek

- Recommendation from SWMP
- Expand Basin, provide storage
- Reduce flooding downstream

Professional Service Firm: Stantec
(GES Contract Task Order)

Design Phase: **Scope Development**

Coordination: City of Parma

Design: **2021**

Construction: **2022**

Estimated Construction Cost: **\$1,372,000**

Big Creek Main Branch, Problem Area BC-PA-07, Zoom 2 RSS Inundation Overview



Upper Ridgewood Basin

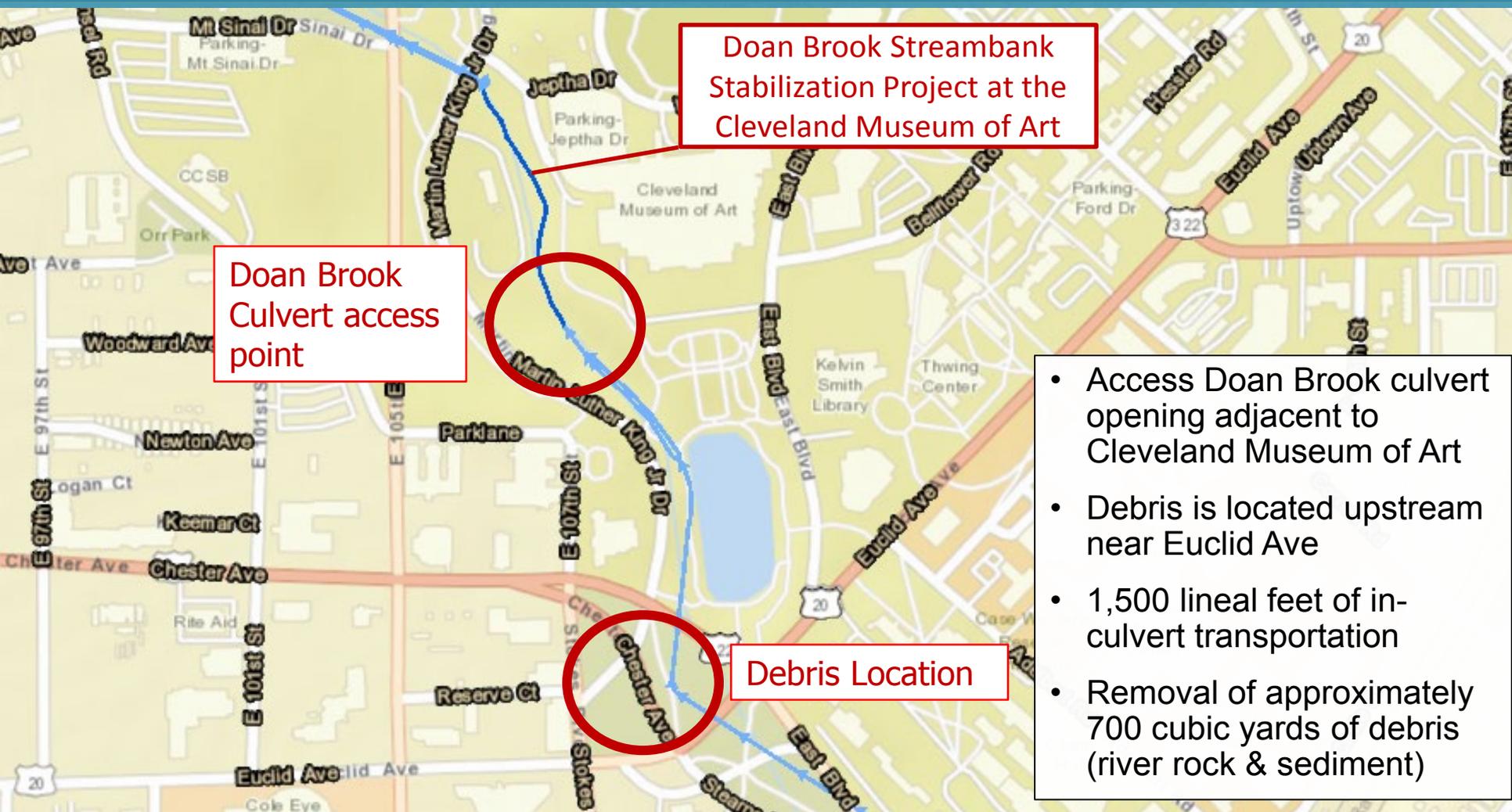
West Creek Bank Stabilization by Sandpiper Drive – City of Parma

Construction in progress



Doan Brook Culvert Debris Removal

Debris blockage beneath Euclid Avenue (1,500 lineal feet from daylight)



Doan Brook Streambank
Stabilization Project at the
Cleveland Museum of Art

Doan Brook
Culvert access
point

Debris Location

- Access Doan Brook culvert opening adjacent to Cleveland Museum of Art
- Debris is located upstream near Euclid Ave
- 1,500 lineal feet of in-culvert transportation
- Removal of approximately 700 cubic yards of debris (river rock & sediment)

Doan Brook Culvert Debris Removal

Remove approximately 700 cubic yards of river rock & sediment



Questions

Pepper Creek Bank Stabilization – City of Pepper Pike



Cost-Saving Programs

- *Crisis Assistance*
 - *Up to \$300 sewer credit*
 - *Experienced financial hardship within last 6 months (loss of job, loss of income, death in family, medical expenses, etc.)*

Cost-saving Programs

- *Homestead*
 - 65 and older *or* permanently disabled
 - Household income must not exceed \$33,500
- *Affordability*
 - Annual income is at or below 200% of the poverty level

Customer Service: (216) 881-8247

WTL Contact

Meiring Borchers
216.881.6600 Ext. 6159
Cell: 440.409.1766
borcherdsm@neorsd.org



Stormwater Program: Community Resources
<http://www.neorsd.org/communitystormwaterresources.php>