

**NORTHEAST OHIO REGIONAL SEWER DISTRICT**

**REGIONAL STORMWATER MANAGEMENT PROGRAM**

**Regional Stormwater Management Program:**  
Watershed Advisory Committee  
Lake Erie Direct Tributaries  
October 19, 2016

 *Your Sewer District* **Keeping our Great Lake great.**



## Agenda

- Welcome
- Program Updates
- Community Cost-Share
- Stormwater Construction Plan
- Stormwater Master Plans
- Phase II Stormwater Services
- What's Next

## Watershed Advisory Committees

- Meets March and October
- Members: Member Community, Public Agency with control of infrastructure in the watershed
- Interested Entities: Watershed Groups, Land Conservancies



# Watershed Advisory Committees

- Mechanism to provide input on Programs:
  - Stormwater Master Plans
  - Stormwater Construction Plan
  - Inspection, Operation and Maintenance Activities
  - NPDES Phase II Assistance



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## Agenda

- Welcome
- Program Updates
  - Stormwater Fee Billing and Credits
  - Stormwater Management Plan Review
  - Stormwater I&M
- Community Cost-Share
- Stormwater Construction Plan
- Stormwater Master Plans
- Phase II Stormwater Services
- What's Next

# Stormwater Fee Billing

- 2nd round of stormwater bills started in October
- Monthly billing begins in January
  - Stormwater Only bills will remain quarterly



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# Stormwater Fee Credits

- Stormwater Fee Credits 2013 to 10/5/2016
  - Approved: 1240
  - Pending Review: 210
  - Denied: 144
  - Incomplete: 35



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## Title V – SW Mgm't Plan Review

### Member Community Responsibilities

- Submit/cause to submit SW mgm't plans to the Sewer District within 7 days of your receipt of plans
- Ensure minimum standards are used for design, including all applicable federal and state regulations
- Adopt minimum stormwater design and programmatic standards consistent with Ohio EPA NPDES MS4 and CGP Permits
- Update the Sewer District when your stormwater management regulations are revised



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## Title V – SW Mgm't Plan Review

### Sewer District Responsibilities

- Review submissions with respect to flooding, erosion and water quality issues
- Provide review comments within 15 business days of receiving a **complete** SW Mgm't Plan
- Ensure SCMs meet minimum design standards - maximize future credits opportunities
- **Sewer District comments are advisory only and are non-binding on the Member Community and the applicant**



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## Stormwater Inspection and Maintenance Lake Erie Direct Tributaries 2016 Update



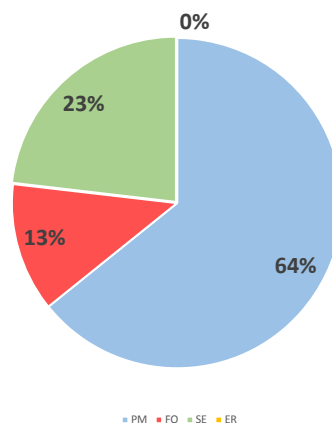
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## Lake Erie Direct Tributaries 2016 Inspections

	Lake Erie Tribs
PM	61
FO	12
SE	22
ER	0
	95

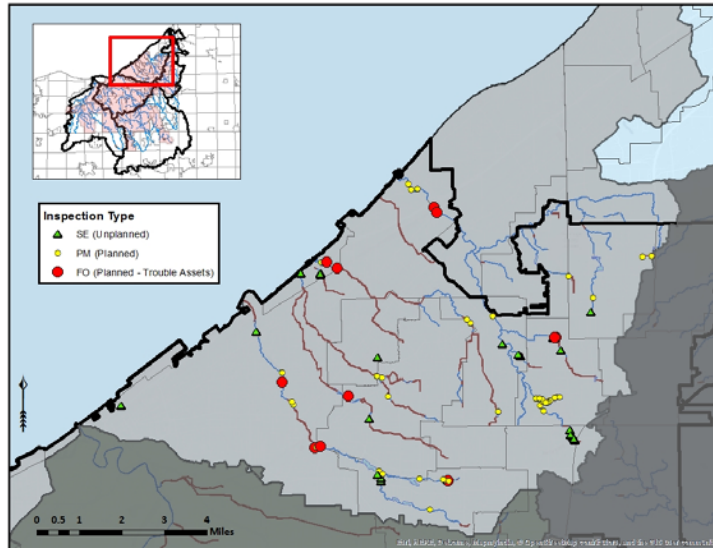
**Legend:**  
 SE = Customer Call  
 PM = Planned Inspection  
 FO = Follow-up on a Problem Asset  
 ER = Emergency Response





## Lake Erie Direct Tributaries

### 2016 Completed Inspections



## Euclid Creek West Branch

Asset ID: EW00201 (Lyndhurst)



**Structural Integrity**  
Pipe invert rusting

**Recommendation**  
Monitoring



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# Euclid Creek East Branch

Asset ID: EE00350 (Highland Heights)



## Structural Integrity

Streambank eroding towards parking lot and structure

## Recommendation

- Further Analysis
- Monitoring



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# New RSS Assets Acacia Basin (Lyndhurst)

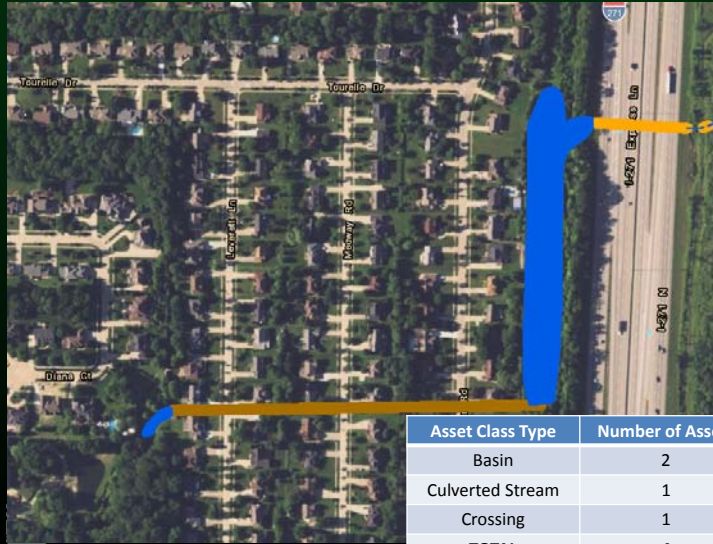


Asset Class Type	Number of Assets	Length in Miles
Basin	1	1.00
Stream	6	0.40
Crossing	5	0.12
<b>TOTAL</b>	<b>8</b>	<b>1.52</b>





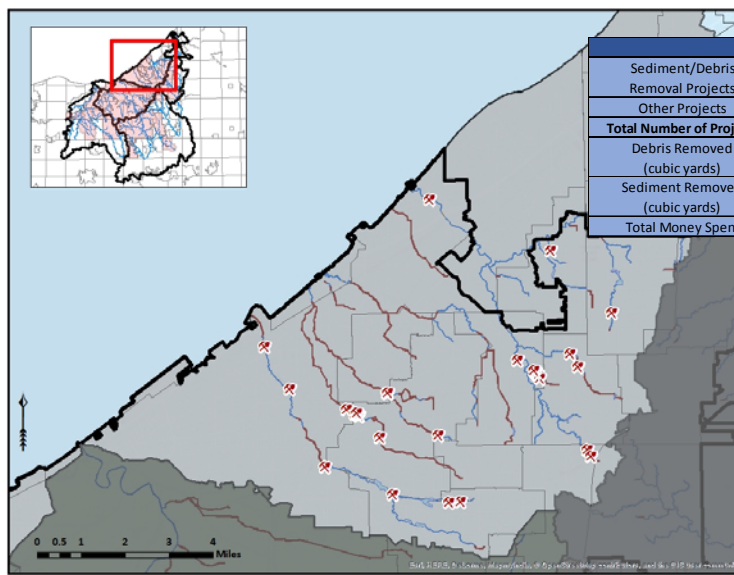
## New RSS Assets Highland Heights



Asset Class Type	Number of Assets	Length in Miles
Basin	2	0.55
Culverted Stream	1	0.52
Crossing	1	0.15
<b>TOTAL</b>	<b>4</b>	<b>1.22</b>

## Lake Erie Direct Tributaries

2016 Completed Maintenance Projects



	Lake Erie Tribs
Sediment/Debris Removal Projects	28
Other Projects	1
<b>Total Number of Projects</b>	<b>29</b>
Debris Removed (cubic yards)	772
Sediment Removed (cubic yards)	177
<b>Total Money Spent</b>	<b>\$200,179.00</b>



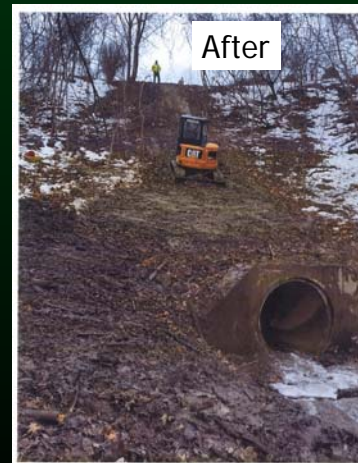
## Debris Maintenance: DB00008 Doan Brook (Cleveland)



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## Debris Maintenance: EE00225 Euclid Creek E. Branch (Richmond Heights)

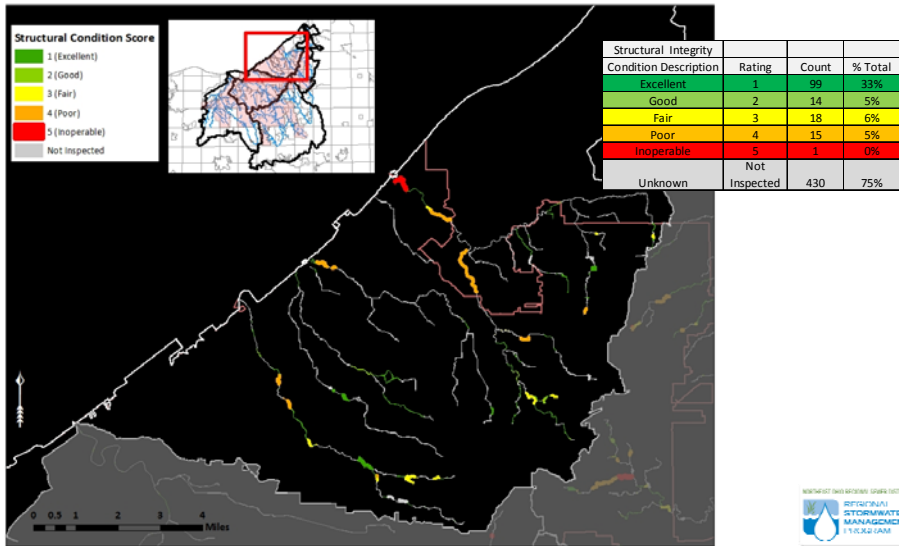


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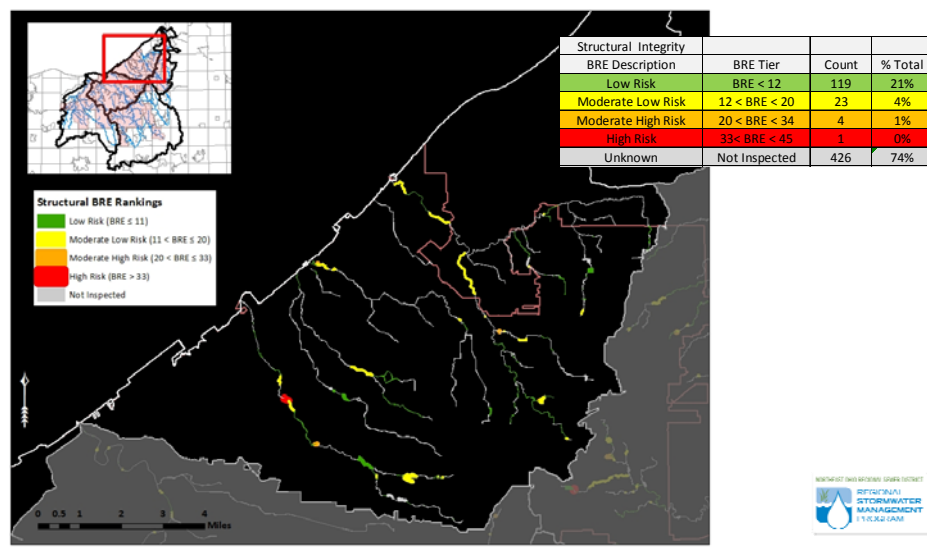
# Lake Erie Direct Tributaries

## Structural Integrity Condition Ratings



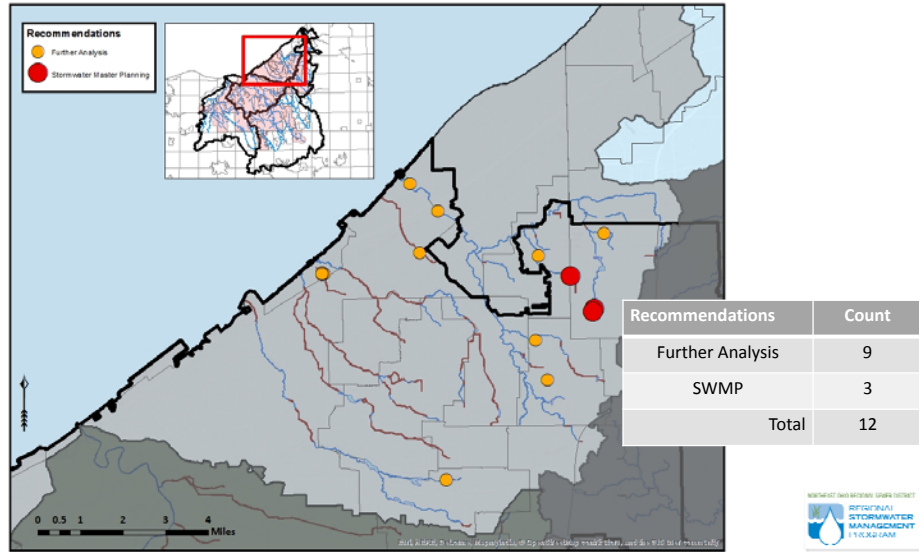
# Lake Erie Direct Tributaries

## Structural Integrity BRE Rankings



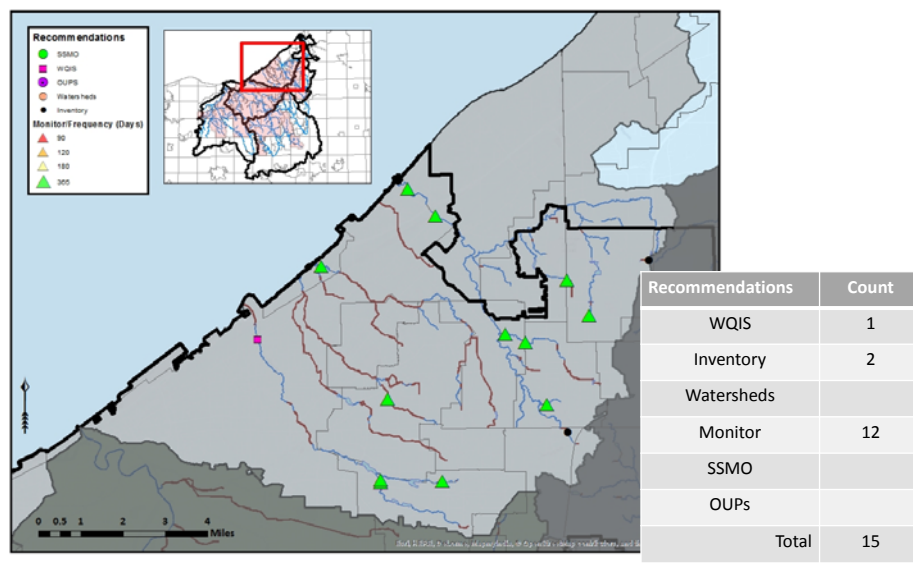
# Lake Erie Direct Tributaries

## Recommended Further Analysis & SW Plan



# Lake Erie Direct Tributaries

## Recommended Next Steps



## Stormwater I & M

### Next Steps

- Track all recommendations to completion
- Continue inspecting assets without condition scores
- Coordinate with asset owners to collect record drawings and historical inspections



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## Stormwater I & M

### Next Steps

- 2016 State of the Infrastructure Report
- Inspect assets at the BTU level
- Update storm event inspection routes



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## Agenda

- Welcome
- Program Updates
- Community Cost-Share
  - Policy, Application, and Review Process
  - Program Forms
  - Example Projects
- Stormwater Construction Plan
- Stormwater Master Plans
- Phase II Stormwater Services
- What's Next

## Community Cost-Share

- \$5,923,528.40 available across communities
- Eleven approved projects, totaling \$559,950.32
- Outreach to communities offering assistance
- Focus for October Watershed Advisory Committee meetings



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# Community Cost-Share

- Program Policy
- Process Overview
  - Project Eligibility
  - Ineligible Projects
  - Application Overview
  - Reimbursement Overview



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# Community Cost-Share

- Program Forms
  - Application
  - Progress Report
  - Budget Modification Request
  - Reimbursement Request
    - Cover Sheet
    - Deliverable Expense Worksheet



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# Community Cost-Share Community Resources Website

<http://neorsd.org/communitystormwaterresources.php>



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Community Cost-Share Program  
Application

**Community Cost-Share Program  
APPLICATION**

Member Community Information

Community: \_\_\_\_\_

Primary Project Contact:  
(Name & Title) \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email: \_\_\_\_\_

Project Information

Project Title: \_\_\_\_\_

Address or Location of Project: \_\_\_\_\_

Project Start Date: \_\_\_\_\_

Project End Date: \_\_\_\_\_

Community Cost-Share Fund Request: \_\_\_\_\_

Submission Date: \_\_\_\_\_

Rev 5/2016 1



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# Community Cost-Share

- Application...
  - Project Narrative (1,000 words)
  - Ability to Provide Long-Term Maintenance (500 words)
  - Visibility & Public Outreach (500 words)
  - Budget Summary
- Vendor Registration



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## Community Cost-Share Program Application

### Vendor Registration

Prior to submission, ensure that the Member Community is a registered vendor with the District. Vendor Registration can be done by accessing [http://www.recon.org/supplier\\_homepage.php](http://www.recon.org/supplier_homepage.php) and completing the New Vendor Registration. If unsure of the Member Community vendor status, by initiating the New Vendor Registration a message of active registration will appear if currently registered as a vendor.

### Project Budget

Project Expenses	Community Cost-Share Expense	Line Item Description
Professional Services		
Personnel (Member Community staff only)		
Subcontract		
Equipment		
Materials		
Other		
<b>TOTAL</b>	\$	

Rev 5/2016

6



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# Community Cost-Share

- Agreement
  - Template agreement tailored to project request
  - Legal review and execution timing
  - Projects must be pre-approved to be eligible for reimbursement



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# Community Cost-Share

## Garfield Heights

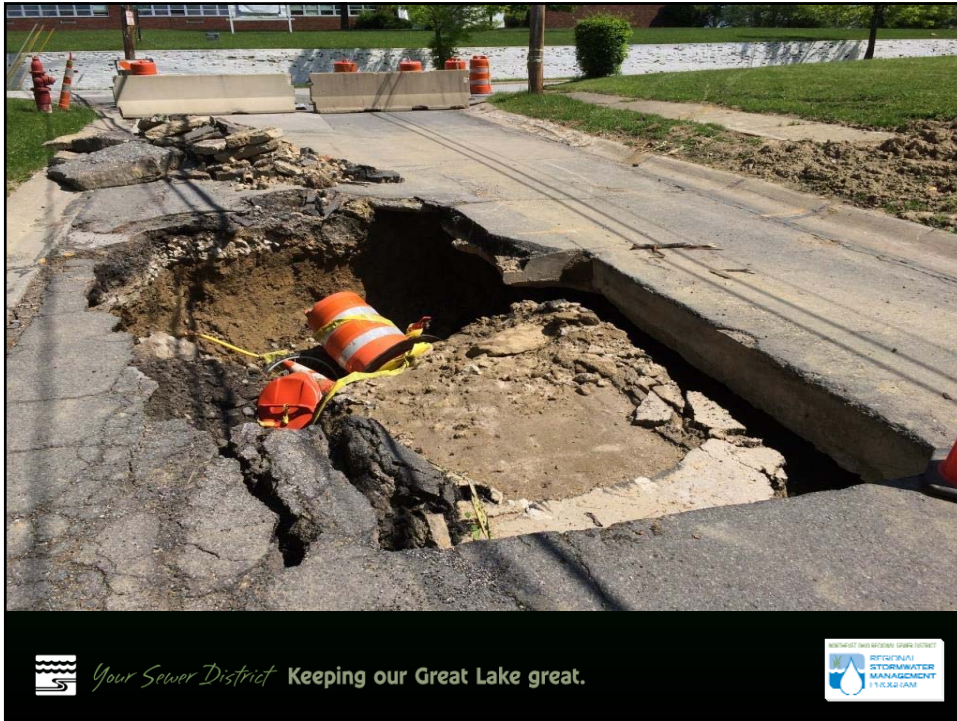
- ***East 135<sup>th</sup> Sanitary Sewer Replacement***
- Acute SSO/Illicit Discharge
- 8" sanitary sewer / excavation / roadway repair
- ***\$131,022.94 approved***
- Budget Modification Request for increased costs



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# Community Cost-Share

## Parma

- *Coventry-West Creek Impervious Surface Removal*
- Chronic sewage-stormwater basement flooding adjacent to West Creek tributary
- Demolition of 3 single-family homes (10,030 sq.ft. of IA)
- **\$37,023.90 approved w/ budget modification**
- Budget Modification Request for increased costs



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# Community Cost-Share



*Your*



## Agenda

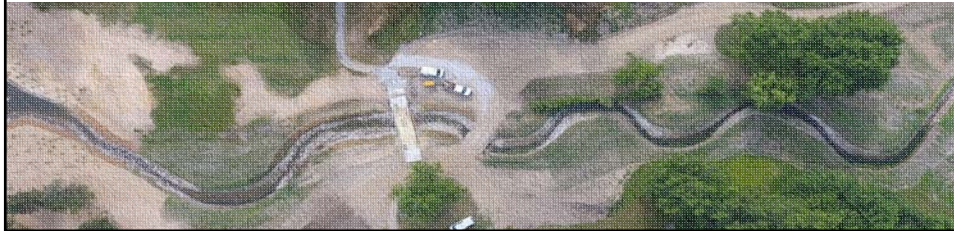
- Welcome
- Program Updates
- Community Cost-Share
- Stormwater Construction Plan
  - Status of 2016 Projects
  - Proposed Near Term Projects
- Stormwater Master Plans
- Phase II Stormwater Services
- What's Next





## 2016 CONSTRUCTION PLAN

**Northeast Ohio  
Regional Sewer District**



## STORMWATER CONSTRUCTION PLAN 2016 STATUS UPDATE



### Stormwater Construction Plan: 2016

Status at close of Q3

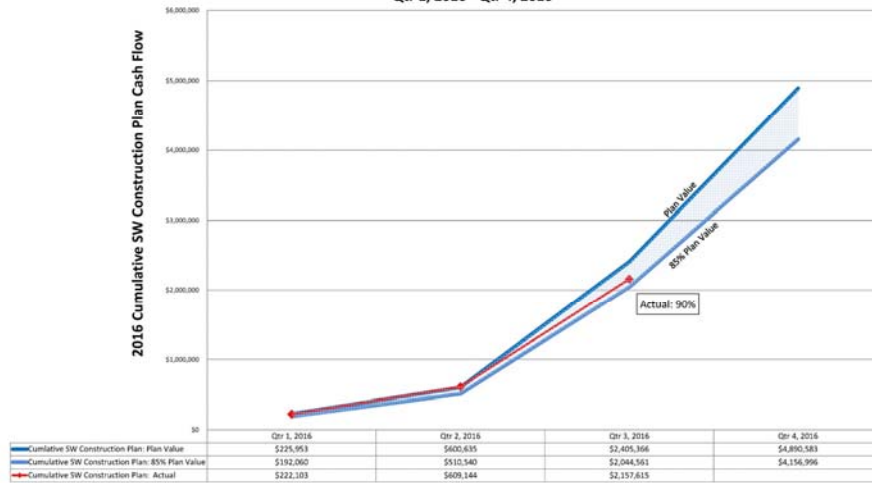
	Estimated Construction Cost	Procurement			Design			Construction		
		Procurement	Design	Construction	Procurement	Design	Construction	Procurement	Design	Construction
1311 Highland Park Golf Course Stream Restoration (Other funding (grants, wastewater budget, community funding, etc.)	\$1,700,000							Tracking to meet submission competitive date of 12/15/2016.		
1413 Chevrolet Blvd. Detention Basin (Other funding (grants, wastewater budget, community funding, etc.)	\$1,702,405							Met substantial completion date of 10/01/2016.		
1487 Shaw Brook Culverted Stream Rehabilitation (Other funding (grants, wastewater budget, community funding, etc.)	\$950,000						On schedule			
1364 Euclid Creek Concrete Spillway EC00008	\$362,997						On schedule			
1365 Shaker - Green Lake Dredging DB00101	\$2,700,000						On schedule			
1320 Shaker Lakes Dam Rehabilitations DB00056 & DB00101	\$1,600,000						On schedule			
1410 Doan Brook Stream Stabilization DB00029 & DB00021	\$2,350,000						On schedule			
1411 Big Creek Stabilization BC00032	\$6,000,000						Tracking behind schedule due to coordination issues with CSR Redwood			
1409 Colombo Park BC00299	\$1,000,000						Design 40% complete in 3 months behind but expect to meet overall schedule by construction example.			
1412 Cuyahoga River at Towpath Bank Stabilization CR00132	\$1,500,000						On schedule			
1369 Beechers Brook and Pepper Creek Bank Stabilization CW00021 & CW00146	\$2,750,000	95%					Advanced commencement of procurement. Approximately 6 months ahead of schedule.			
1490 Hemlock Creek Bank Stabilization	\$1,500,000	95%					Advanced commencement of procurement. Approximately 8 months ahead of schedule.			
1491 Mill Creek Bank Stabilization MC00125	\$1,000,000	95%					Advanced commencement of procurement. Approximately 3 months ahead of schedule.			
1780 Baldwin Ck Bank Stabilization BD00259, BD00257	\$1,200,000	5%								
1780 Baldwin Ck Bank Stabilization BD00297	\$300,000	5%								
1780 Emerald Parkway Culvert Rehabilitation	\$2,000,000						This is project will most likely have a short term negotiation well as a long term procurement solution.			



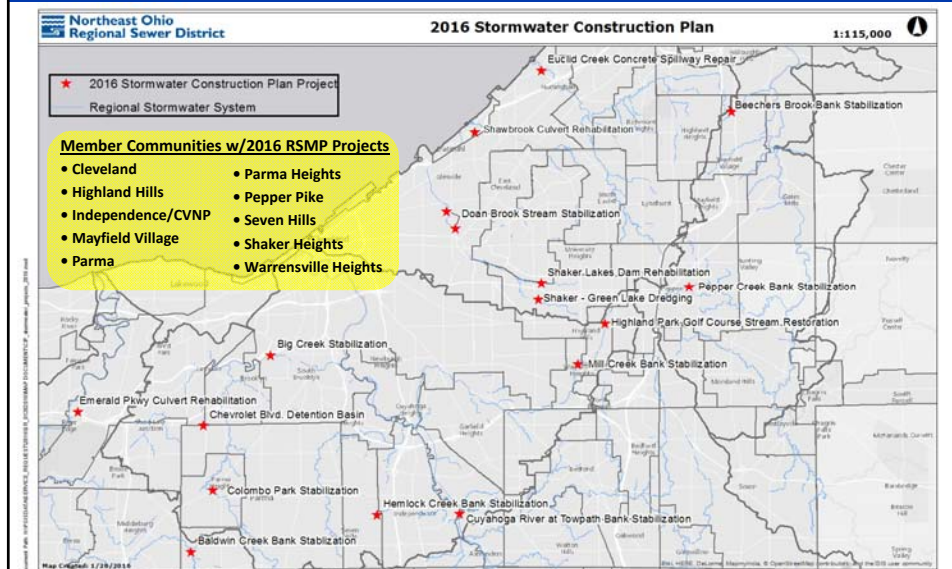
## STORMWATER CONSTRUCTION PLAN 2016 PROJECTS



Total Stormwater Construction Plan  
(Planning, Design, & Construction)  
Cash Flow Projection  
Qtr 1, 2016 - Qtr 4, 2016



## STORMWATER CONSTRUCTION PLAN 2016 PROJECTS



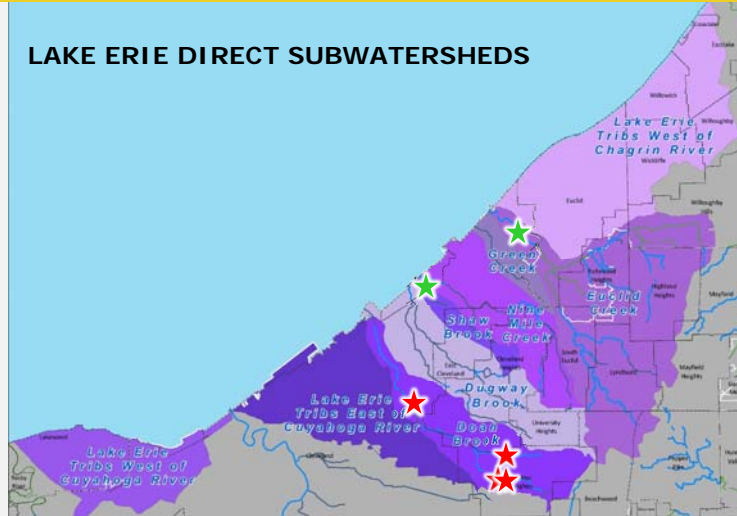




## STORMWATER CONSTRUCTION PLAN 2016 PROJECTS



### LAKE ERIE DIRECT SUBWATERSHEDS



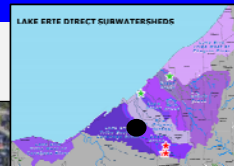
Executive Committee  
Presentation

Northeast Ohio  
Regional Sewer District



design

## DOAN BROOK BANK STABILIZATION



Northeast Ohio  
Regional Sewer District



design

## SHAKER LAKES DAM IMPROVEMENTS



- Improve Upper (Horseshoe), Lower, and Green Lake dams
- ODNR requirements from Dam Safety Inspection Reports
  - Increase discharge/storage capacity
  - Remove vegetation from embankment
  - Repair slope erosion
- Phase I Archaeological Survey with geophysical investigations

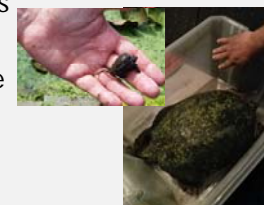


Northeast Ohio  
Regional Sewer District



design

## GREEN LAKE DREDGING



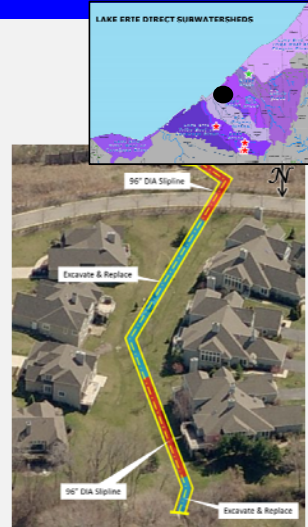
- Benefit water quality by removing organic sediments and reducing turbidity
- Improve oxygen levels in the lake and a deeper lake will reduce algae and duckweed
- Cost = \$2,300,000; The City of Shaker Heights to contribute through their Community Cost-Share

Northeast Ohio  
Regional Sewer District



construction

## SHAW BROOK CULVERT REHABILITATION



Northeast Ohio  
Regional Sewer District



construction

## EUCLID CREEK CONCRETE CHANNEL REPAIR



Northeast Ohio  
Regional Sewer District



construction

## HIGHLAND PARK GOLF COURSE STREAM RESTORATION

NORTHEAST OHIO REGIONAL SEWER DISTRICT  
 REGIONAL STORMWATER  
 MANAGEMENT PROGRAM



During Construction





LAKE ERIE DIRECT SUBWATERSHEDS

construction

## HIGHLAND PARK GOLF COURSE STREAM RESTORATION

NORTHEAST OHIO REGIONAL SEWER DISTRICT  
 REGIONAL STORMWATER  
 MANAGEMENT PROGRAM

NORTHEAST OHIO REGIONAL SEWER DISTRICT

REGIONAL STORMWATER  
MANAGEMENT PROGRAM

## Highland Park Golf Course Stream Restoration Project

Northeast Ohio  
Regional Sewer District

CITY OF CLEVELAND

Mayor Frank G. Jackson

PROJECT COST: \$1,699,400

Funded by the Ohio EPA Water Resource Restoration Sponsor Program, the Northeast Ohio Regional Sewer District, and the US Forest Service

Great Lakes  
RESTORATION

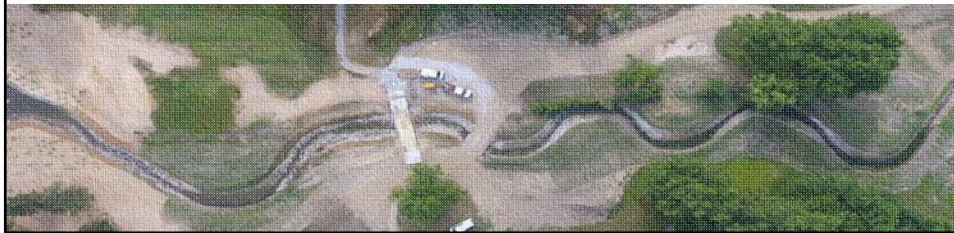
Mill Creek  
Watershed Partnership

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## QUESTIONS

 **Northeast Ohio  
Regional Sewer District**



*Doan Brook Stream Enhancement, Cleveland*

## Stormwater Construction Plan Proposed Projects

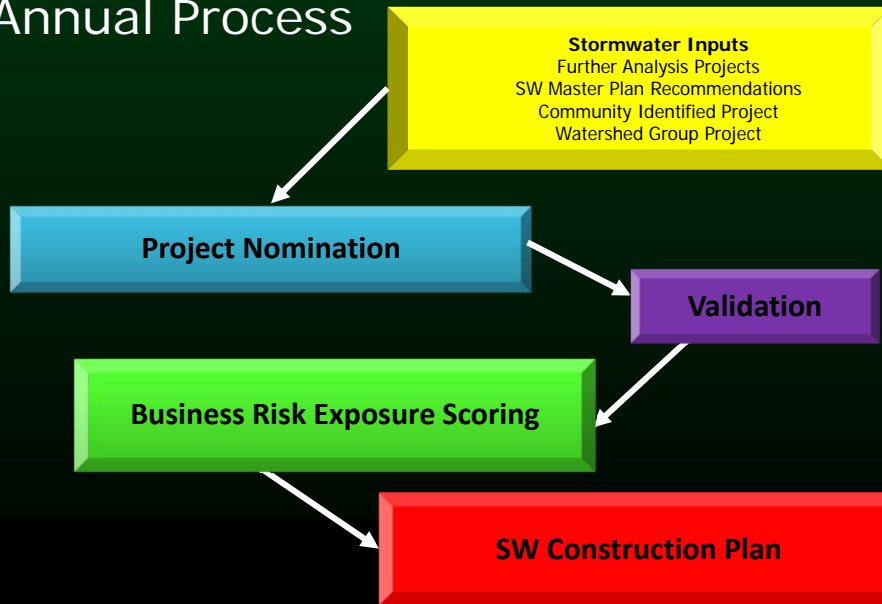


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# Stormwater Construction Plan Annual Process



## Community Identified Project

Submit Project information to the Sewer District

- Budget
- Project Summary
  - Problem being addressed
  - Explanation of the extent of specific improvements along the RSS
  - Site maps



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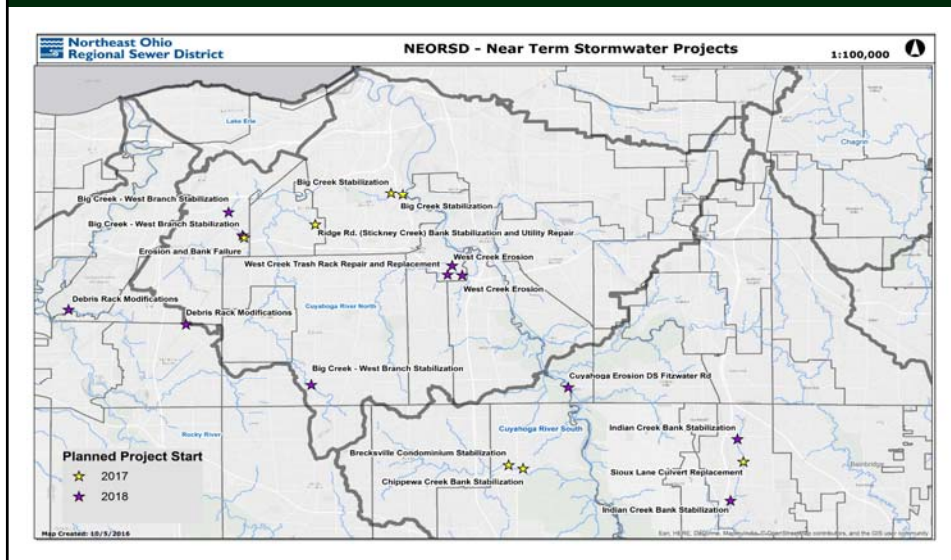


# Community Identified Project

- Background Information

- Studies and planning documents which support the need, and the proposed solution
- Site geotechnical studies, wetlands, water quality, and listed endangered species
- Existing and proposed preliminary hydrology and hydraulics
- Permitting (if initiated)
- Risks or constraints
- Known stakeholder outreach or input
- Current photos of the project site

## Stormwater Construction Plan Proposed Projects



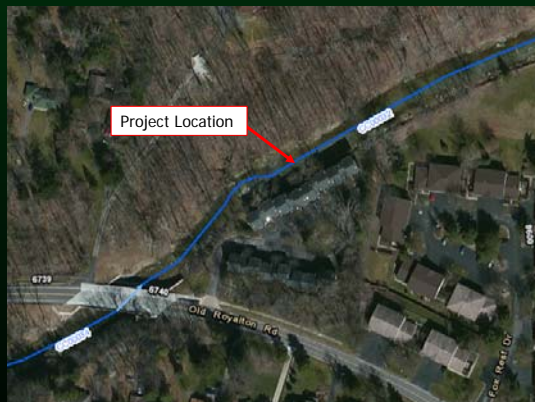
## Ridge Road Bank Stabilization Stickney Creek (Brooklyn)



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## Condominium Stabilization Chippewa Creek (Brecksville)



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# Stream Bank Stabilization Big Creek (Cleveland)



## Questions

*Highland Park Golf Course Stream Restoration, Highland Hills*

## Agenda

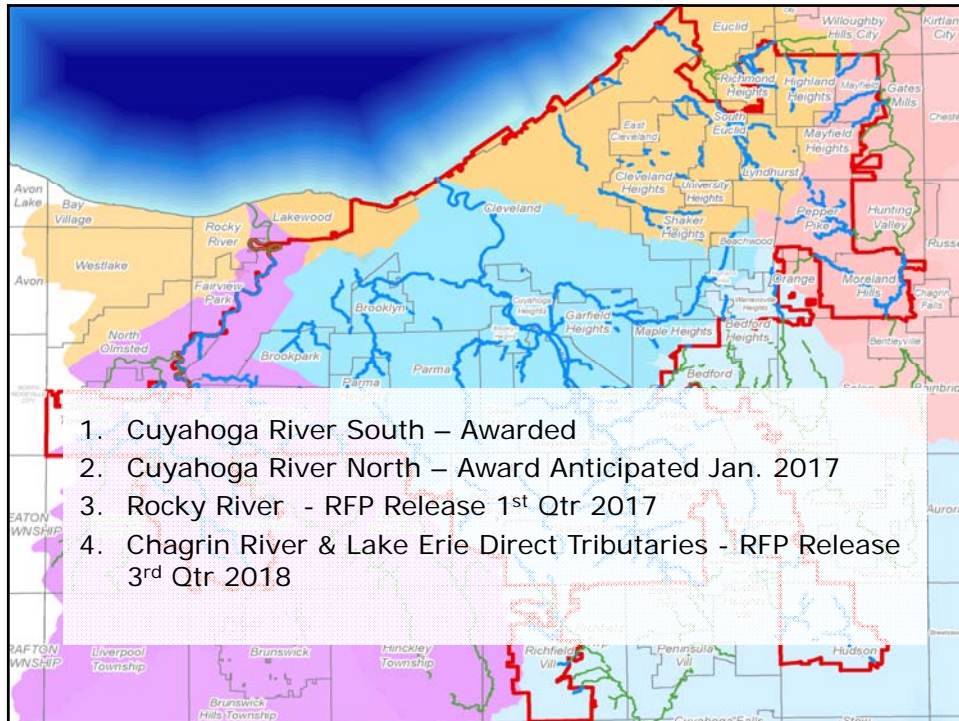
- Welcome
- Program Updates
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- Stormwater Construction Plan
- Stormwater Master Plans
  - Schedule
- Phase II Stormwater Services
- What's Next

## Stormwater Master Plans

### Goals and Objectives

- Operational Performance Evaluation
  - Identify areas of erosion and flooding through a combination of modeling, field assessments, and monitoring including portions of the LSS
- Alternatives Development and Evaluation
  - Comprehensive set of solutions to existing and future problems
- Development of Master Plan
  - Recommendations for policies, construction projects, and maintenance activities



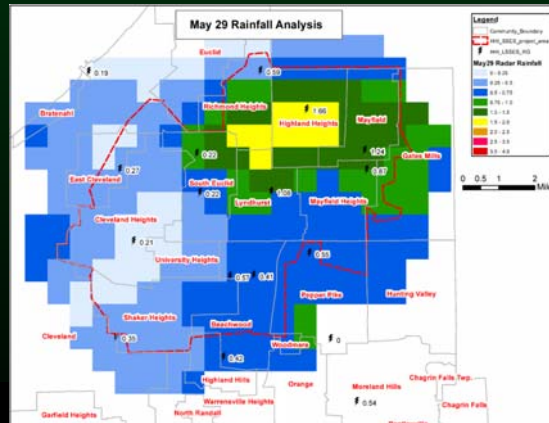


## New Data Sources

### LiDAR Data



### Radar Rainfall





## Agenda

- Welcome
- Program Updates
- Community Cost-Share
- Stormwater Construction Plan
- Stormwater Master Plans
- Phase II Stormwater Services
  - Service Providers
  - Services to be Provided under RSMP
  - Program Structure
- What's Next



## Ohio EPA Stormwater Program "Phase II"

- National Pollutant Discharge Elimination System **(NPDES)** Permit for Municipal Separate Storm Sewer Systems **(MS4s)**.
- Requires communities to develop a stormwater management program that includes **Six Minimum Control Measures**.
- All Sewer District Member Communities (except Linndale) included.



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## Six Minimum Control Measures

- MCM #1: Public Education and Outreach
- MCM #2: Public Participation and Involvement
- MCM #3: Illicit Discharge Detection and Elimination
- MCM #4: Construction Site Runoff Control
- MCM #5: Post-Construction Runoff Control
- MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations



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## Sewer District Required to Provide Support to Communities for.....

- MCM #1: Public Education and Outreach
- MCM #2: Public Participation and Involvement
- MCM #3: Illicit Discharge Detection and Elimination
- MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations



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## Providing Support through Cooperative Agreements with.....

- Cuyahoga County
  - Board of Health
  - Soil & Water Conservation District
- Summit County
  - Combined General Health District
  - Soil & Water Conservation District
- Lorain County Stormwater Management District
- Applicable watershed organizations specifically providing MCM #1 and #2 services



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## Summary of Services

### WAC Communities in Cuyahoga County

- **Cuyahoga County Board of Health**
  - MCM #3
  - MCM #6
- **Cuyahoga SWCD**
  - MCM #1
  - MCM #2
- **Applicable watershed organization**



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## Agreement Structure:

### Cuyahoga County Board of Health

- Step 1: Board of Health and Sewer District enter into cooperative agreement.
  - Board of Health provides MCM #3 and #6
  - Sewer District pays Board of Health
- Step 2: Board of Health enter into agreements with interested communities.
- Step 3: Sewer District approves services and pays Board of Health.



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## Next Steps for Board of Health: What to Look for in Late 2016

- Letter from Board of Health for 2017 cooperative agreement.
  - As usual, if already receiving services
  - New, if not working with Board of Health
- Please note:
  - Sampling all outfalls with dry weather flow.
  - Coordinating on source tracking.
  - Only monitoring outfalls in Sewer District service area for partially served communities.



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## Agreement Structure: Soil & Water Conservation Districts

Ohio Soil and Water Conservation  
Commission State Matching Fund Policy:

- Revenue received by SWCD from direct payments of stormwater utilities not matched.
- Result: Tripartite contracting arrangement.



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## Agreement Structure: Soil & Water Conservation Districts

- Step 1: SWCD, Sewer District, and interested community enter into agreement.
- Step 2: Communities pay SWCD under agreement.
- Step 3: Sewer District reimburses communities.



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## Next Steps: What to Look for in Late 2016

- Letter from SWCDs offering services
  - As usual, if already receiving services
  - New, if not working with SWCD
- Please note:
  - Services available across communities
  - Coordinating on Phase II messaging
  - Different agreement in place if working with watershed organization



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## Agenda

- Welcome
- Program Updates
- Community Cost-Share
- Stormwater Construction Plan
- Stormwater Master Plans
- Phase II Stormwater Services
- What's Next

## What's Next...

- Sewer District staff in streams doing:
  - Inspections
  - Maintenance
- Design and construction of projects
- Community Cost-Share applications
  - Available funds indicated on handout
- Plan review of submitted SW Management Plans

## What's Next...

- WAC Meetings
  - Cuyahoga River – North: October 12
  - Cuyahoga River – South: October 18
  - Lake Erie Direct Tributaries: October 19
  - Chagrin River Watershed: October 26
  - Rocky River Watershed: October 27
- Next Round in March 2017



## Questions

**Jeff Jowett**

Watershed Team Leader  
216-881-6600 Ext. 6881  
[jowettj@neorsd.org](mailto:jowettj@neorsd.org)

**Stormwater Program: Community Resources**

<http://www.neorsd.org/communitystormwaterresources.php>



