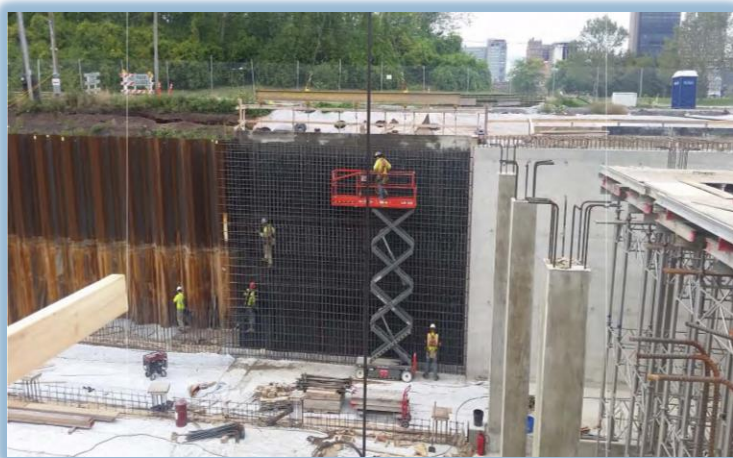


# CPAC Meeting Water Reclamation January 28, 2019



## TWI Current Status Summary January 2019



# Control Combined Sewer Overflows

## LTCP Progress Status Summary - Jan 2019



### City of Toledo Toledo Waterways Initiative Segment 3 - CSO LTCP Implementation Progress

Number	Project	LTCP Study	Facility Site Planning	Preliminary Design	Final Design			Construction
					60%	90%	100%	
1	O-1 Lockwood/Devilbiss SSES	Done	n/a	n/a	n/a	n/a	n/a	n/a
2	O-2 Lockwood/Devilbiss Sewer Separation	Done	Done	Done	Done	Done	Done	Done
3	W-1 Ash/Columbus Storage Pipeline	Done	Done	Done	Done	Done	Done	Done
4	E-6 Wheeling Area SSES and Sewer Separation	Done	Done	Done	Done	Done	Done	Done
5	S-3 Highland Area SSES and Sewer Separation	Done	Done	Done	Done	Done	Done	Done
6	S-4 Woodsdale Area SSES & Inflow Reduction	Done	Done	Done	Done	Done	Done	Done
7	W-2 Ash Area SSES & Sewer Separation	Done	Done	Done	Done	Done	Done	Done
8	W-5 Williams/Knapp Area SSES & Inflow Reduction	Done	Done	Done	Done	Done	Done	Done
9	W-7 New York Area SSES & Inflow Reduction	Done	Done	Done	Done	Done	Done	Done
10	W-6 Maumee Storage Basin	Done	Done	Done	Done	Done	Done	Done
11	E-7 Bay View Grit Facility	Done	Done	Done	Done	Done	Done	Done
12	O-3 Ayers/Monroe Storage/Conveyance Pipeline	Done	Done	Done	Done	Done	Done	Done
13	E-5 Oakdale Storage Basin	Done	Done	Done	Done	Done	Done	Done
14	S-1A Swan Creek North Tunnel Optimization	Done	Done	Done	Done	Done	Done	Done
15	S-2A Swan Creek South Tunnel Optimization	Done	Done	Done	Done	Done	Done	Done
16	W-4A Downtown Tunnel Optimization	Done	Done	Done	Done	Done	Done	Done
17	O-4A Ottawa River Storage Facility (Conveyance)	Done	Done	Done	Done	Done	Done	Done
18	O-4B Ottawa River Storage Facility (Basin)	Done	Done	Done	Done	Done	Done	Done
19	E-2 Dearborn Storage Pipeline	Done	Done	Done	Done	Done	Done	Done
20	E-3 International Park Storage Basin	Done	Done	Done	Done	Done	Done	Ongoing
21	S-1B Swan Creek North Sewer Separation	Done	Done	Done	Done	Done	Done	Ongoing
22	W-4C Downtown Storage Basin	Done	Done	Done	Done	Done	Done	Ongoing
23	S-2B Swan Creek South In-System Storage	Done	Done	Done	Done	Done	Done	Ongoing
24	E-1 Paine Regulator Modifications	Done	Done	Done	Done	Done	Done	Ongoing
25	E-4 Fassett Regulator Modifications	Done	Done	Done	Done	Done	Done	Ongoing

Progress Through Jan 15, 2018

# Control Combined Sewer Overflows



***Where are we today?***

***CSO Storage in the System will be significant!***

- ***95 MG Combined Sewer System storage at completion***
  - ***20 MG of tunnel storage completed in 1990s***
  - ***15 MG of storage in 5 projects***
  - ***36 MG of storage Joe E. Brown***
  - ***7 MG of storage Int'l Park***
  - ***17 MG of storage in construction – Downtown***

# Control Combined Sewer Overflows



## ***Where are we today?***

- ***Design 99% complete & Construction 90% complete***
- ***7 of 8 CSO outfalls eliminated....1 to go***
- ***470 MG /year on average will be eliminated when complete***
  - ***8 Inflow reduction & sewer separation projects complete***
  - ***3 Optimization projects for ex. CSO Storage Tunnels complete***
  - ***6 Storage/conveyance projects complete***
  - ***2 Storage & 1 sewer separation project under construction***
  - ***2 Regulator projects under construction***

# CSO LTCP Construction Safety December 2019

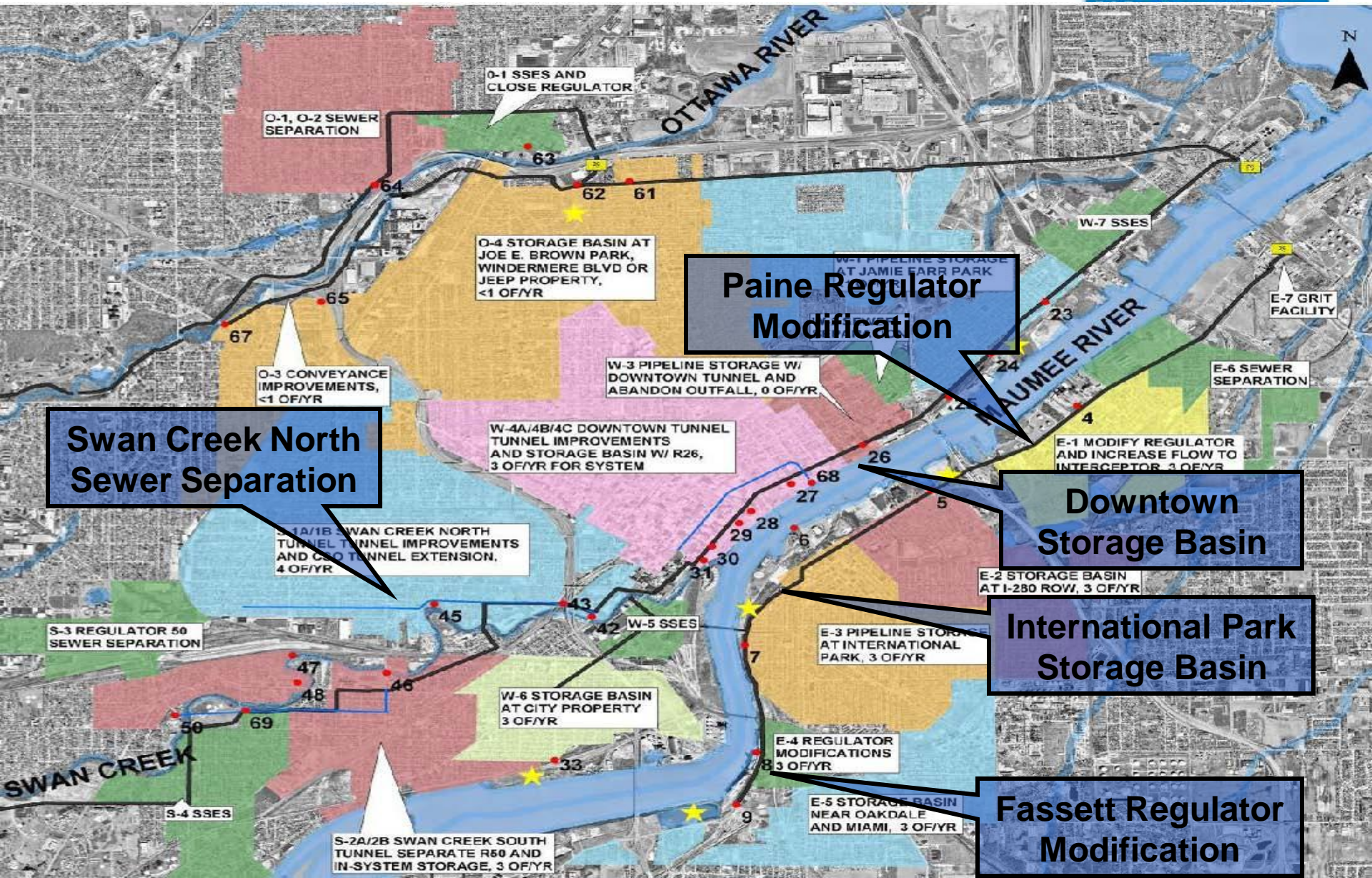


PHASE 2 LTCP PROGRAM-TO-DATE (105 Months - from 02/10 to 12/18)							
Contract	Total PH Worked	Recordable Injury/Illness Rate (IIR)	IIR Frequency Rate (2) x 200K / (1)	Lost Work Day Injury (LWDI)	Days Lost Due To LWDI	LWDI Frequency Rate (4) x 200K / (1)	Severity Rate (5) x 200K / (1)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
O-2A	11,191	0	0.0	0	0	0.0	0.0
O-2B	48,140	0	0.0	0	0	0.0	0.0
O-2C	19,948	0	0.0	0	0	0.0	0.0
O-3	24,735	0	0.0	0	0	0.0	0.0
W-1	32,594	0	0.0	0	0	0.0	0.0
E-7	74,288	1	2.7	0	0	0.0	0.0
W-6	38,519	1	5.2	1	6	5.2	31.2
E-5	86,491	2	4.6	1	13	2.3	30.1
W-4A/S-1A/S-2A	69,837	1	2.9	0	0	0.0	0.0
W-4A (Madison)	1,598	0	0.0	0	0	0.0	0.0
E-2	51,070	0	0.0	0	0	0.0	0.0
O-4A/O-4B	451,439	8	3.5	2	25	0.9	11.1
E-3	120,944	4	6.6	1	11	1.7	18.2
W-4C	143,940	3	0.0	0	0	0.0	0.0
PROGRAM TOTAL	1,174,735	20	3.4	5	55	0.9	9.4

- **1,175,000 const. hours + 359,000 eng. hours = 1.534 M total**
- **20 recordable injuries. 3.4 IIR. Nat. avg. is 3.5**
- **5 lost workdays due to injuries. 0.9 LWDI. Nat. avg. is 1.1**

# Control Combined Sewer Overflows

## Map of TWI CSO Projects in Construction



# International Park Storage Basin – Nov 2018

## Main St Crossing – Pipe Installation & Backfill



# International Park Storage Basin – Nov 2018

## Main St Chamber - Placing Water Proofing



# International Park Storage Basin – Nov 2018

## 84" Sewer Installation – Sheet Pile Removal



# International Park Storage Basin – Nov 2018

## Park Roadway – North End Subbase Prep



# International Park Storage Basin – Nov 2018

## Park Roadway – North End Paving Base Course



# International Park Storage Basin – Dec 2018

## Control Building – Temp Fencing



# International Park Storage Basin – Dec 2018

## Unicast Site Restoration – Brick Removal



# Downtown Storage Basin – Nov 2018

## Jefferson Drop Shaft – Brick Restoration



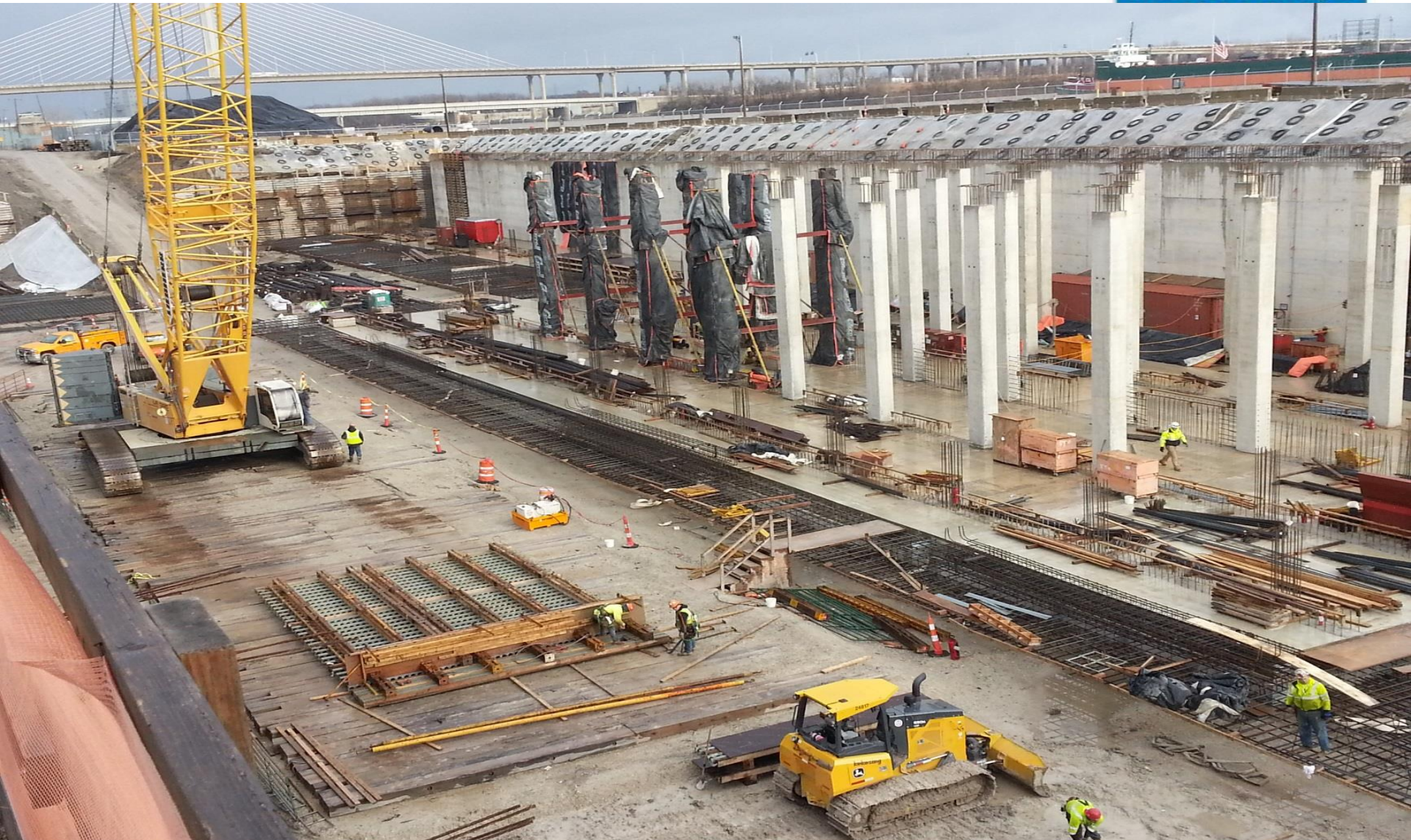
# Downtown Storage Basin – Nov 2018

## Jefferson Drop Shaft – Asphalt Restoration



# Downtown Storage Basin – Dec 2018

## Basin – Base Slab, Walls and Column Install



# Downtown Storage Basin – Dec 2018

## Basin - Installing Base Slab and Wall Re-steel



# Downtown Storage Basin – Dec 2018

## Basin-Pump Station – Form Removal



# Downtown Storage Basin – Dec 2018

## LaGrange Structure – Installing Base Slab



# Downtown Storage Basin – Dec 2018

## Locust St - 48" SS Sleeve Brick/Concrete



# Downtown Storage Basin – Dec 2018

## Locust St Diversion Chamber - Connection



# Swan Creek North/South – Nov 2018

## Green Infrastructure – Hamilton St



Green Infrastructure - Hamilton St. at City Park Ave.

# Swan Creek North/South – Nov 2018

## Green Infrastructure – Biocell



Green Infrastructure - Swan Creek Biocell T3

# Swan Creek North/South – Nov 2018

## Green Infrastructure – Biocell



Green Infrastructure - Swan Creek Biocell T3

# Swan Creek North/South – Nov 2018

## Green Infrastructure – Biocell Signage



### Welcome to Swan Creek Biocell T3



#### What is a Biocell?

When rain falls on roadways, roofs, and other hard surfaces, it picks up pollutants from these surfaces and washes them into the storm sewer system. Water that enters the storm sewer system goes directly to area streams without being treated. Bioretention cells or "biocells" are a type of green infrastructure that collect stormwater in a low area and uses vegetation and special soils to remove pollutants and keep our river and streams cleaner.

#### Biocell Profile Diagram



1. Rain - falls onto a hard surface and runs off into the gutter.
2. Surface Plants or Soil Layer - roots and soil help to slow down the rain.
3. Infiltration Layer - allows water to slowly infiltrate into the ground.
4. Sand and Gravel Layer - filters out pollutants from the stormwater.
5. Stone Layer - supports vegetation and water runoff.
6. Underdrain - collects excess water to drain away from the biocell.

#### How Do Biocells Work?

These biocells hold stormwater during rain events and let it slowly percolate through the layers of vegetation, sand, and gravel into a subsurface layer of sand and gravel. The sand and gravel filter out pollutants and keep it out of the storm sewer system. These biocells accept water from a 3-block watershed. They filter pollutants carried in the water, gasoline and oil, dirt, bacteria, and debris. They also filter out nitrogen and phosphorus, which feed algae blooms. With every inch of rain that falls in its watershed, these biocells capture and treat about 29,000 gallons of stormwater that would otherwise flow directly into the storm sewer system and on to Swan Creek.



#### Toledo Waterways Initiative

The Toledo Waterways Initiative is a \$100+ million program constructed between 2001 and 2021 to reduce sewer overflows by over 80 percent and reduce pollution going to our streams, rivers, and Lake Erie.

#### Project Background

The Biocell was constructed in 2018 by the City of Toledo as part of the Toledo Waterways Initiative Swan Creek North Sewer Separation project. The project included a total of 7 biocells and bio-swales as shown on the map.



# Swan Creek North/South – Nov 2018

## Harper St – Paving



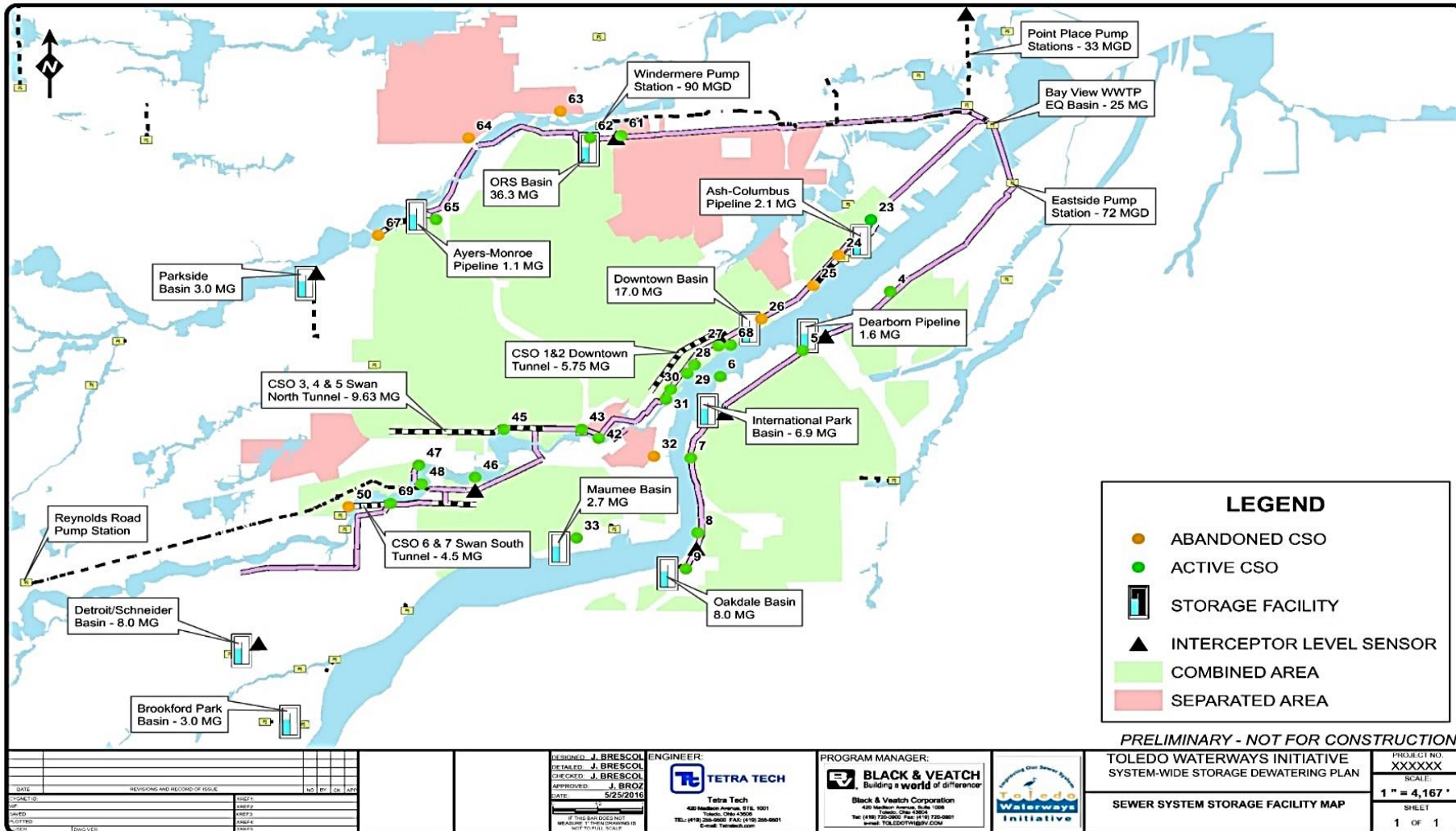
Harper St. - Asphalt Intermediate Course Placed

# Fassett St Regulator – December 2018

## Pipeline Install – Conflicts



# Bay View Water Reclamation Service Area Sewer System Storage Facility Map



# **TWI – Total Program...**

## ***Where are we today?***



***The Program is over 93% complete & on schedule:***

- ***All 152 Consent Decree milestones to date have been met***
- ***66 on Phase 1 and 86 on Phase 2***

***Out of 45+ projects, 40 are complete 5 are under construction***

# TWI – Total Program....

## *Where are we today?*



**Program cost @ complete projection: \$527 M**

**1. Eliminate WWTP Bypasses - \$135 M & 12 projects**

*Done! Zero bypasses since 2006 144 MG/yr. removed*

**2. Eliminate Sanitary Sewer Overflows - \$71 M & 8 projects**

*Done! Completed in 2014/2017 36 MG/yr. removed*

**3. Control Combined Sewer Overflows - \$321 M; 25 projects**

*Design 99% complete & Const. ~90% complete*

*When complete 470 MG/yr. removed*

# TWI Program Participating Planning/Design/CM/PR Firms



## The Black & Veatch Team



Jones & Henry



Tetra Tech



Stantec

- ***TTL***
- ***Hull & Associates***
- ***Vision Design Group***
- ***G Stephens***
- ***Northwest Consultants***
- ***Funk Lutke Skunda***
- ***Hart Associates***



- ***Rudolph Libbe***
- ***Barton Malow***
- ***Mosser***
- ***ES Wagner***
- ***Gleason***
- ***Anderzack Pitzen***
- ***Crestline***
- ***Salenbien***
- ***Inland Waters***
- ***Miller Brothers***
- ***PHC***
- ***Ed Kelly & Sons***
- ***Irish***
- ***Kokosing***
- ***Doetsch***
- ***Hank's Plumbing***
- ***Underground Utilities***
- ***L. D'Agostini & Sons***

## **TWI Program Participating General Contractors**



# Questions??

Please visit: [toledowaterwaysinitiative.com](http://toledowaterwaysinitiative.com)



# Public Relations and Community Engagement

CPAC Meeting  
January 28, 2019

# Why Public Engagement?



## **Long Term Control Plan:**

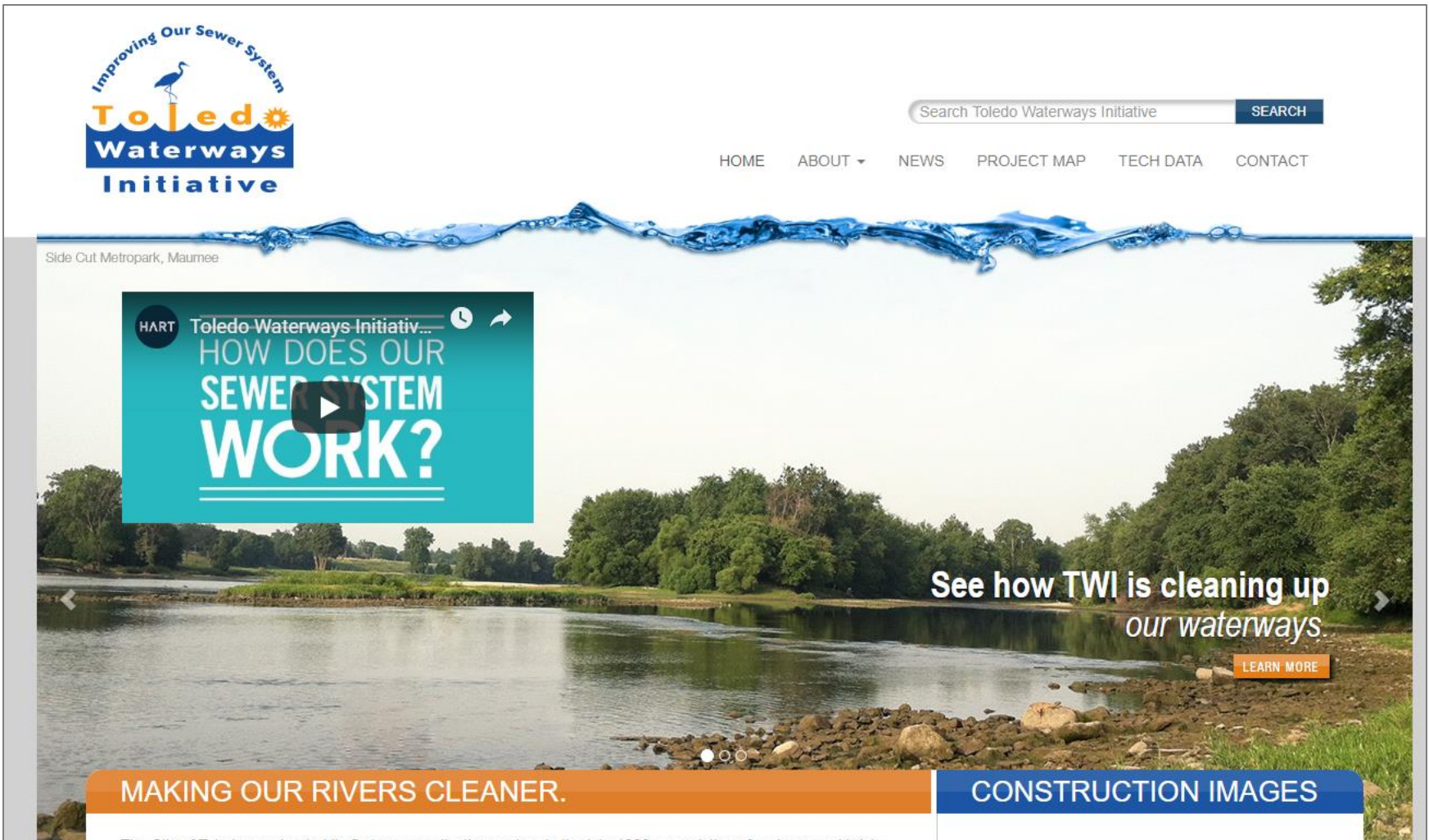
“Toledo is committed to active public participation and consultation during the planning, design and construction of CSO control projects. Future public participation will be designed to educate the public about the status of the program, communicate progress in implementing the program to neighborhood residents before, during and after construction, and report on the progress in reducing CSOs and improving water quality as a result of the program.”



# Program-Wide Communications

Transparency in program status and progress

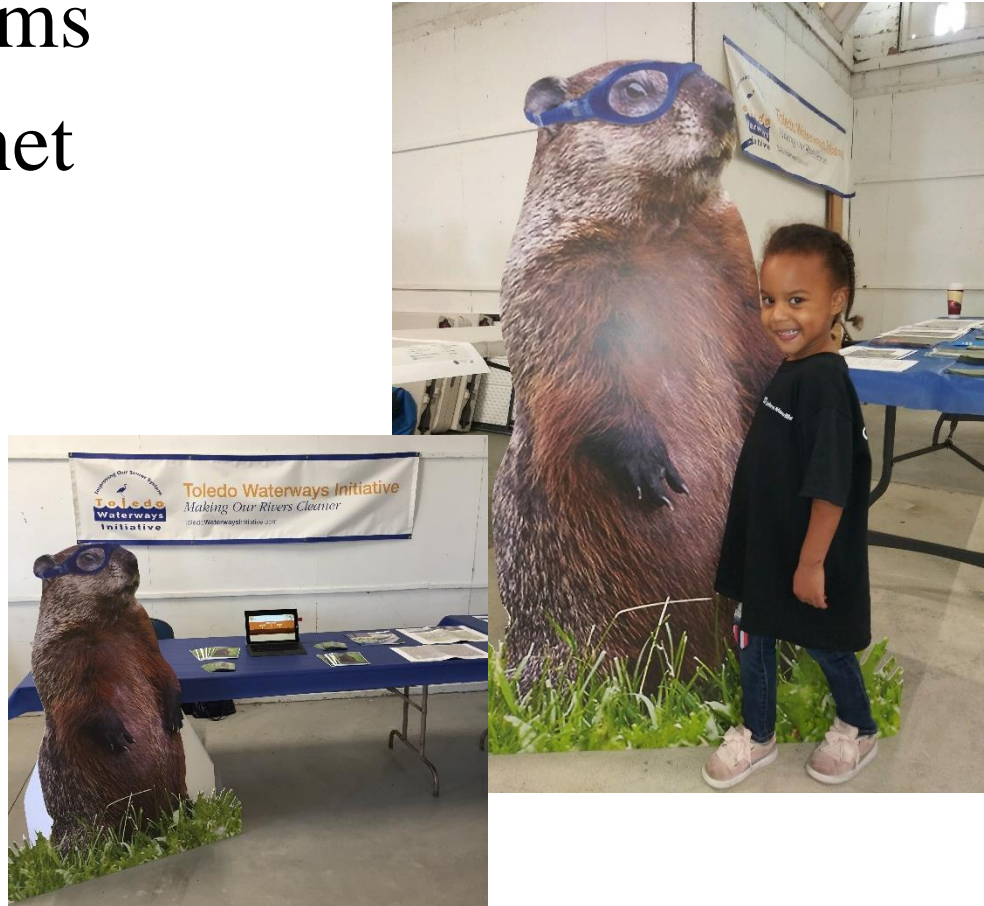
# Website



# Community Events



- Clean Your Streams
- Party for the Planet
- Drinking Water Week events



## Community Program Advisory Committee

- Appointed by Mayor during LTCP creation
- Continued for program oversight, appointed by Program Administrator

*“Selected to reflect a cross section of community interests and geographic areas.”*



# Project-Specific Communications

Notification of construction and its impacts

# Public Meetings



- Beginning of project
- Notify nearby residents/businesses of:
  - Program goals
  - Project goals
  - Project timeline
  - Project impacts

# NACs and BACs



## Neighborhood/Business Advisory Committees

- Composed of engaged neighbors
- Explain project impacts
- Solicit input on restoration, when possible

# Resident Response



- Website contact form
- Hotline
- Team availability
- Other activities as warranted

# PR Goals



- Transparency
- Availability
- Maintain neighborhoods