

Present: Scott Batterton, Robert Scott, Rich Edinger, Babafemi Adesanya (online), Neil Schaap, Randy Strunk, Anita Atkinson (online)

GWINNETT COUNTY STORMWATER AUTHORITY MINUTES

OFFICIAL MINUTES

October 21, 2022; 2:00 P.M.

I. Open Meeting: Chairman Batterton

- i. Meeting called to order, verified quorum.
- ii. Approval of Agenda: October 21, 2022.
{Action: Approved; Motion: Edinger; Second: Strunk; Vote: 7-0}
(Batterton-Yes; Scott-Yes; Edinger -Yes; Schaap -Yes; Adesanya-Yes; Strunk-Yes; Atkinson-Yes)
- iii. Approval of Minutes: June 17, 2022.
{Action: Approved; Motion: Edinger; Second: Scott; Vote: 7-0}
(Batterton-Yes; Scott-Yes; Edinger -Yes; Schaap -Yes; Adesanya-Yes; Strunk-Yes; Atkinson-Yes)

II. New Business:

- i. Financial Update (Lanfreschi)
Reviewed 2021 and current 2022 Stormwater Funds for Capital and Operating, 5-year Budget forecast (2023-2028), and Stormwater Fund Financial Sustainability.

Discussion on potential revenue increased with additional development, annually these are <1% based on added impervious surfaces.
Discussion on increased construction costs and potential impacts to budgets.
- ii. MS4 Illicit Discharge/Illegal Connection (IDIC) (Middlebrooks)
Reviewed the County's IDIC program, which is a part of County's MS4 permit requirements. Components include Dry Weather Screening and Response to customer work requests when they see a potential concern.

Discussion on effectiveness of Dry Weather Screenings. Program indications are that more problems are identified through customer work requests.
- iii. Stormwater Pipe Trends (Gurd)
Reviewed types/percentages of current stormwater pipes; average pipe age; pipe materials and rehab/replacement statistics.

Discussion on pipe trends and how pipes are scheduled for inspection on a rotational basis.

III. Old Business

- i. None

IV. Updates

i. IT Email Access Updates (Gurd)

County-wide two-week mandatory lock-out; no exceptions

Reach out to Toni Faulk for instructions/contact for information.

OTHER UPDATES/FUTURE TOPICS

Discussed future potential topics: Stormwater pipe condition ratings/cross reference with age of pipes, Private BMPs: how many exist and how are they managed, and Policies regarding upsizing pipes based on modeling.

V. Adjourn (Batterton)

Motion to Adjourn: Batterton

{Action: Approved: 7-0; Batterton-Yes; Scott-Yes; Edinger -Yes; Schaap -Yes; Adesanya-Yes; Strunk-Yes; Atkinson-Yes}

Welcome
to the October 21, 2022
Gwinnett County
Stormwater Authority
meeting

Please mute your
phone unless
speaking



Gwinnett

Stormwater Authority Meeting

Friday, October 21, 2022



Gwinnett





Agenda

Financial Update

MS4 Illicit Discharge Detection

Stormwater Pipe Trends



Financial Update

Michael Lanfreschi





Agenda

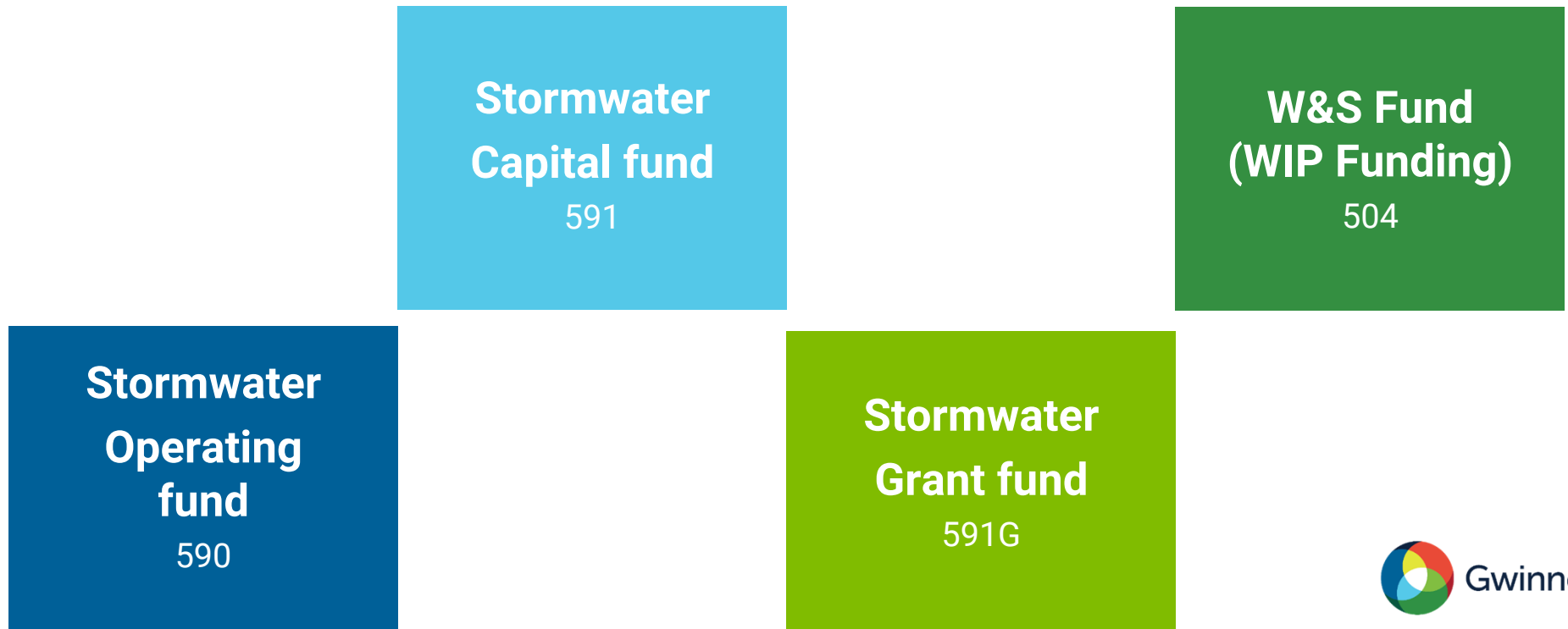
2021 Financial Recap

2022 Current Budget

2023-2028 Requested Budget

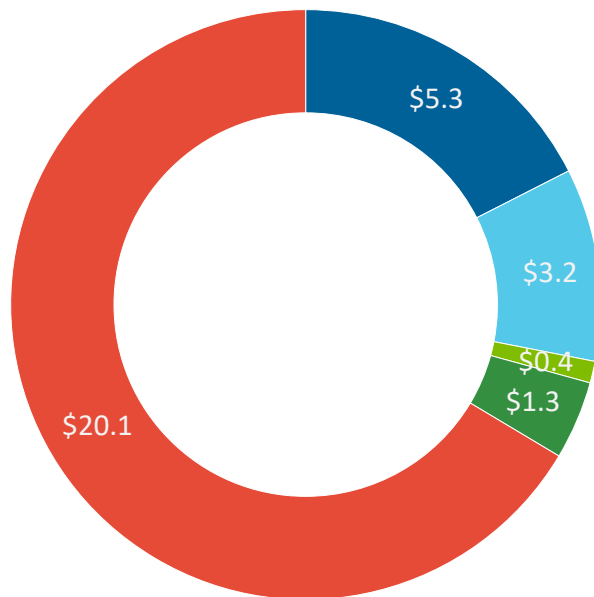


Stormwater Funds Breakdown



2021 Stormwater Recap - Operations

Stormwater Operating Fund: 590



- Total Budget: \$31.9M
- Total Spend: \$30.3M

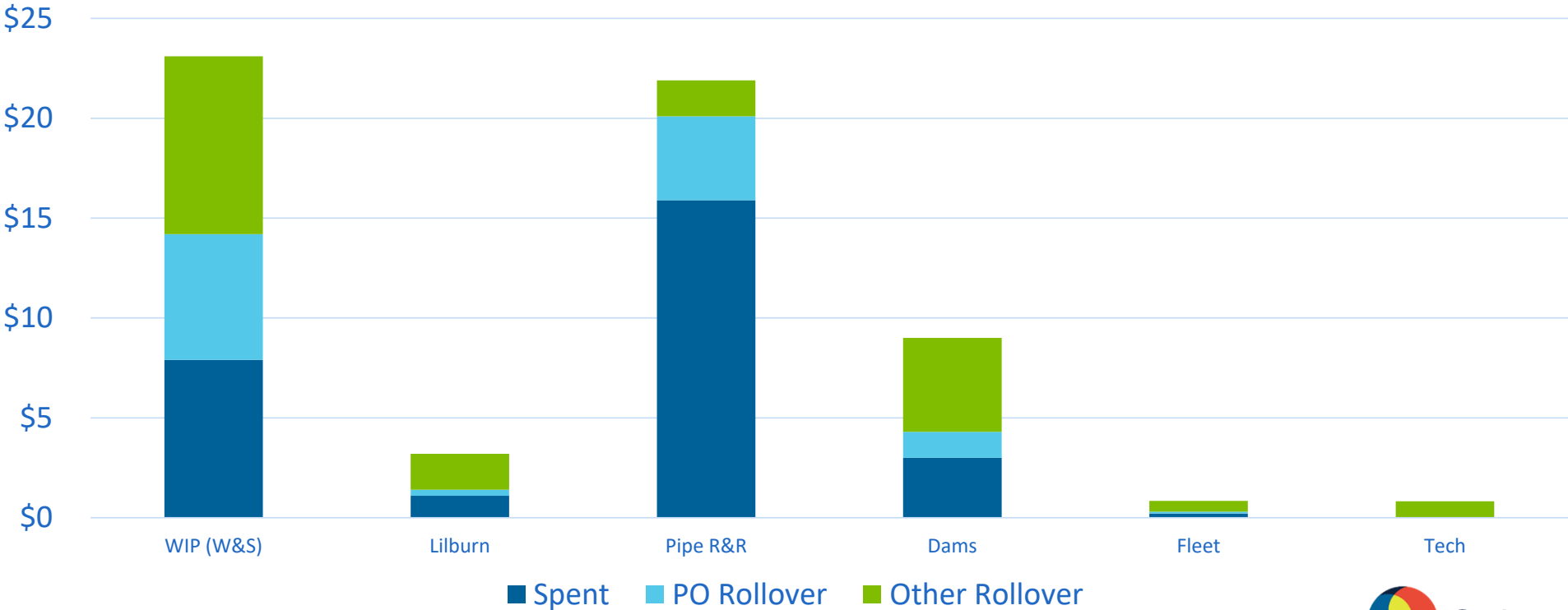
■ Personal Services
■ Debt
■ Transfer to Capital

■ General Operating Expenditures
■ Contributions



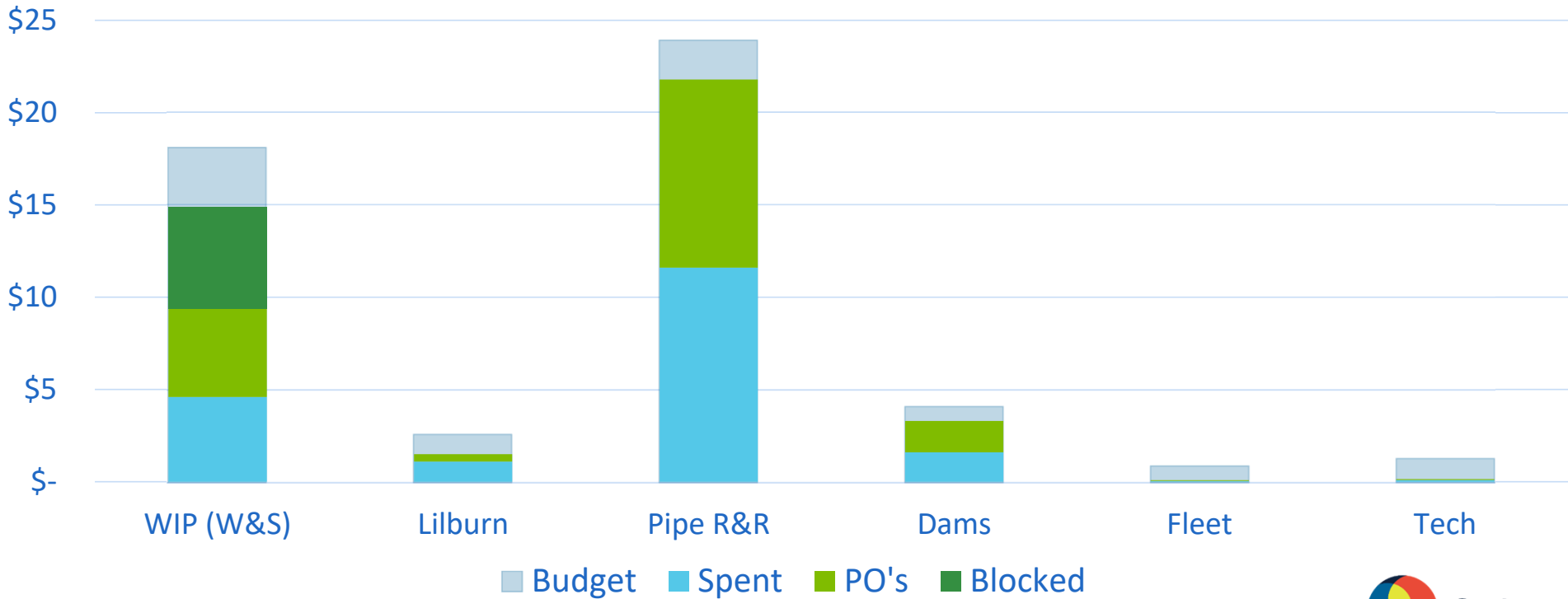
2021 Stormwater Recap - Capital

In Millions



2022 Current CIP Project Budget vs Spend

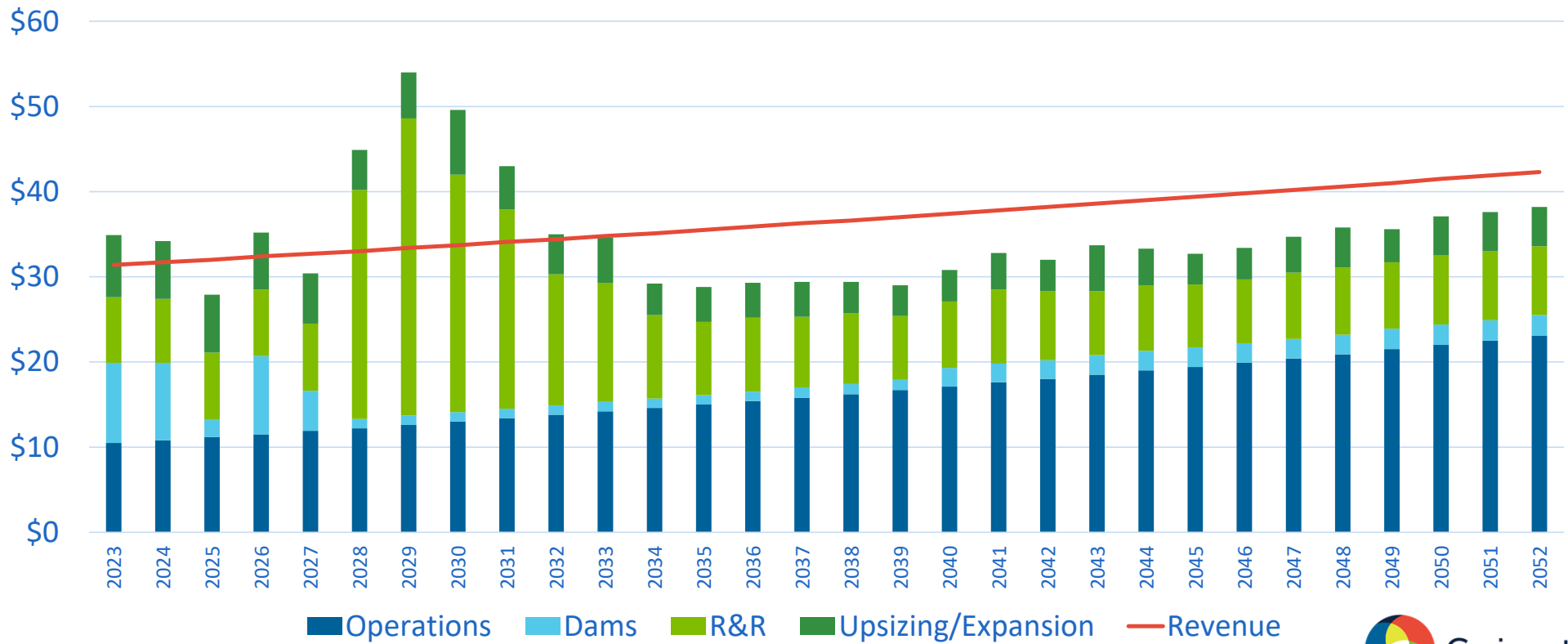
Budget vs Spend as of September 30, 2022 (Millions)



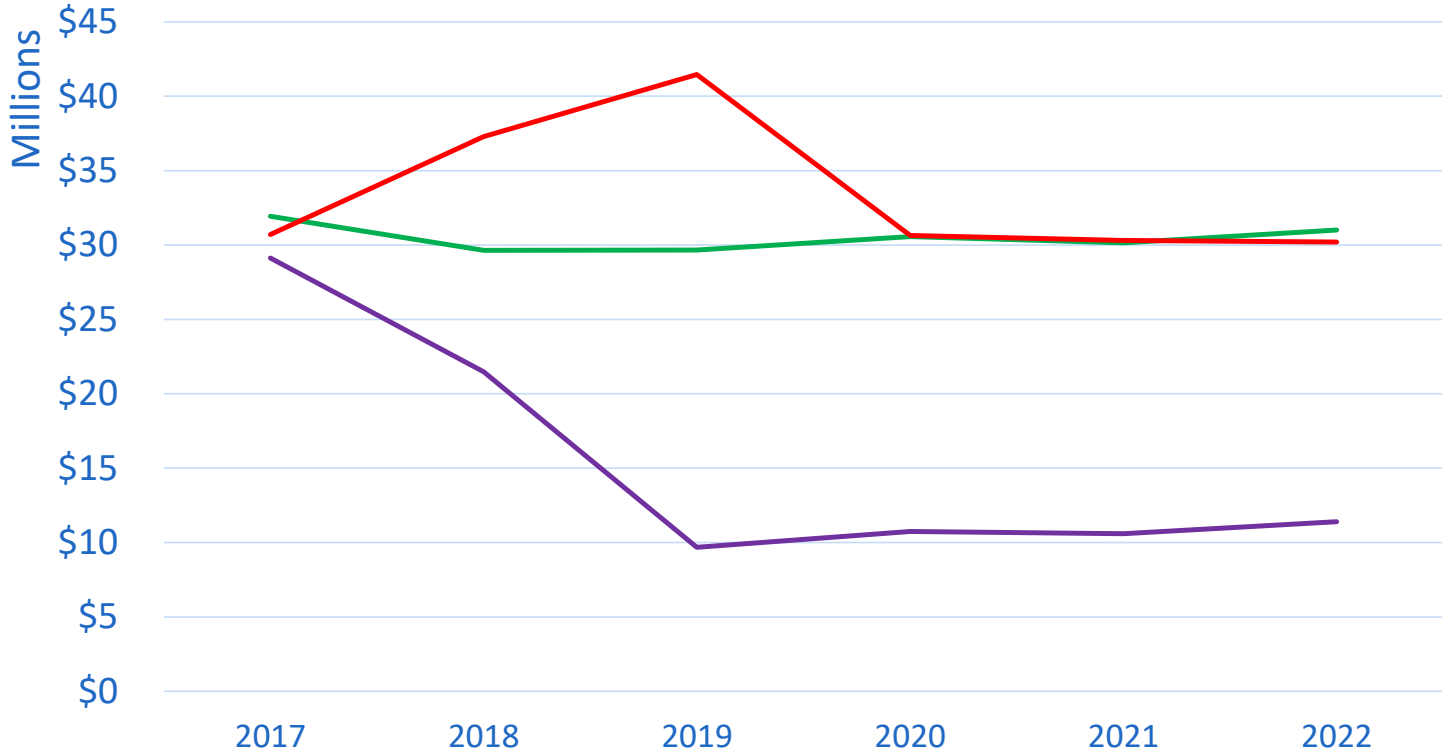
2023-2028 Requested Budget

Project Name	Project Number	2023	2024	2025	2026	2027	2028	Total
Fleet	E-0137	\$200,000	\$550,000	\$200,000	\$300,000	\$300,000	\$300,000	\$1,850,000
Lilburn Drainage Improvements	M-1005	\$739,235	\$441,767	\$642,238	\$644,764	\$645,001	\$446,000	\$3,559,005
Pipe R&R	M-1008	\$10,481,236	\$10,283,996	\$12,072,222	\$14,155,047	\$12,036,916	\$18,343,827	\$77,373,244
Dams Program	F-0234	\$7,723,068	\$8,087,991	\$5,318,011	\$4,892,696	\$2,745,305	\$1,000,000	\$29,767,071
Technology	IT Projects	\$833,733	\$761,413	\$384,994	\$339,980	\$210,350	\$210,350	\$2,740,820
Watershed Improvement (WIP)	F-1329	\$8,425,000	\$3,000,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$17,425,000
Totals		\$28,402,272	\$23,125,167	\$20,117,465	\$21,832,487	\$17,437,572	\$21,800,177	\$132,715,140

30-Year Financial Forecast



Financial Sustainability – Stormwater Fund



3 month required fund balance
\$7.6M



Current fund balance
\$11.4M



Current Standing:
Good Financial Health



— Revenues — Expenditures — Fund Balance

Questions?



Questions?



MS4 Illicit Discharge Detection

Kevin Middlebrooks
Section Manager –
Stormwater Services



Gwinnett



IDIC – Intro

- Illicit Discharge & Illegal Connection (IDIC) Ordinance
- Dry Weather Screening (permit requirement)
- Response investigations (Work Orders - tracked in Lucity)

Dry Weather Screening - Overview

- Inspections during dry weather @ lowest point on MS4 where it discharges to state waters = called “outfalls”
- Must be < 0.10” of precipitation in preceding 72-hr period



Dry Weather Screening - Statistics

- We have 564 DWS outfalls in Gwinnett
- 100% of outfalls must be inspected over 5-year permit cycle, so ~ 113 DWS events/ year
 - “Flow” found in only around 5 outfalls per year
 - Only 2 true Illicit Discharges identified through DRW in last 5 years

IDIC – Work Orders

- 120 -150 IDIC Work Orders investigated each year
 - ✓ Guidance notices/educational materials given out almost every visit
 - ✓ 75% of WOs involve legitimate stormwater/water quality concerns.
 - ✓ ~12 annually involve confirmed illicit discharge violations that result in the issuance of NOVs

- Examples include....

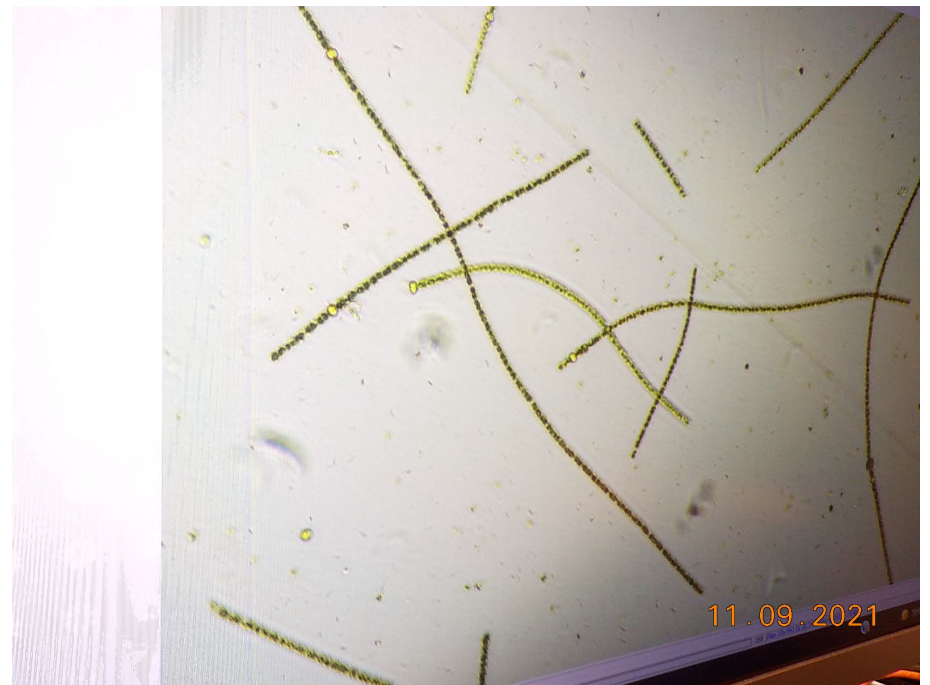
IDIC – Private Pump Station



IDIC – Septic Failure



IDIC – Cyanobacteria



IDIC – Pet Waste

08.07.2017

08.07.2017

IDIC – Illegal Connection

12.22.2021

12.22.2021





Questions?



Gwinnett

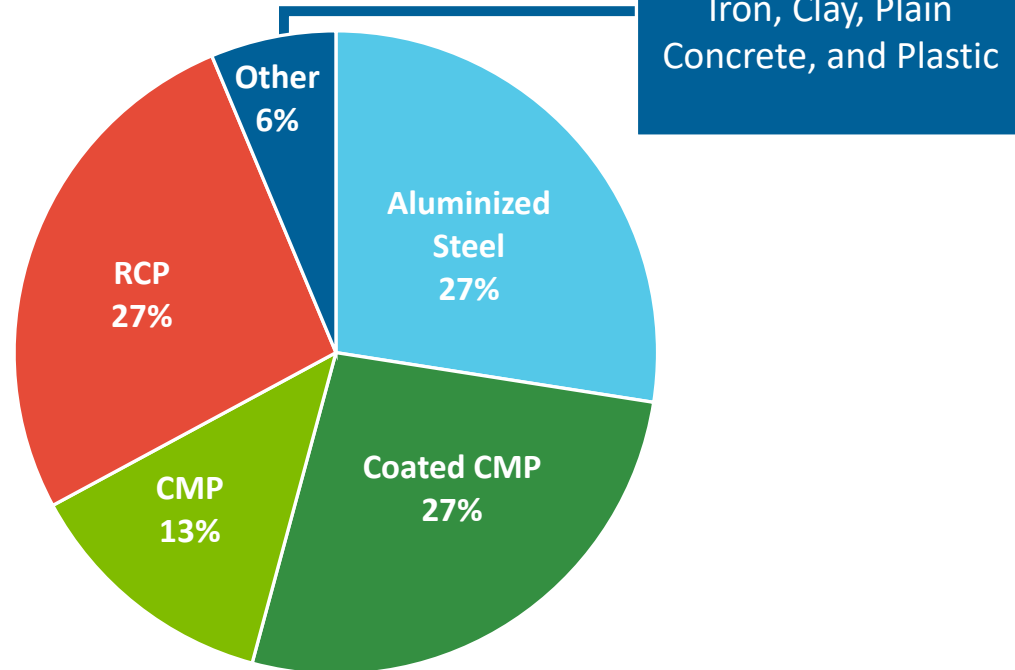
Stormwater Pipe Program Trends

Katherine Gurd
Division Director,
Stormwater Services



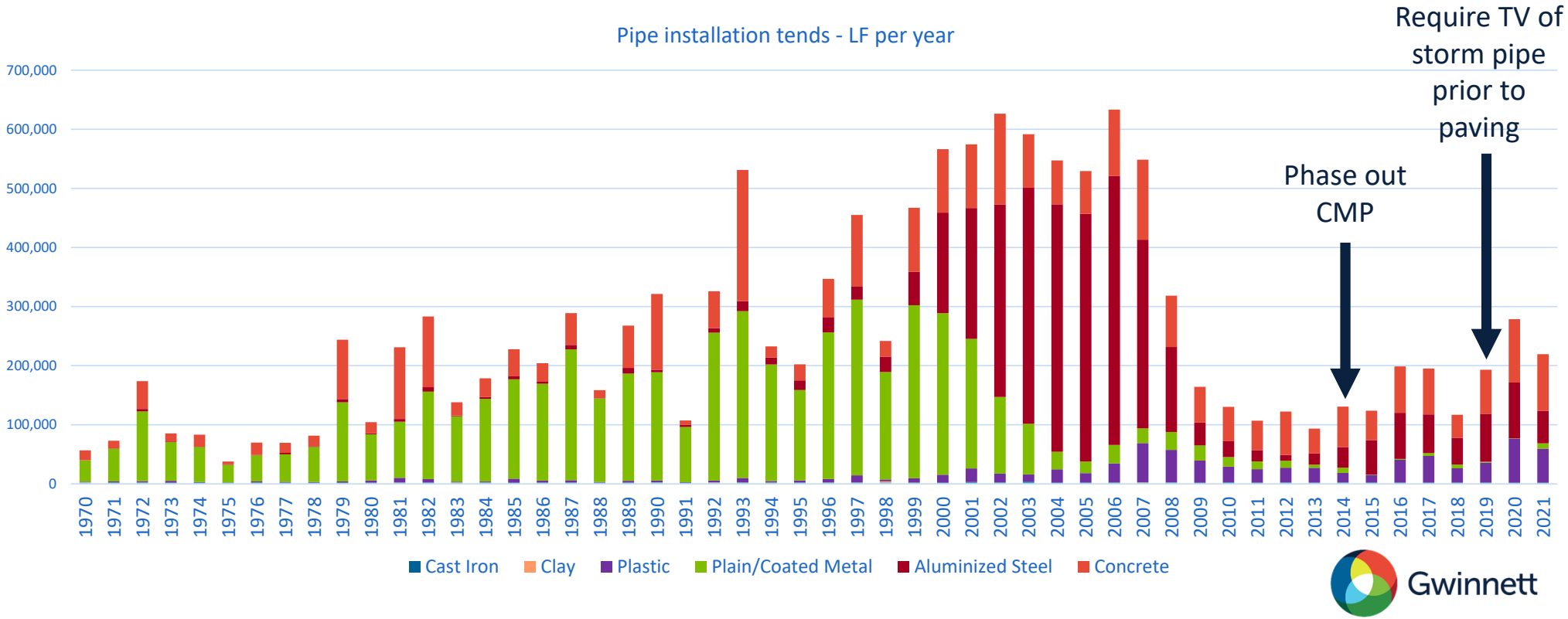
Current Stormwater System

Percent of County Stormwater System

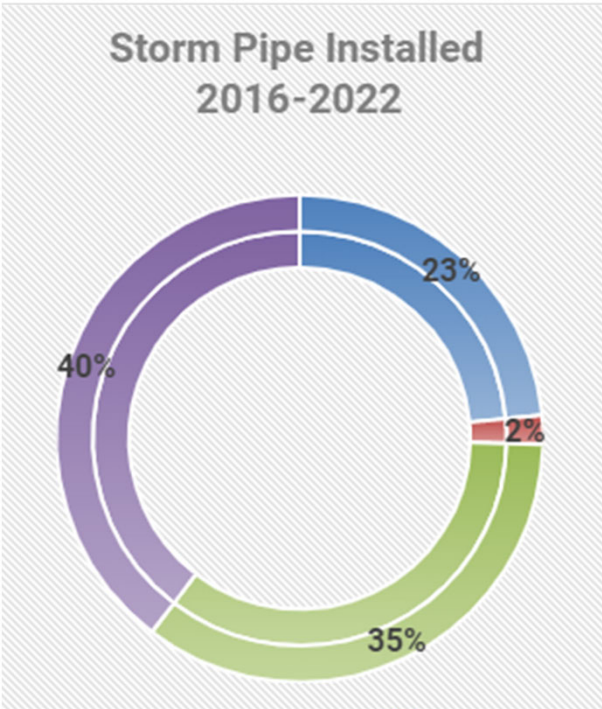
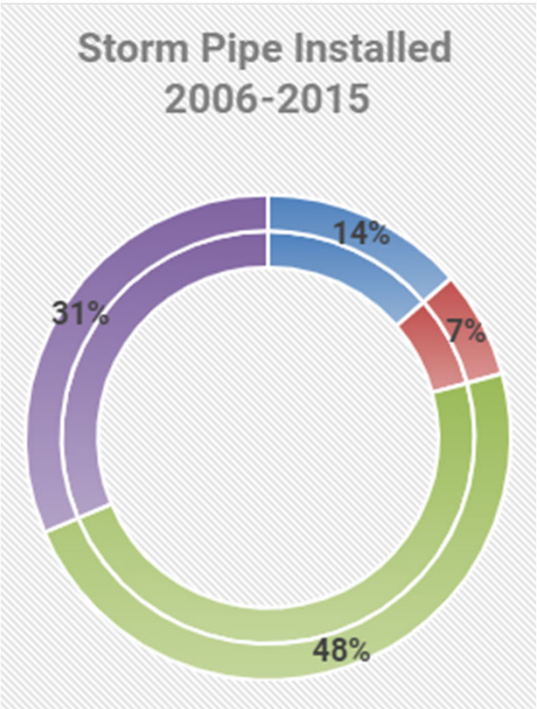
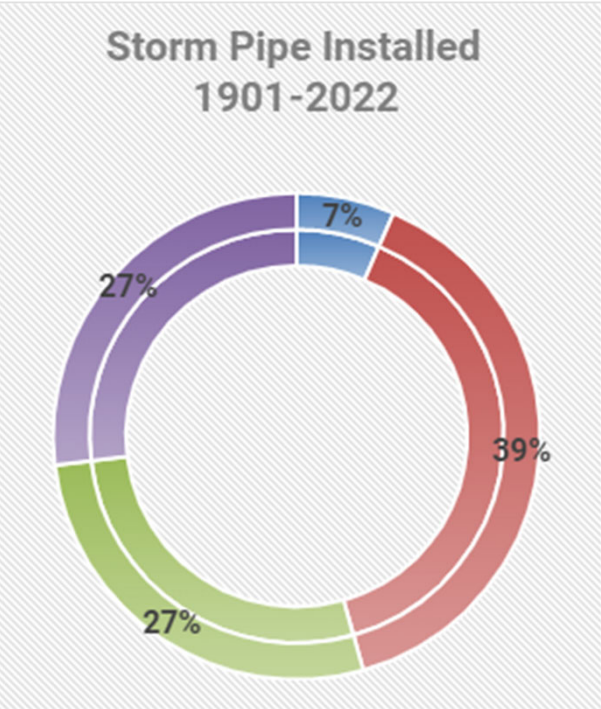


Pipe Installation Summary

Note the amount of CCMP and CMP installed in the 1990's. This pipe will be reaching the end of it's EUL within the next decade.



Pipe Installation Trends



■ Plastic ■ Plain/Coated Metal ■ Aluminized Steel ■ Concrete

Expected Useful Life (EUL)

The Expected Useful Life (EUL) is based on a blending of manufacturer's recommendations along with DWR experience.

Material Type	Useful Life (Years)
Reinforced Concrete Pipe (RCP)	100
Plain Concrete Pipe (CP) (No longer allowed)	50
Aluminized Steel Pipe (ASP)	50 / 75*
Coated Corrugated Metal Pipe (CCMP) (No longer allowed)	30
Corrugated Metal Pipe (CMP) (No longer allowed)	30
High Density Polyethylene Pipe (HDPE)	75
Cast Iron Pipe (CIP) (No longer allowed)	75
Clay Pipe (VCP) (No longer allowed)	50
Lined Pipe (CIPP or CCP)	75

Aluminized Steel Pipe

- EUL is 50 years per the DWR Tactical Asset Management Plan
- Manufacturers suggest an EUL of 75 years
- Gwinnett County does not yet have enough data to support the manufacturers' claim

Table 1 Pipe Materials

Pipe Type	Reinforced Concrete Pipe	Metal Pipe			Plastic Pipe	
		Aluminized Type 2 Steel	Polymer Precoat Steel	Aluminum Alloy	Corrugated Polyethylene	Smoothed Lined High Density Polyethylene Type "S"
Specifications (See Note 1)	ASTM C76, AASHTO M170	ASTM A760, A929; AASHTO M36, M274	ASTM A742, A762; AASHTO M245, M246	ASTM B744, B745; AASHTO M196, M197	AASHTO M252	ASTM F-2306; AASHTO M294
Minimum Thickness / Class	III	14 Ga.	14 Ga.	14 Ga.	AASHTO M252	AASHTO M294
Installation Type						
Longitudinal						
Public Road ADT <5000	Cross Drain < 10% Slope	X	X	X	X	X
	Cross Drain > 10% Slope			X		X
Public Road ADT ≥5000	Cross Drain < 10% Slope	X				X (See Note 2)
	Cross Drain > 10% Slope			X		X (See note 2)
Lateral Systems						
Slope Drain						
Perforated Underdrain						
Dams						
Perennial Streams						
Minimum Allowable Design Velocity						
Maximum Allowable Design Velocity						
Notes:						
1.) All pipe materials shall meet the minimum requirements of the Georgia Department of Transportation's Standard Specifications for Construction of Transportation Systems, most current edition.						
2.) HDPE not allowed on roads with ADT ≥15,000.						

How Different Pipe Materials are Used

Current Gwinnett County Pipe Standards



Table 7.3—Selection Guideline for Culvert, Slope, and Underdrain Pipe

PIPE TYPE	INSTALLATION TYPE									
	STORM DRAIN							SIDE DRAIN	PERMANENT SLOPE DRAIN	PERFORATED UNDERDRAIN
	TRAVEL BEARING (Inside Roadbed)					NON-TRAVEL BEARING (Outside Roadbed)				
	GRADE ≤ 10%				Grade > 10%	Interstate	Non-Interstate			
	ADT < 1500	ADT ≥ 1500 < 5000	ADT ≥ 5000 < 15,000	ADT ≥ 15,000 & Interstates						
Concrete Pipes Section 843										
Reinforced Concrete AASHTO M 170	YES	YES	YES	YES	NO	YES	YES	YES	NO	NO
Steel Pipes Section 884	See Table 1 below for Site Condition Restrictions									
Corrugated Steel Aluminum Coated (Type 2) AASHTO M 36	YES	YES	NO	NO	NO	NO	YES	YES	YES	YES
Corrugated Steel Plain Zinc Coated AASHTO M 36	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES
Polymer Coated Steel AASHTO M 245	YES	YES	NO	NO	YES	NO	YES	YES	YES	NO
Aluminum Alloy Pipes Section 840	See Table 1 below for Site Condition Restrictions									
Corrugated Aluminum AASHTO M 196	YES	YES	NO	NO	NO	NO	YES	YES	YES	YES
Thermoplastic Pipes Section 845										
Corrugated HDPE AASHTO M 252	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
Corrugated Smooth Lined HDPE AASHTO M 294 Type "S"	YES	YES	YES	NO	YES	NO	YES	YES	YES	YES
Corrugated Smooth Lined Polypropylene AASHTO M 330	YES	YES	YES	NO	YES	NO	YES	YES	YES	YES
PVC Corrugated Smooth Interior ASTM F 949	YES	YES	YES	NO	YES	NO	YES	YES	YES	YES
PVC Profile Wall AASHTO M 294	YES	YES	YES	NO	YES	NO	YES	YES	YES	YES

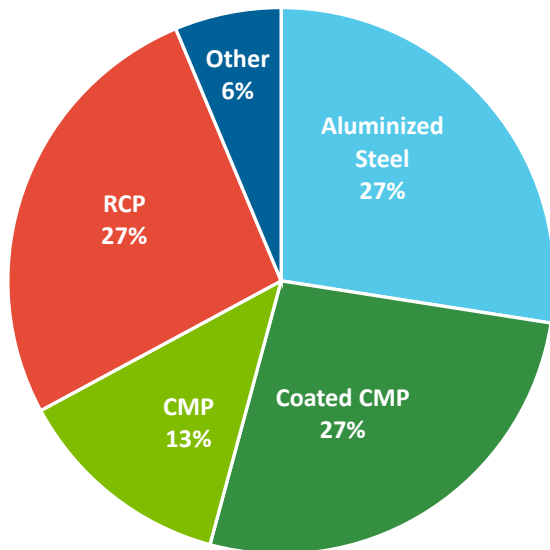


How Different Pipe Materials are Used

	Reinforced Concrete	Aluminized Steel	High Density Polyethylene
Public Road ADT <5000	✓	✓	✓
Public Road ADT ≥ 5000	✓		under 15,000 ADT
Lateral Systems	✓	✓	✓
Slope Drain		✓	✓
Perforated Underdrain		✓	✓
Dams	✓		
Perennial Streams	✓		

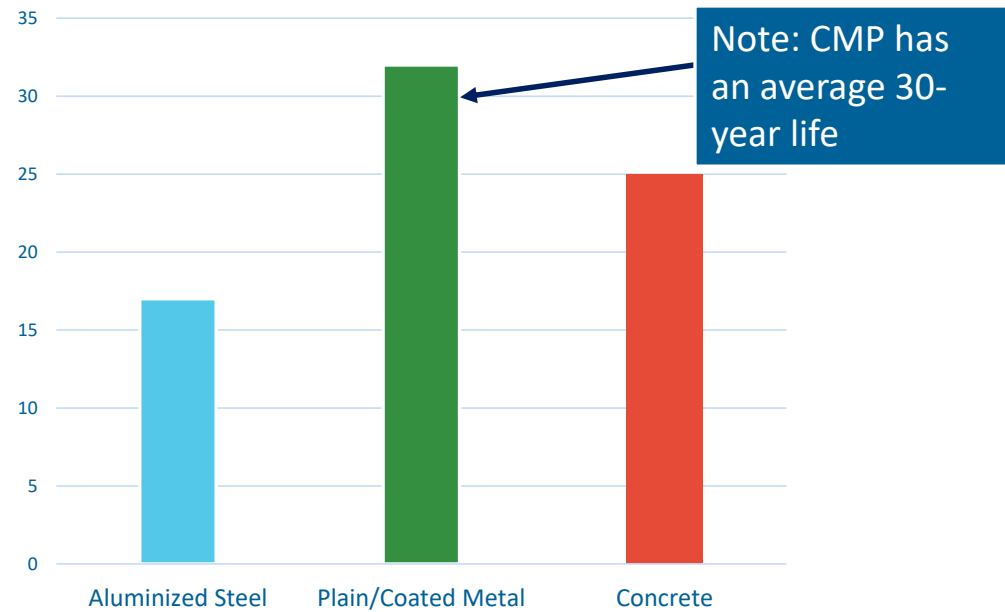
Pipe Materials and Average Age

Percent of County Stormwater System



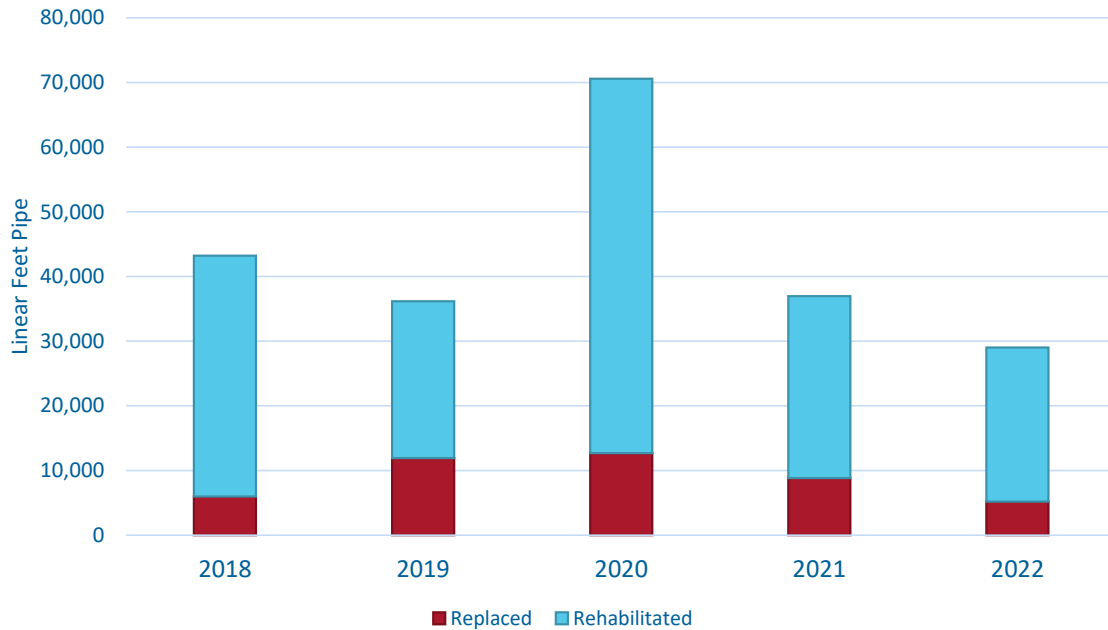
“Other” includes Cast Iron, Clay, Plain Concrete, and Plastic

Average Age by Pipe Type

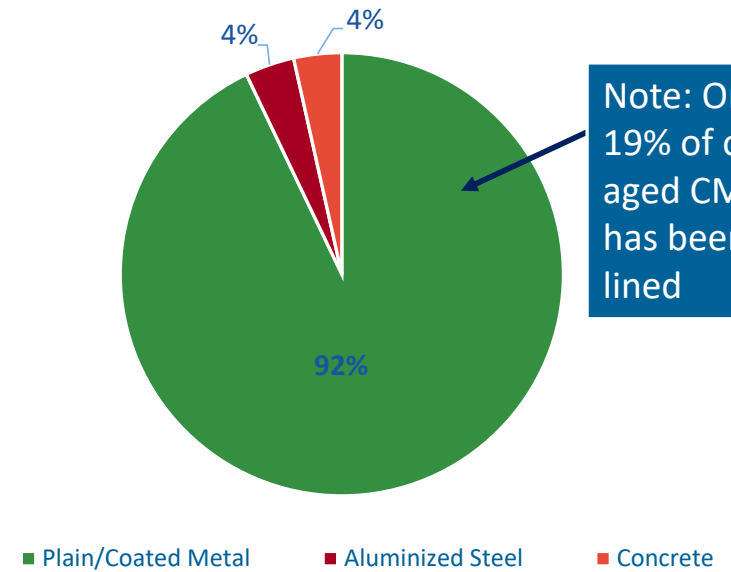


Rehab and Replacement Stats

Stormwater Pipe Rehab and Replacement



What Pipes are We Lining?



Note: Only 19% of our aged CMP has been lined

Trenchless Rehab

Cured In Place Pipe (CIPP)

- Thermosetting resin impregnated flexible fabric tube



Centrifugally Cast Pipe (CCP)

- Fiber reinforced geopolymer mortar
- Typically Spun or sprayed



Sliplining

- Insertion of a slightly smaller pipe into an existing pipe
- Material includes HDPE, Fusible PVC, Ductile Iron and Polymer

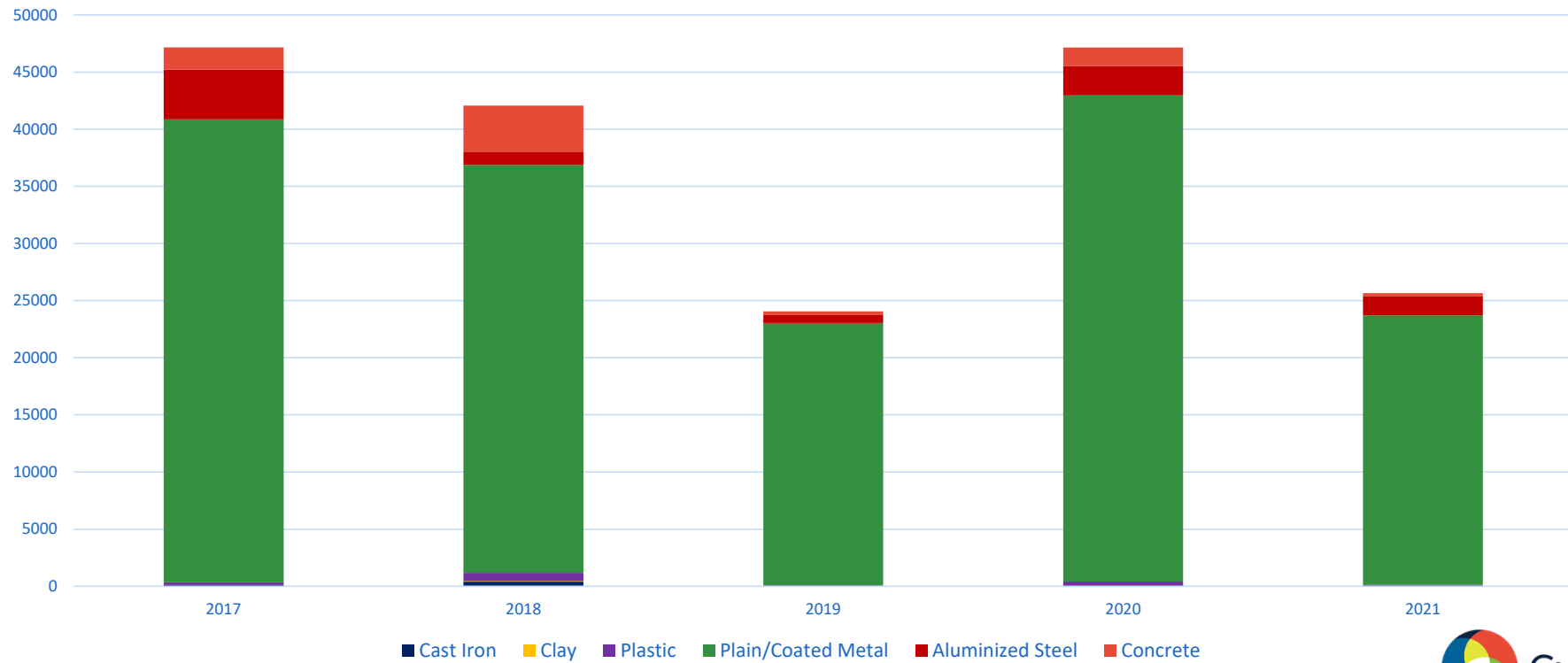


Open Cut And Replacement

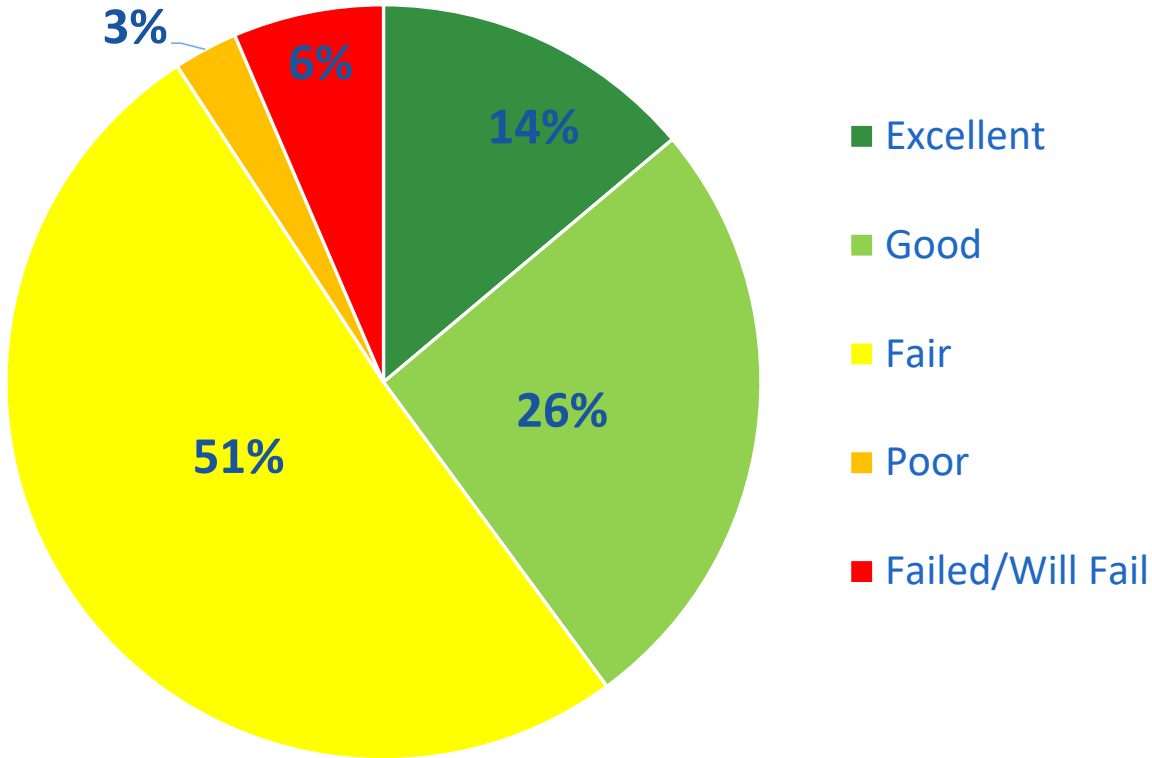


Rehab and Replacement Stats

Pipes Lined - LF per year



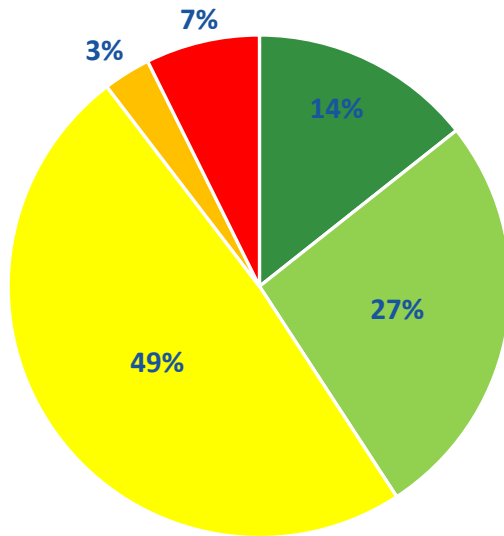
Stormwater Pipe Condition



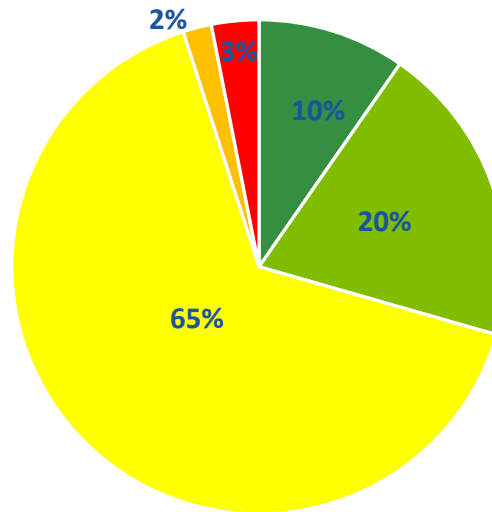
Stormwater Pipe Condition



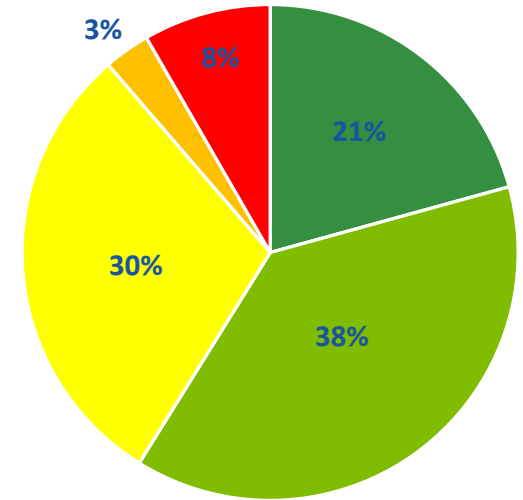
Plain/Coated Metal (39% of system)



Aluminized Steel (27% of system)



Concrete (27% of system)



■ Excellent ■ Good ■ Fair ■ Poor ■ Failed/Will Fail



Questions?



2023 SWA Meetings

Future Topics

- Private BMPs: how many exist and how do we manage these BMPs?
- Drainage easements: private and eroding. What can we do for the customer?
- Policies regarding upsizing pipes based on modeling.