Ad Hoc Stormwater Utility and Flood Mitigation Advisory Group

June 29, 2022 Meeting

Tonight's Agenda

1. Electronic meeting notice (6:00)
2. Chair's Comments (6:05)
3. Flood Action program update (6:15)
4. Project dashboard demo (6:35)
5. Summary of CASSCA CIP analysis by John Hill (6:45)
6. Summary of draft annual report by Skip Maginniss (7:05)
7. Chair succession (7:20)
8. Approval of the February 16, 2022 and April 19, 2022 meeting minutes (7:25)
9. Public Comments (7:30)
10. Adjourn (7:40)

Meeting Notice

AGENDA ITEM #1

Electronic Meeting Notice

Due to the COVID-19 Pandemic emergency, this meeting is being held electronically pursuant to Virginia Code Section 2.2- 3708.2(A)(3), the Continuity of Government ordinance adopted by the City Council on June 20, 2020 or Section 4-0.01(g) in HB29 and HB30, enacted by the 2020 Virginia General Assembly (Virginia Acts of Assembly Ch. 1283 and 1289), to undertake essential business. All of the members of the Advisory Group and staff are participating from remote locations through Zoom.

Note: this meeting is being recorded.

Chair's Comments

AGENDA ITEM #2

Flood Action Program Update

AGENDA ITEM #3

Flood Action Alexandria Progress Report

- Master baseline schedule:
  - All Tier 1 projects are on schedule
- Large capacity projects
  - Commonwealth/ E. Glebe & Commonwealth & Ashby ($50M) under procurement
  - Hooff's Run Culvert Bypass ($60M) under procurement
- Combined sewer area projects
  - Pitt & Gibbon ($11.5M) under procurement
  - Nethergate ($5M) under procurement

Flood Action Alexandria Progress Report

- Neighborhood spot improvements on schedule
  - 32 Projects Identified ($10.95M)
  - 16 Projects In Motion ($4.67M)
    - 10 under planning ($2.78M)
    - 3 under design ($1.67M)
    - 3 under construction ($210K)
  - 3 Projects Complete ($265K)

Flood Action Alexandria Progress Report

- State and federal grant funding
  - State CFPF Awards for Stormwater* to Date: $3.87M
  - Federal Funding for Stormwater to Date (ARPA+HUD): $2.32M
  - April 8, 2022: CFPF Application total $2M

  *Including $3.2M awarded for the Waterfront
- Current Status of the City's Flood Mitigation Pilot Grant Program
  - 190 applications submitted
  - 173 have been paid out via check
  - $558,127.17 reimbursed to date
  - Continue to refine the process and expectations, and associated materials
  - Upcoming communications push
  - $769,000 FY 2023 approved funding
  - Multifamily participation is under investigation; expected early FY23

Flood Action Alexandria Communications

Highlights

- ✓ Social: Impressions and engagements increased.
- ✓ Newsletter: Audience continues to grow.
- ✓ Website Improvements: Meet Our Leaders section.
- ✓ News media request: DC News Now.

Upcoming

- ✓ Social: Behind-the-scenes of East and West Del Ray Avenue projects.
- ✓ Newsletter: grant news, project updates.

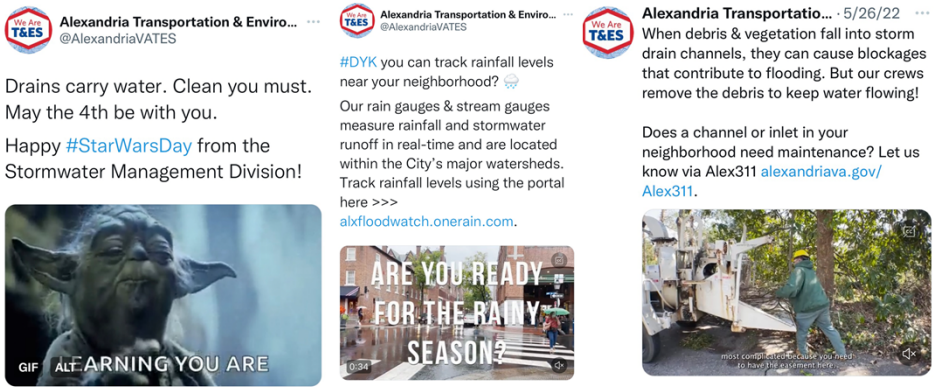
Which sections do you like? Are there sections that aren't valuable?

Daniel Medina
Program Manager,
Flood Action Alexandria

Jesse E. Maines
Chief,
Stormwater
Management Division

Erin Bevis-Carver
Chief,
Sanitary Infrastructure
Division

Let's be friends! @alexandriaVATES



Terry Suehr, director of DPI, spoke with reporter Christy Matino about the city's flood mitigation work on the waterfront. Participating in interviews with reporters helps us share our message with a larger audience.

Project Dashboard Demo

AGENDA ITEM # 4

Summary of CASSCA CIP analysis

by John Hill

AGENDA ITEM # 5

A Call to Action

Multiple Flooding Events Every Year

July 8th, 2019

July 23rd, 2020

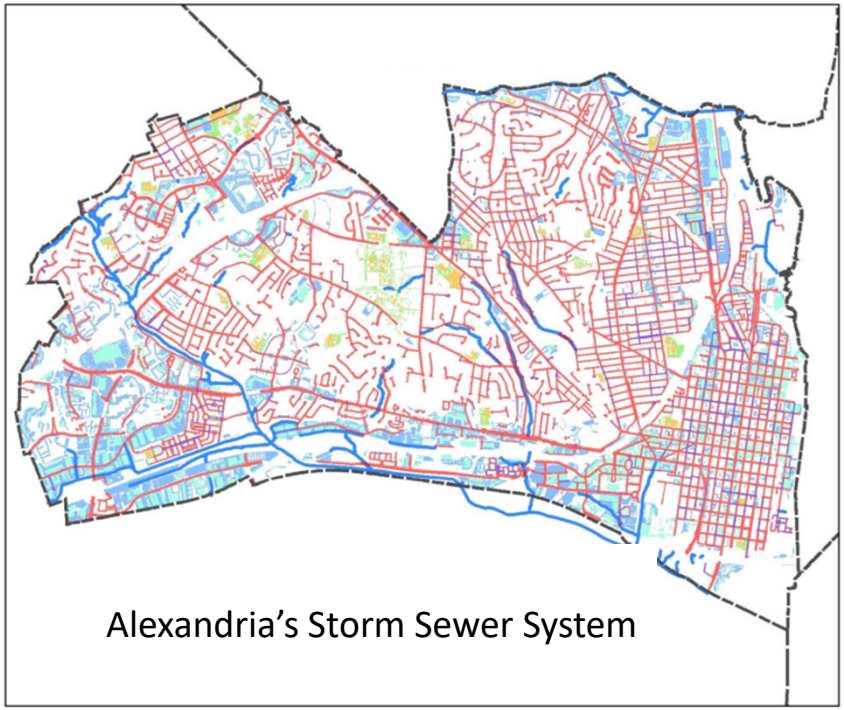
September 10th, 2020

August 15th, 2021

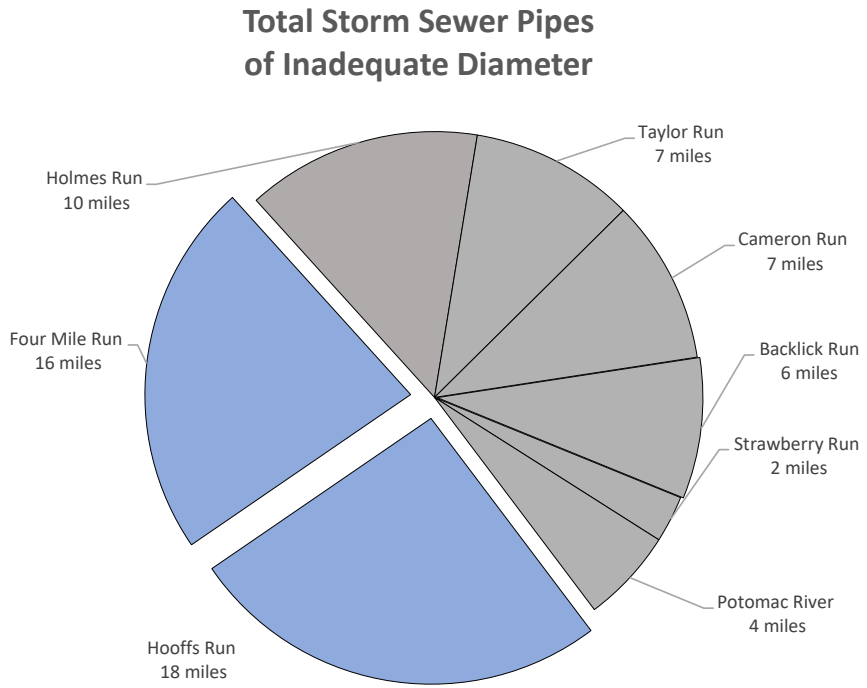
September 16th, 2021

CASSCA Report Findings

- **There are 130 miles of storm sewers**
- **69 miles of them are of inadequate diameter**



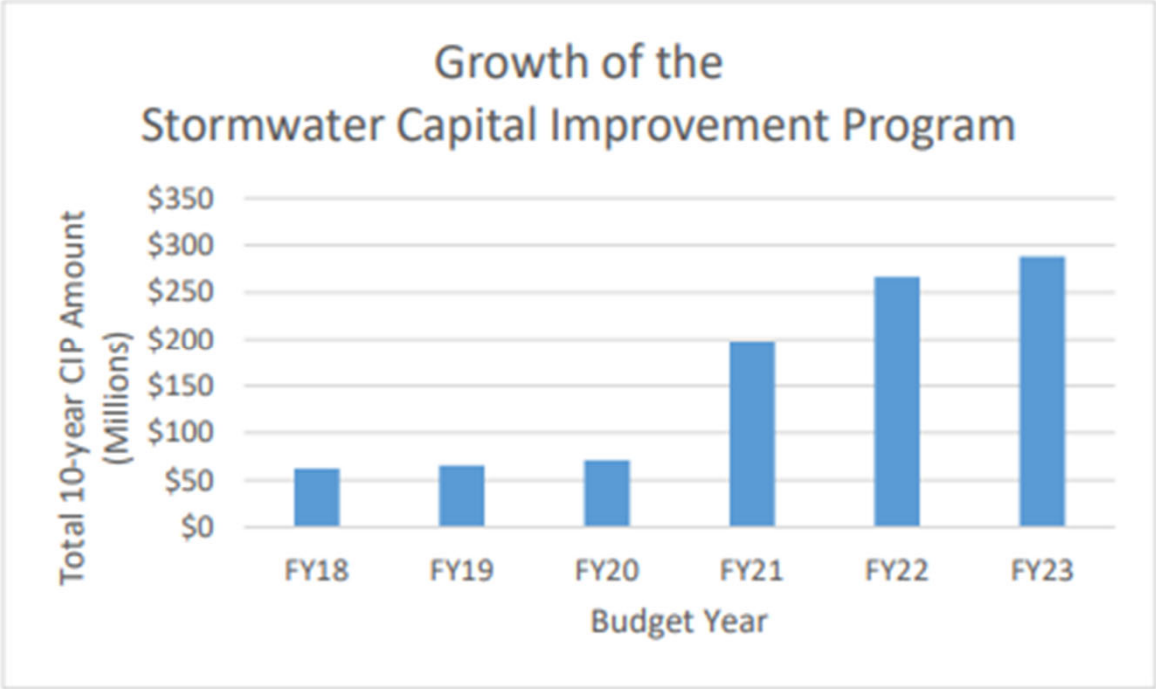
Alexandria's Storm Sewer System



Two watersheds have 50% of the inadequate pipes

- **Hooffs Run (18 miles)**
- **Four Mile Run (16 miles)**

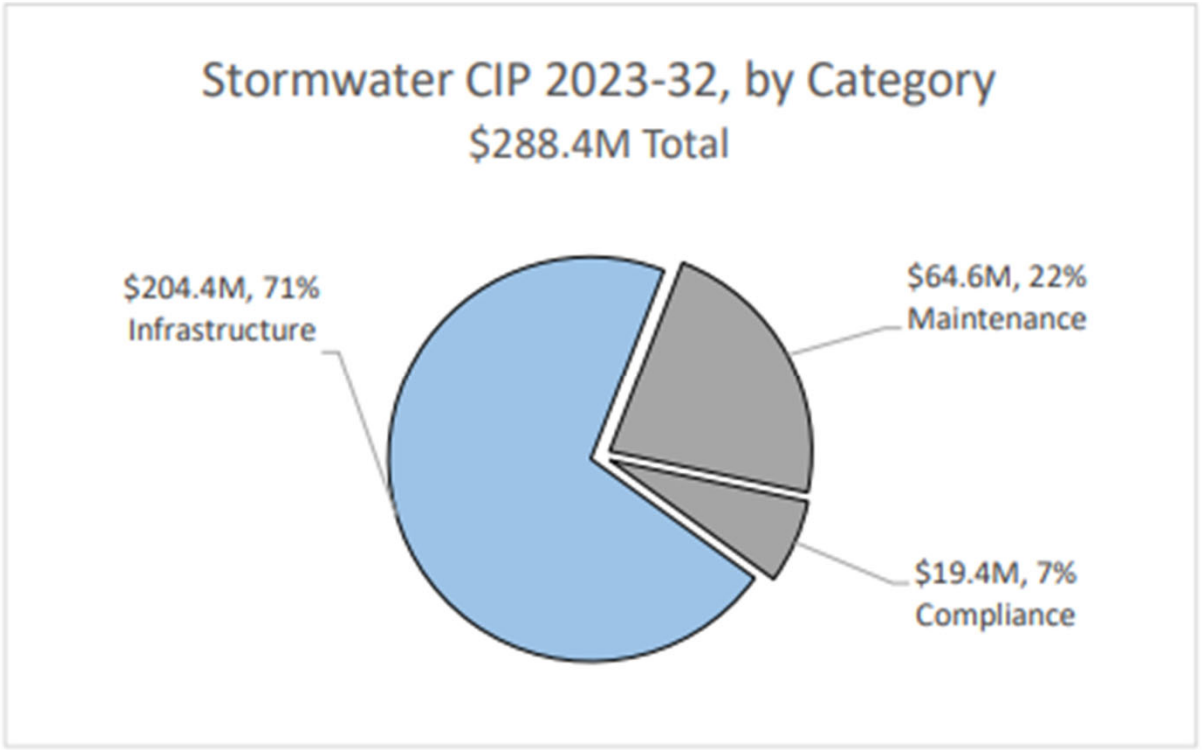
Alexandria's Investment in Stormwater Mitigation



Since 2020,
City Council has quadrupled Alexandria's planned investment in stormwater mitigation ($71M to $288M)

During the same period, the Residential Stormwater Fee has doubled ($140 to $297 per year)

Stormwater Capital Improvement Program



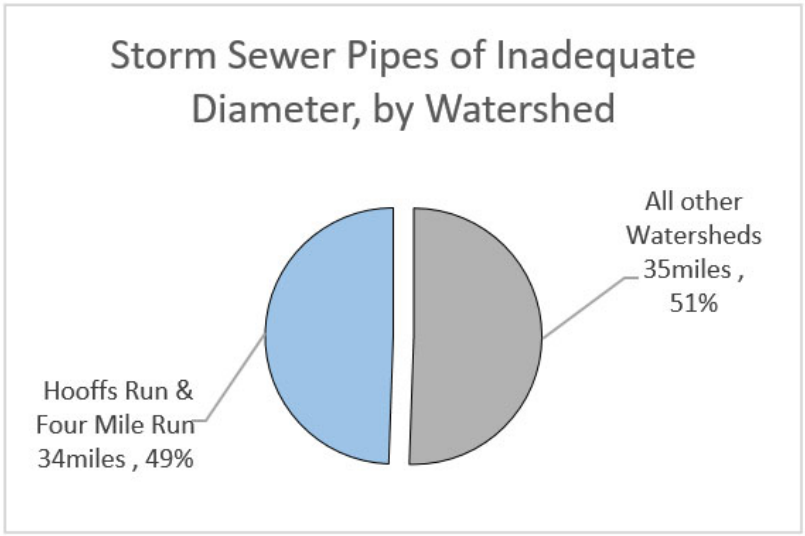
Over 70% of the latest Stormwater CIP is directed toward capacity-building infrastructure.

That's a big change for Alexandria.

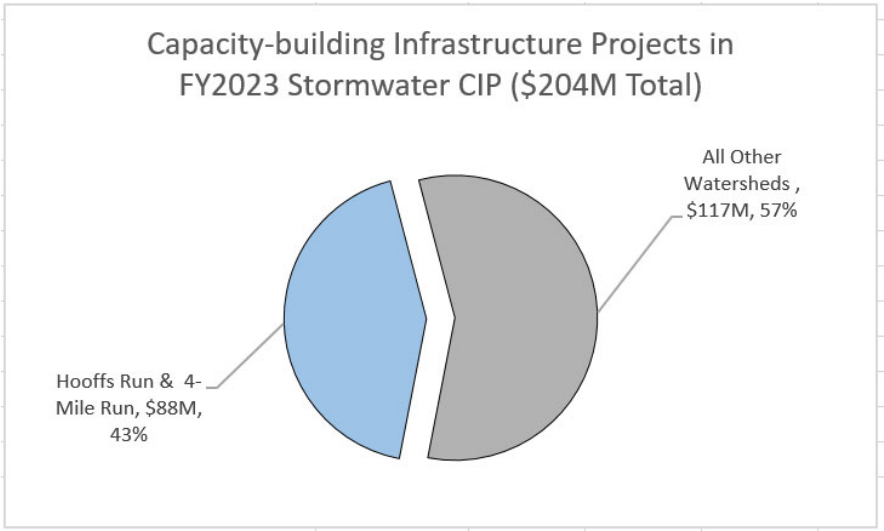
Prior to 2021, only about 30% of the Stormwater CIP was expended on infrastructure.

Comparing CASSCA Findings with the Stormwater CIP

CASSCA: About 50% of the 'problem' is in two watersheds



CIP: About 50% of the capacity-building 'investment' is in these two watersheds



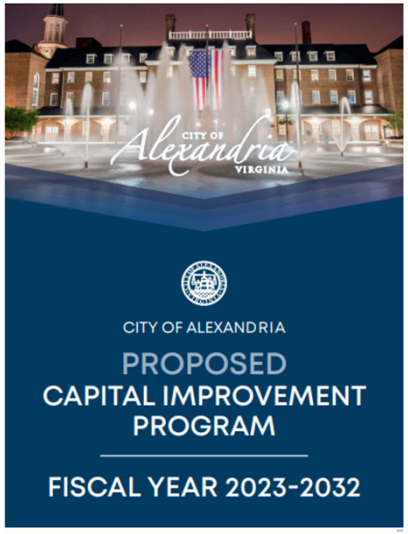
Preliminary Finding:

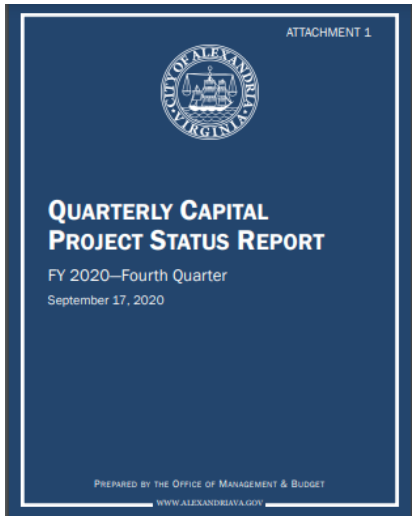
The FY 2023 CIP appears to be directed to the watersheds with the greatest need – and in the right proportion.

Future Analysis:

If the $88M investment actually 'solves' the flooding problem – and fixes 34 miles of inadequate storm sewer pipes in the two watersheds -- can we estimate the total cost of 'fixing' the other watersheds?

An Annual Role for the Ad Hoc Committee





FY 2021 year-end expenditure data not yet available

Using financial data published by the City, prepare an annual report:

- **Is capacity-building infrastructure planned for the most flood-prone areas?**
- **Are these investments actually being made?**
- **Are we increasing the capacity of Alexandria's Storm Sewer system?**
- **Ultimately, are we reducing flooding during extreme rain events?**

Building public infrastructure requires a long-term commitment of resources and citizen support

Appendix – CASSCA Data

Hydraulic Model Results by Watershed	Total Conduit Length in Feet	Total Conduit Length in Miles	Percent Surcharged, Flooded, or No Freeboard	Total Conduit in Need of Mitigation (feet)	Total Conduit in Need of Mitigation (miles)	Percent of City-wide Total
Hooffs Run	140,095	27	68%	95,265	18	26%
Four Mile Run	158,758	30	54%	85,729	16	23%
Holmes Run	98,019	19	53%	51,950	10	14%
Taylor Run	58,308	11	63%	36,734	7	10%
Cameron Run	82,086	16	43%	35,297	7	10%
Backlick Run	57,255	11	52%	29,773	6	8%
Strawberry Run	25,038	5	46%	11,517	2	3%
Potomac River	66,060	13	30%	19,818	4	5%
City-wide Total	685,619	130		366,083	69	100%

* from Table 4.2, CASSCA Summary Report

Appendix – FY2023 Stormwater Capital Improvement Program

Project	CIP Page	Type	Watershed	Prior Approps	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY23 -32
Braddock & West	13.4	Infrastructure	Hooff's Run	$0.000	$0.198	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.198
Storm Sewer Spot Improvements	13.24	Infrastructure	City-wide	$11.166	$5.907	$4.011	$4.122	$4.228	$4.337	$4.540	$4.606	$4.688	$4.812	$4.937	$46.188
Large Capacity (Commnwlth&Glebe)	13.12	Infrastructure	4-Mile Run	$0.000	$26.407	$12.632	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$39.039
Large Capacity (Hoofs Run Culvert)	13.13	Infrastructure	Hooff's Run	$0.000	$0.000	$16.176	$32.352	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$48.528
Green Infrastructure	13.9	Infrastructure	City-wide	$2.311	$0.000	$1.550	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.550
Storm Sewer Capacity Projects	13.22	Infrastructure	City-wide	$26.686	$0.000	$0.000	$0.000	$15.950	$15.200	$13.675	$6.700	$6.350	$4.000	$7.000	$68.875
Stormwater Utility Implementation (?)	13.26	Infrastructure	City-wide	$1.673	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Spot Project - Hume Ave Bypass	13.20	Infrastructure	4-Mile Run	$1.070	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Spot Project - Mt Vernon Cul-De-Sac	13.21	Infrastructure	Hooff's Run	$0.830	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Sub-Total				**$43.736**	**$32.512**	**$34.369**	**$36.474**	**$20.178**	**$19.537**	**$18.215**	**$11.306**	**$11.038**	**$8.812**	**$11.937**	**$204.378**
Percent of CIP				**53%**	**84%**	**84%**	**82%**	**67%**	**75%**	**68%**	**51%**	**60%**	**46%**	**54%**	**71%**
Stormwater BMP Maintnce CFMP	13.25	Maintenance		$0.520	$0.286	$0.304	$1.575	$1.623	$0.317	$0.327	$0.336	$0.347	$0.357	$1.792	$7.264
Small-Midsize Stormwater Mntnce	13.19	Maintenance		$0.000	$0.581	$0.614	$0.649	$0.686	$0.724	$0.766	$0.809	$0.854	$0.901	$0.923	$7.507
Flood-proofing Grant Program	13.7	Maintenance		$0.750	$0.769	$0.789	$0.809	$0.830	$0.851	$0.873	$0.895	$0.918	$0.941	$0.965	$8.640
Stream & Channel Maintenance	13.28	Maintenance		$7.429	$0.881	$0.908	$0.935	$0.963	$0.992	$1.021	$1.052	$1.084	$1.116	$1.150	$10.102
Four Mile Run Channel Maintenance	13.8	Maintenance		$3.475	$0.936	$0.000	$0.300	$0.300	$0.000	$1.251	$2.900	$0.000	$0.300	$0.300	$6.287
Inspection & Cleaning CFMP	13.11	Maintenance		$3.852	$1.268	$1.457	$1.578	$1.695	$1.835	$2.006	$2.220	$2.496	$2.862	$3.304	$20.721
Hoofs Run Culvert Maintenance	13.10	Maintenance		$0.000	$0.000	$0.000	$0.000	$1.616	$0.000	$0.000	$0.000	$0.000	$2.510	$0.000	$4.126
Taylor Run Stream Restoration	13.29	Maintenance		$4.540	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Cameron Station Pond Retrofit (?)	13.5	Maintenance		$4.723	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
City Facilities Stormwater BPMs (?)	13.6	Maintenance		$1.633	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Strawberry Run Stream Restoration	13.27	Maintenance		$1.645	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Lucky Run Stream Restoration	13.14	Maintenance		$2.853	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Sub-Total				**$31.420**	**$4.721**	**$4.072**	**$5.846**	**$7.713**	**$4.719**	**$6.244**	**$8.212**	**$5.699**	**$8.987**	**$8.434**	**$64.647**
Percent of CIP				**38%**	**12%**	**10%**	**13%**	**26%**	**18%**	**23%**	**37%**	**31%**	**47%**	**38%**	**22%**
MS4 - TMDL Compliance Improvements	13.15	Compliance		$5.605	$1.300	$2.100	$1.800	$2.050	$1.750	$2.000	$2.575	$1.500	$1.000	$1.750	$17.825
NPDES/MS4 Permit	13.17	Compliance		$1.150	$0.000	$0.170	$0.172	$0.174	$0.175	$0.177	$0.179	$0.181	$0.182	$0.186	$1.596
Sub-Total				**$6.755**	**$1.300**	**$2.270**	**$1.972**	**$2.224**	**$1.925**	**$2.177**	**$2.754**	**$1.681**	**$1.182**	**$1.936**	**$19.421**
Percent of CIP				**8%**	**3%**	**6%**	**4%**	**7%**	**7%**	**8%**	**12%**	**9%**	**6%**	**9%**	**7%**
Total CIP				**$81.911**	**$38.533**	**$40.711**	**$44.292**	**$30.115**	**$26.181**	**$26.636**	**$22.272**	**$18.418**	**$18.981**	**$22.307**	**$288.446**

Appendix – Expenditure Data

Caution:

These are NOT annual expenditures.

They are CUMULATIVE , starting from the inception of each listed project.

Cumulative Stormwater Capital Expenditures to-date ($M)

Project	FY23-32 CIP	Type	FY15	FY16	*1QFY18 FY17*	FY18	FY19	FY20	*3QFY21 FY21*	*3QFY22 FY22*
Braddock & West	13.4	Infrastructure								
Storm Sewer Spot Improvements	13.24	Infrastructure	$4.664	$4.860	$4.986	$5.085	$5.691	$6.193	$6.294	$7.133
Large Capacity (Commnwlth&Glebe)	13.12	Infrastructure								
Large Capacity (Hoofs Run Culvert)	13.13	Infrastructure								
Green Infrastructure	13.9	Infrastructure	$0.046	$0.103	$0.152	$0.163	$0.164	$0.195	$0.221	$0.286
Storm Sewer Capacity Projects	13.22	Infrastructure								
Stormwater Utility Study & Implmntn	13.26	Infrastructure		$0.344	$0.791	$0.928	$1.000	$1.059	$1.114	$1.161
Spot Project - Hume Ave Bypass	13.20	Infrastructure								
Spot Project - Mt Vernon Cul-De-Sac	13.21	Infrastructure								
Sub-Total			**$4.710**	**$5.307**	**$5.929**	**$6.176**	**$6.855**	**$7.447**	**$7.629**	**$8.580**
Percent of Total Capital Expenditures			**36%**	**34%**	**33%**	**30%**	**27%**	**27%**	**26%**	**26%**
Fort Ward Stormwater		Maintenance		$0.101	$0.148	$0.148	$0.148	$0.148	$0.148	$0.148
Lake Cook Stormwater		Maintenance	$0.176	$0.274	$1.239	$3.222	$4.433	$4.434	$4.437	$4.437
Cameron Station Pond Retrofit	13.5	Maintenance		$0.013	$0.441	$0.545	$2.044	$3.706	$3.894	$3.935
Taylor Run Stream Restoration	13.29	Maintenance					$0.000	$0.263	$0.304	$0.567
Strawberry Run Stream Restoration	13.27	Maintenance					$0.000	$0.180	$0.234	$0.426
Lucky Run Stream Restoration	13.14	Maintenance					$0.326	$0.333	$0.439	$0.494
Four Mile Run Channel Maintenance	13.8	Maintenance		$0.292	$0.292	$0.292	$0.489	$0.489	$0.502	$0.535
Hoofs Run Culvert Maintenance	13.10	Maintenance							$0.452	$1.261
Stream & Channel Maintenance	13.28	Maintenance	$3.442	$4.511	$4.538	$5.006	$5.146	$5.210	$5.210	$5.210
Stormwater BMP Equipment		Maintenance	$0.434	$0.645	$0.645	$0.645	$0.645	$0.645	$0.645	$0.645
Stormwater BMP Maintenance CFMP	13.25	Maintenance						$0.015	$0.015	$0.043
Small-Midsize Stormwater Mntnce	13.19	Maintenance								$0.140
Inspection & Cleaning CFMP	13.11	Maintenance								$0.018
City Facilities Stormwater BPMs (?)	13.6	Maintenance								$0.032
Flood-proofing Grant Program	13.7	Maintenance								$0.374
Storm Sewer Capacity Analysis		Maintenance	$3.742	$4.077	$4.185	$4.209	$4.219	$4.219	$4.283	$4.783
Trunk Sewer Flow Monitoring		Maintenance	$0.409	$0.409	$0.409	$0.409	$0.409	$0.409	$0.409	$0.409
Sub-Total			**$8.203**	**$10.322**	**$11.897**	**$14.476**	**$17.859**	**$20.051**	**$20.972**	**$23.457**
Percent of Total Capital Expenditures			**64%**	**65%**	**66%**	**69%**	**72%**	**72%**	**72%**	**72%**
MS4 - TMDL Compliance Improvements	13.15	Compliance								
NPDES/MS4 Permit	13.17	Compliance		$0.180	$0.203	$0.203	$0.253	$0.327	$0.377	$0.390
Sub-Total			**$0.000**	**$0.180**	**$0.203**	**$0.203**	**$0.253**	**$0.327**	**$0.377**	**$0.390**
Percent of Total Capital Expenditures			**0%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**
Total Capital Expenditures			**$12.913**	**$15.809**	**$18.029**	**$20.855**	**$24.967**	**$27.825**	**$28.978**	**$32.427**

all data from OMB Capital Project Status Reports

Appendix – Expenditure Analysis

Annual Stormwater Capital Expenditures by Year ($M)

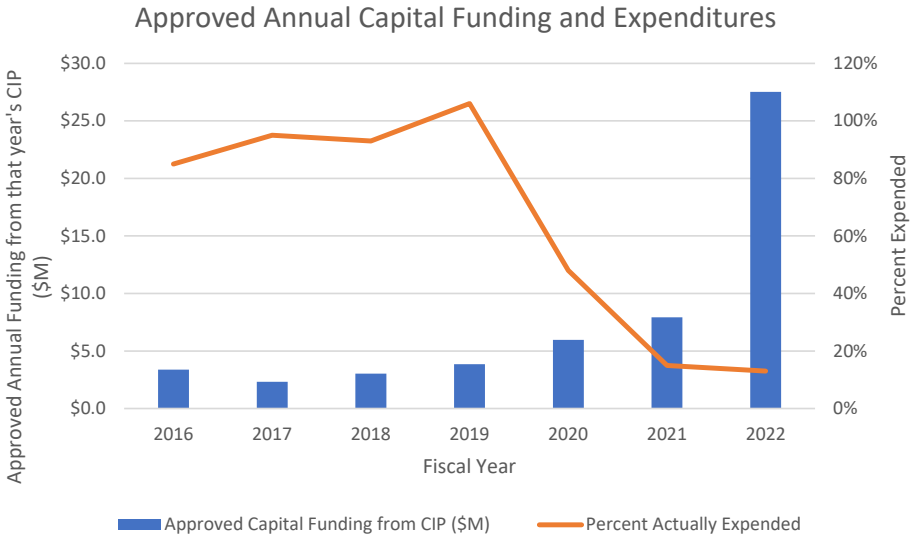
Type	FY15	FY16	*1QFY18 FY17*	FY18	FY19	FY20	*3QFY21 FY21*	*3QFY22 FY22*
Infrastructure								
Sub-Total	n/a	$0.597	$0.622	$0.247	$0.679	$0.592	$0.182	$0.951
Percent of Total Capital Expenditures		21%	28%	9%	17%	21%	16%	28%
Maintenance								
Sub-Total	n/a	$2.119	$1.575	$2.579	$3.383	$2.192	$0.921	$2.485
Percent of Total Capital Expenditures		73%	71%	91%	82%	77%	80%	72%
Compliance								
Sub-Total	n/a	$0.180	$0.023	$0.000	$0.050	$0.074	$0.050	$0.013
Percent of Total Capital Expenditures		6%	1%	0%	1%	3%	4%	0%
Total Capital Expenditures	n/a	**$2.896**	**$2.220**	**$2.826**	**$4.112**	**$2.858**	**$1.153**	**$3.449**
Approved Annual Capital Funding from that year's CIP*		**$3.390**	**$2.331**	**$3.030**	**$3.862**	**$5.970**	**$7.935**	**$27.525**
Percent of Approved Annual Capital Funding Expended for that year		**85%**	**95%**	**93%**	**106%**	**48%**	**15%**	**13%**

*from page 2 of Stormwater CIP of that year (except for FY21, on page 4)

Caution:

Year-end data is not available for FY 2021 or FY 2022 -- expenditures are as of end of third quarter

Therefore, 'Percent of Funds Expended' for these years is understated.



Summary of draft annual report

by Skip Maginniss

AGENDA ITEM # 6

Chair Succession

AGENDA ITEM # 7

Minutes of the February 16 and April 19 Meetings

AGENDA ITEM # 8

Public Comments

AGENDA ITEM #9

Adjourn

AGENDA ITEM #10