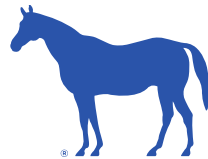


STORMWATER SECTION DRAINAGE & FLOODING PROGRAM UPDATE

Mark Sanders, Engineering Section Manager
Environmental Quality & Public Works Committee
September 12, 2023



LEXINGTON

Agenda

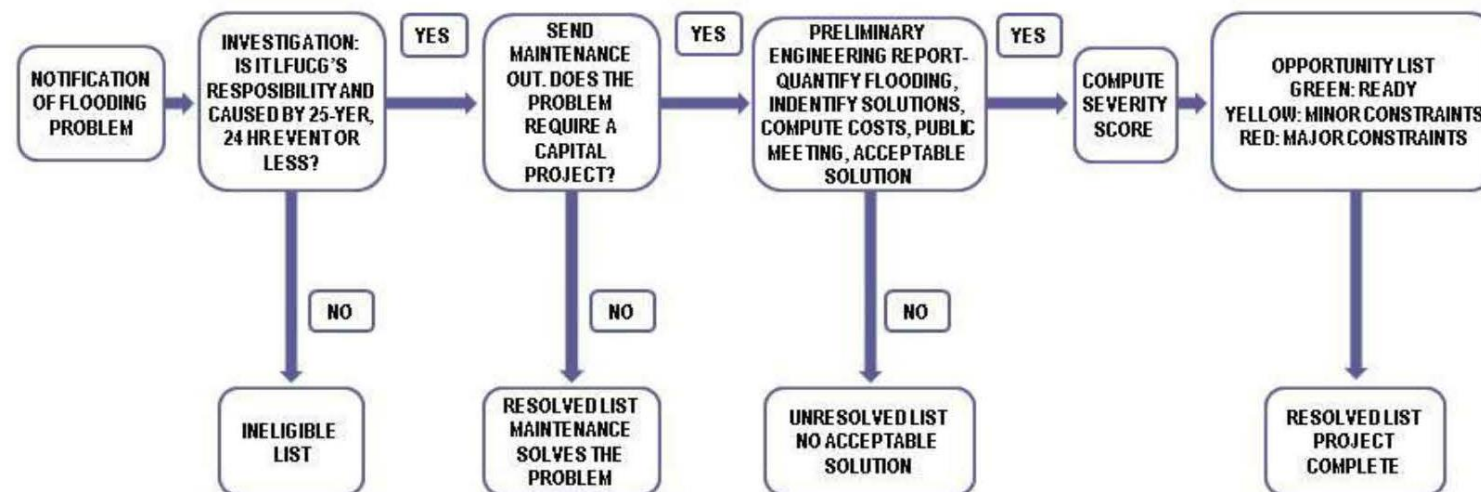
- Stormwater (SW) Priority Project List Overview
- Positive Efforts/Outcomes
- Challenges
- Upcoming Studies
- Questions





Stormwater (SW) Priority List

Severity Score Process





Stormwater (SW) Priority List

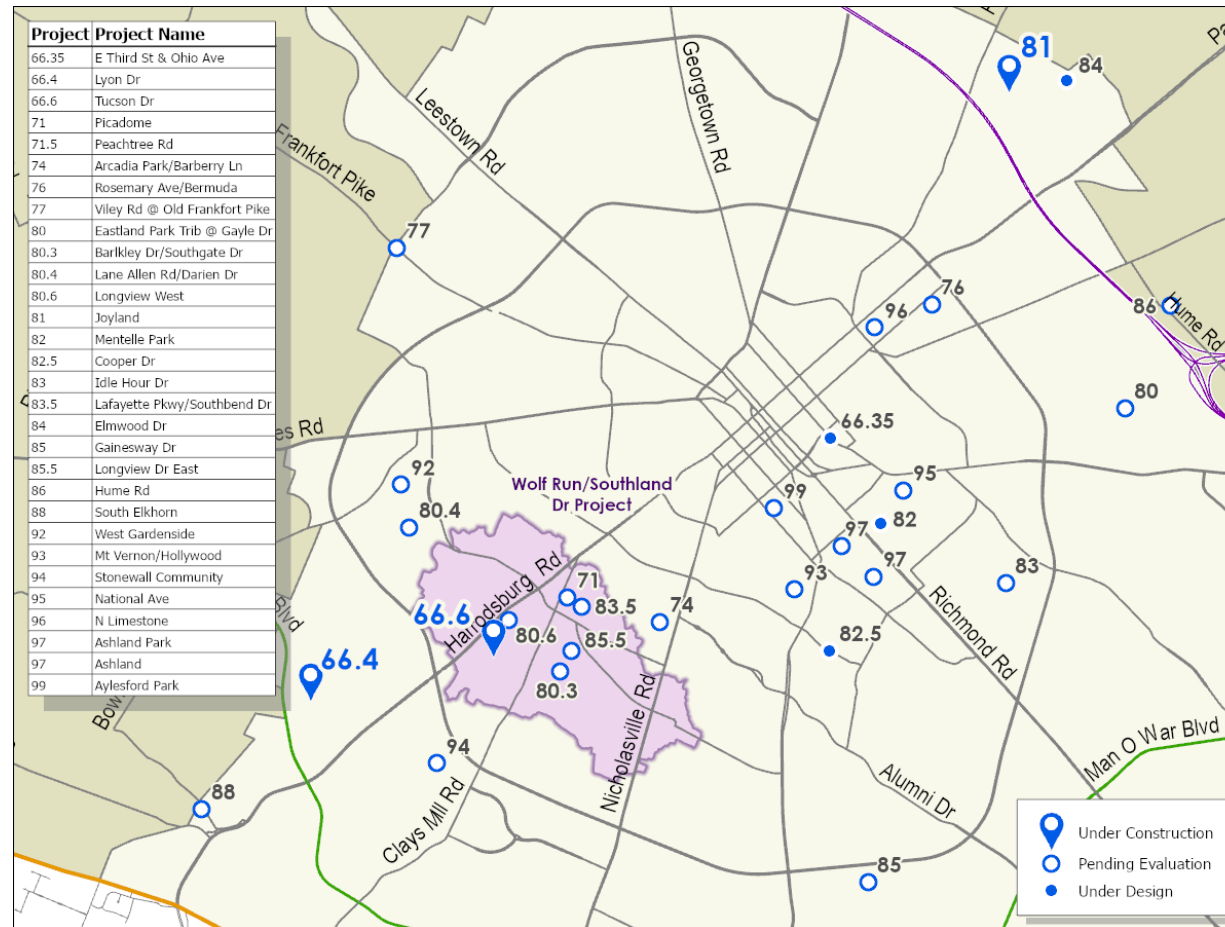
HOW DOES A PROPERTY GET CONSIDERED FOR INCLUSION ON THE STORMWATER PRIORITY LIST?

For storm events less than the 25-year, 24-hour event (5.23 inches) – at least one of the following conditions must be met:

- Structure flooding (surface water entering a structure through an opening such as a door, window, or vent); or
- Street/road flooding with either greater than 1 foot of water in the driving lane or the crown of the road is not visible.



REMAINING PRIORITY PROJECTS (current)

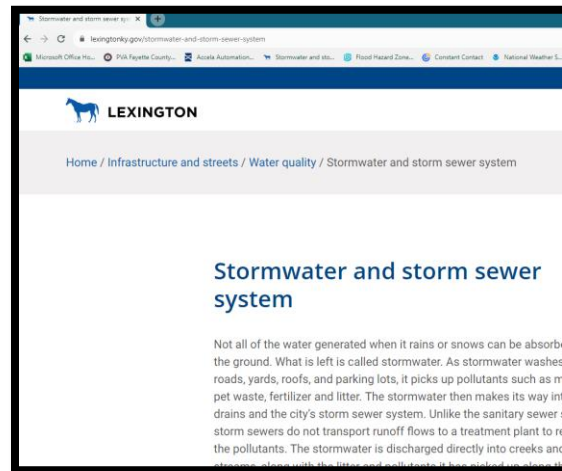


TOTAL PRIORITY LIST EXPENDITURES SINCE 2011- \$26,288,534

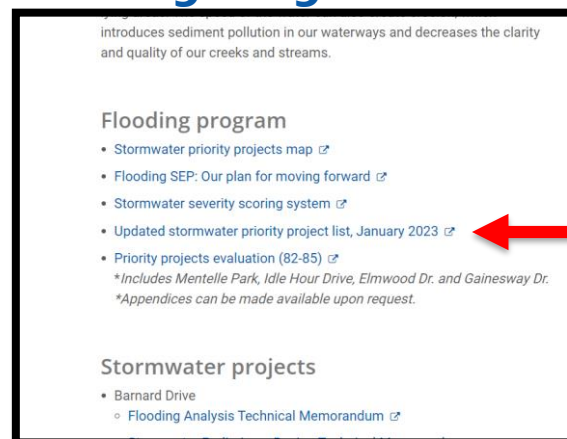


Stormwater (SW) Priority List

LFUCG Stormwater Website



Flooding Program Section



Stormwater Priority Projects Master List- January 2023

Home Flooding or Serious Street Flooding Known or Suspected
(Projects are Prioritized by Efficiency Value)
(Projects Active on the Date of Publication Appear as **Bold Text**)
(Shading Denotes Projects That are Complete, Bid, or Recommended for Removal)

Project Priority and Name	Water-shed	Council District	Severity Score	CPI Adjusted Estimate	Efficiency Value	Comments
N/A WPGL	WR	3	1,506			PROJECT COMPLETED to prevent home flooding. Six homes demolished. Total Cost: \$ 450,000
N/A FEMA Grant #1 (Kilrush)	WR	9	N/A			PROJECT COMPLETED by demolishing 3 homes. FEMA grant used. Total Cost: \$ 293,000
1 Yellowstone	EH	7	195			PROJECT COMPLETED to stop street flooding and dangerous ice formation. Total Cost: \$ 9,000
2 Plainview Drive	WH	7	193			PROJECT COMPLETED to prevent home flooding. 405 Plainview acquired and demolished in 2011. Total Cost: \$ 227,185
3 CR-3, Sandpiper/Kingston/Swigert	CR	6	706			Project recommended for removal from stormwater priority list. Disruption to neighborhood and cost/benefit ratio unreasonable.
4 Smoky Mountain	EH	7	194			PROJECT COMPLETED to prevent street & home flooding. Total Cost: \$ 9,000
4.3 Greyhound Dr.	CR	12	480			Project recommended for removal from stormwater priority list. Property owner resolved flooding by using LFUCG Cooperative Floodproofing Program.
4.5 Perry Street / 200 Block	TB	2	1,234			PROJECT COMPLETED to prevent home flooding and serious street flooding. Total Cost: \$ 40,000
4.7 Sherwood Drive / Robin Road	WH	4	880			PROJECT COMPLETED to prevent home flooding. Total Cost: \$77,000
5 CR-6, Old Paris @ I-75	CR	6	486			PROJECT COMPLETED to prevent home flooding. Two houses razed. Total Cost: \$ 129,000
6 NE-2, Silver Leaf Court	NE	6	1,220			PROJECT COMPLETED- acquisition and demolition of one structure complete Dec 2020
7 WH-43, Coldstream Ct	WH	8	928			PROJECT COMPLETED to protect homes from dangerous erosion. Total Cost: \$ 20,000

Website – [LINK](https://www.lexingtonky.gov/stormwater-and-storm-sewer-system)

<https://www.lexingtonky.gov/stormwater-and-storm-sewer-system>

Positive Efforts/Outcomes 2022-2023



*Kearney Ridge Basin
Kearney Ridge & Beaumont Woods
Detention Basin Improvements Project*

STORMWATER SECTION STAFFING

The section is at full strength.

Municipal Senior Engineer

- Doug Baldwin, PE
- Erik Merlino, PE
- Craig Morgan, PE

Municipal Associate Engineer

- Amad Al-Humadi

Infrastructure Rehabilitation Program

- Jason Martin, Program Manager
- Kevin Wagner, Project Manager
- Fidele Tibouo, Tech Senior

2022-2023 Capital Projects

- **SOUTHLAND/WOLF RUN PROJECTS (Council District 10 & Council District 11)**
 - Southland Park/Tucson/Yuma
 - Phase 1 – Detention Basins within Park – COMPLETED - *\$1,043,440.58*
 - Received American Public Works Association Kentucky Chapter Stormwater Project of the Year for 2022
 - Phase 2 – Storm Pipe Infrastructure – IN CONSTRUCTION - *\$1,666,349.21*
 - New stormsewer system to relieve street flooding in the Tucson Dr. and Burbank Dr. area and structure flooding on Yuma Ct.
 - Additional Note – Acquisition for the property at Allendale is underway, upcoming/future Water Quality Design.

Southland Area Park SW Project – Phase 1



Southland Area Park SW Project – Phase 2



2022-2023 Capital Projects

JOYLAND AREA STORMWATER PROJECT (Council District 1 & 6)

- The Preliminary Engineering report - undersized infrastructure in the project area.
- The solutions identified
 - Reduce property/yard flooding along stream by creating additional detention within the project area at Lisa Drive, Cabot Drive, and Shandon Drive.
 - Reduce street flooding along Freeman Drive with a new storm line and curb inlets.
- Two Phase Approach
 - Phase 1 - Basins (2023) - *\$1,289,489.00*
 - Phase 2 - Line Work (2024) - *Future*



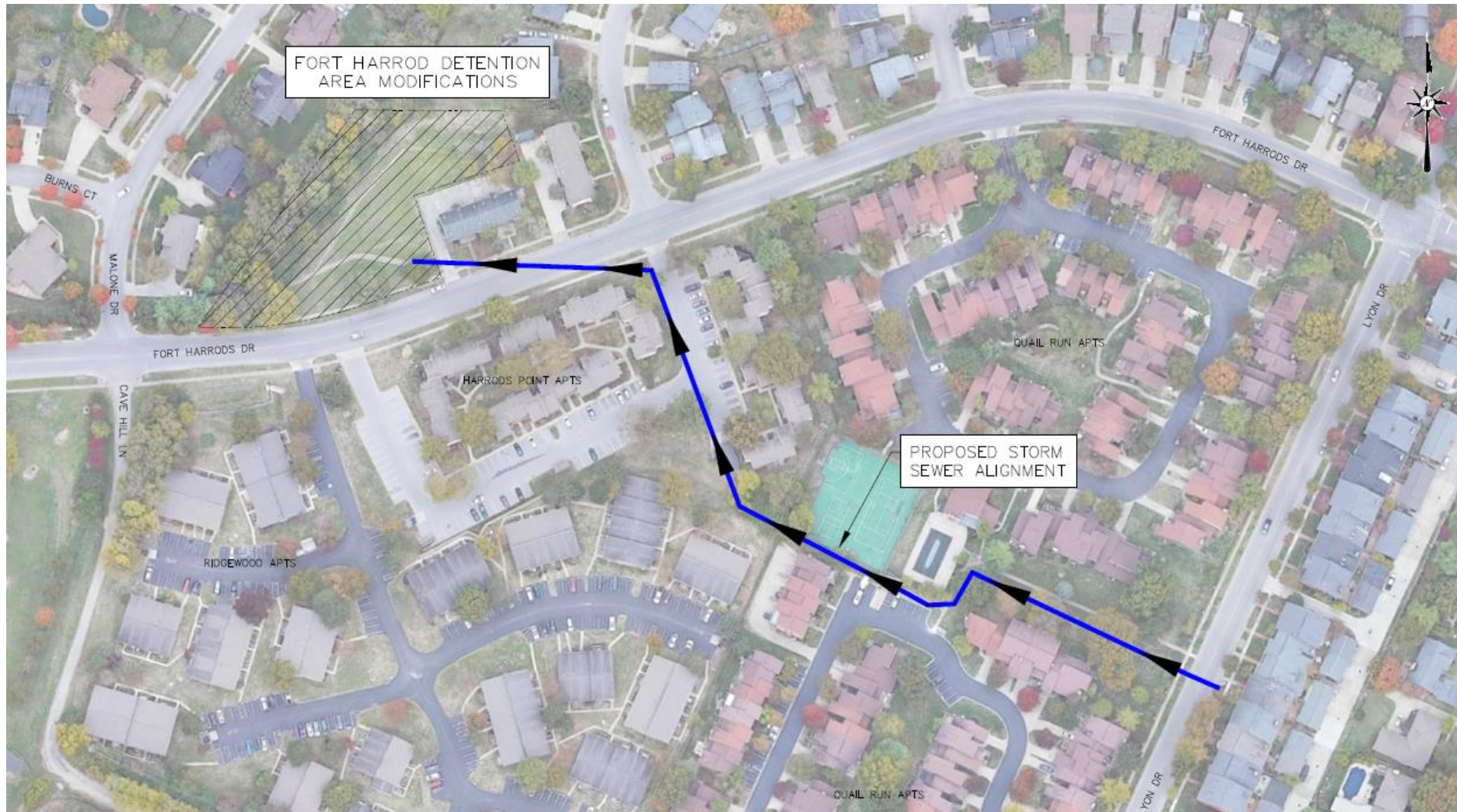
Joyland Area SW Project – Phase 1



2022-2023 Capital Projects

- **LYON DRIVE SW PROJECT (Council District 10)**
 - Project is to mitigate street flooding on Lyon Dr. between Ft. Harrod Dr. and Snaffle Rd.
 - Undersized infrastructure.
 - Project is to construct upsized stormsewer and expand an existing detention basin on Ft. Harrods Dr.
 - Received Bids – Low Bid \$1,393,232 (EOP - \$1,487,200.00)
 - Construction anticipated Late 2023/Early 2024

Lyon Drive SW Project



2022-2023 Capital Projects

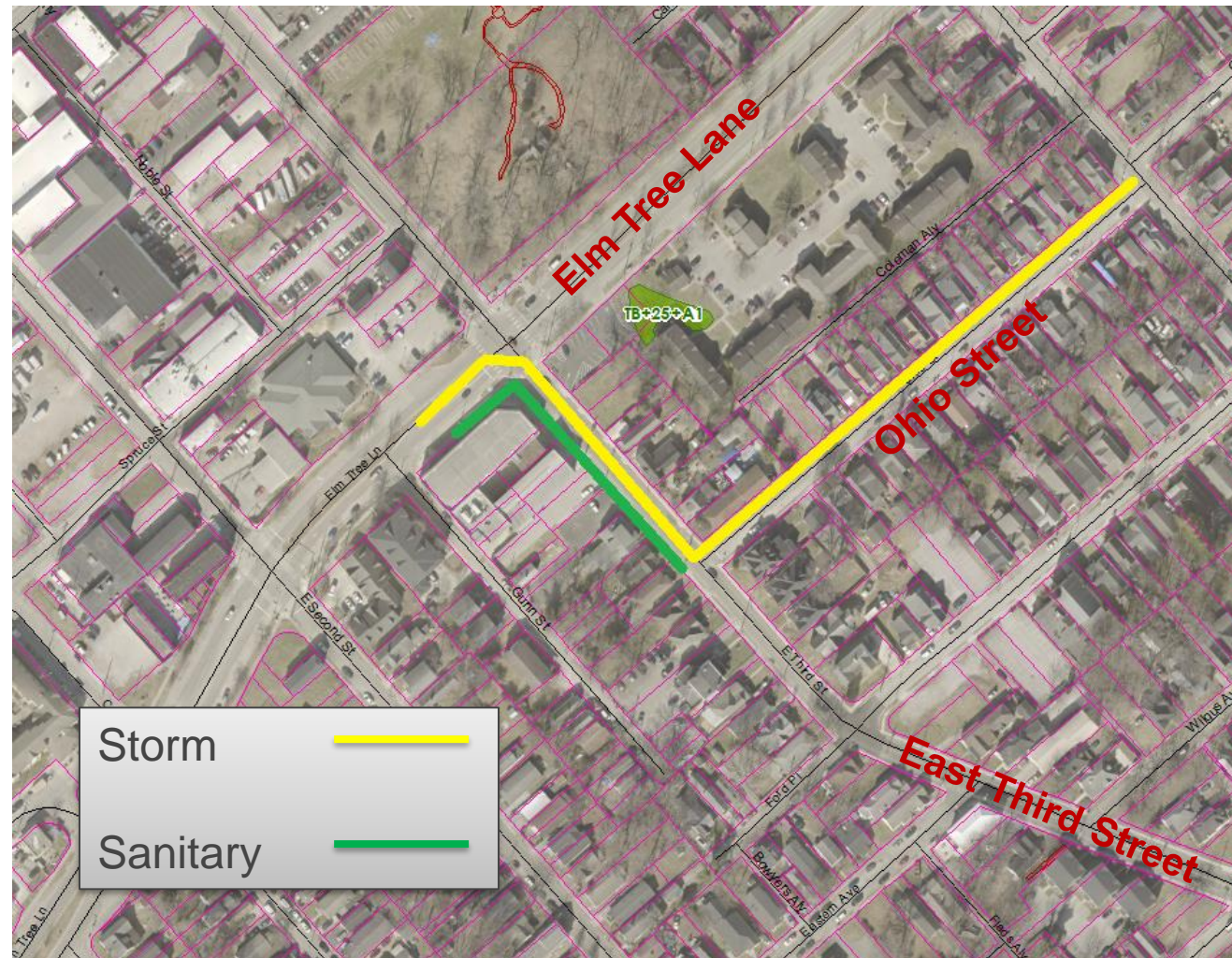
- **EAST THIRD & OHIO SW PROJECT (Council District 1)**

- Project is to mitigate street flooding at intersection of East Third and Ohio Street.
- Undersized infrastructure.
- Project is to construct upsized stormsewer as well as replace some aging sanitary sewer along Ohio Street.
- Project Plans – 95%
- Goals
 - Advertise – September 2023
 - Construction – Spring 2024





East Third & Ohio SW Project



2022-2023 Capital Projects

- Cooper Drive SW Project (Council District 5)**

- Project Plans – 30%
- Cost Estimate - \$2,400,000
- Construction - 2024





“MINOR” STORMWATER PROJECTS

- Smaller projects to mitigate nuisance flooding or;
- Larger “Repair” projects, which require engineering design and are openly bid for construction. These would not likely meet the criteria for Priority Capital projects.



“MINOR” STORMWATER PROJECTS

- Construction Projects Completed – 2022-2023
 - Bob O Link Dr. (CD 11)
 - Campbell Ln. (CD6)
- Project to be Advertised for Construction (2023)
 - Meadowthorpe (CD 11, after redistricting) - August
 - Barnard Dr. (CD 6) – October
- Current Design Projects:
 - Viley Rd (CD 11)
 - Savannah/ Guilford (CD 10)
 - Dogwood Park (CD 9)
 - Burkewood Basin (CD 6)
 - Haggard Court (CD 1)

“MINOR” STORMWATER PROJECTS



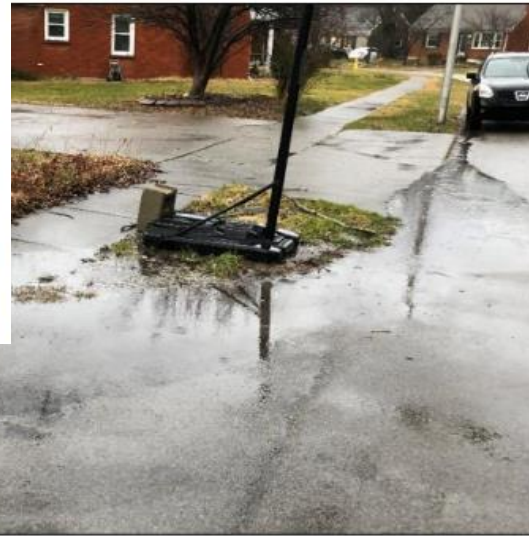
Before



After

Campbell Lane (Council District 6)

“MINOR” STORMWATER PROJECTS



Before

After

Bob O Link (Council District 10)

STORMWATER INFRASTRUCTURE MANAGEMENT

3 FTEs manage a contractor to clean and repair Stormwater infrastructure with an annual budget of \$1,000,000.



(Phoenix Building Storm Collapse)

STORMWATER INFRASTRUCTURE MANAGEMENT



Curb Inlets full of Trash



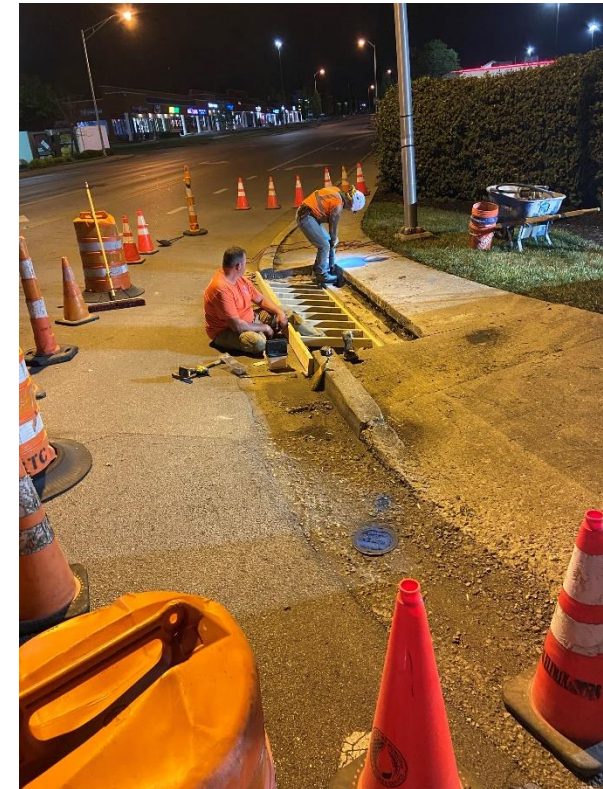
Cleaning Concrete Flumes



Completely Broken Inlets



Coolers blocking Storm Pipes



Working at Night



STORMWATER INFRASTRUCTURE MANAGEMENT

Completed Work Orders

Year	CCTV	Point Repair	Clean/Repair Basin	Totals
2018	16	25	46	87
2019	17	56	69	142
2020	15	21	25	61
2021	30	108	50	218
2022	49	122	61	232

Frustrating Outcomes



Unintended Consequences



Barkley Drive & Southgate



Lisle Industrial Road



Future Preliminary Engineering Reports

- Current Studies
 - Mentelle Park (#82), CD3
 - Masterson Station, CD 2
- Future Studies 2023-2024
 - Idle Hour Dr. (#83), CD5
 - Gainesway Dr. (#85), CD8
 - Walnut Grove, CD12
 - Taborlake Circle, CD5

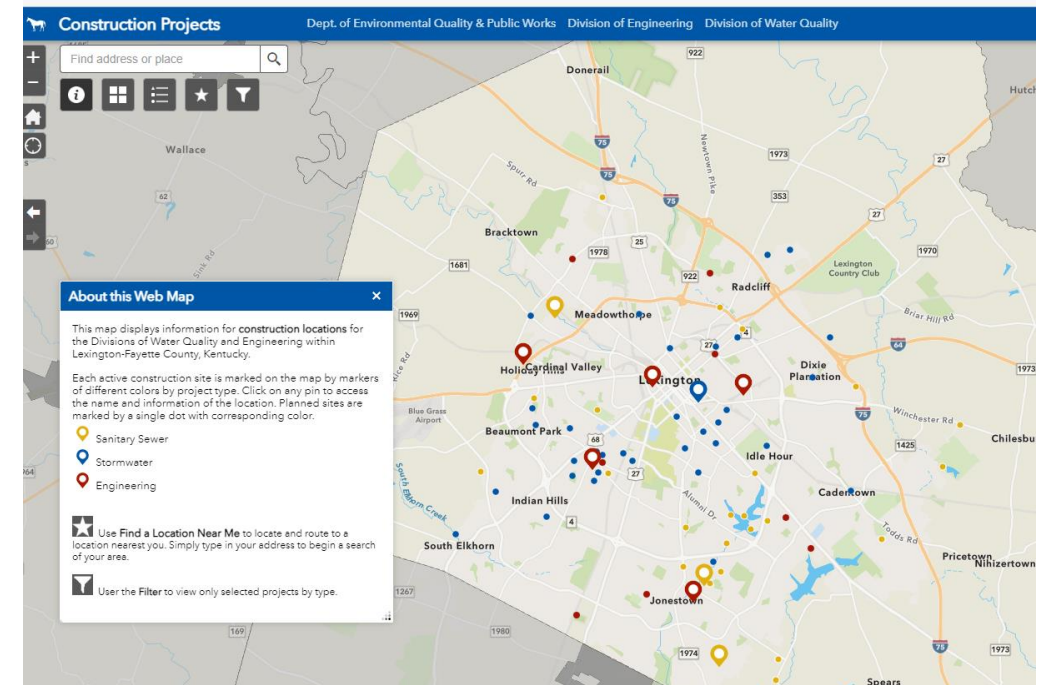
CHALLENGES/TASKS FOR 2023-2024

- Completing projects currently under design to clear up a project backlog.
- Maintaining the Stormwater Infrastructure Management Group's level of effort.
- Assist with the updating of a project web-based map.

Website

<https://www.lexingtonky.gov/construction-project-information>

LINK



Questions?



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