

2024 Bond Flood Protection & Storm Drainage Subcommittee

Recommended Projects (Version 1) & Priority Discussion

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Dallas Water Utilities
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City of Dallas

Overview



- Recap of Key Items
- Criteria used for recommended projects
- Selected Projects
- Statistics and Council District Breakdown
- Questions

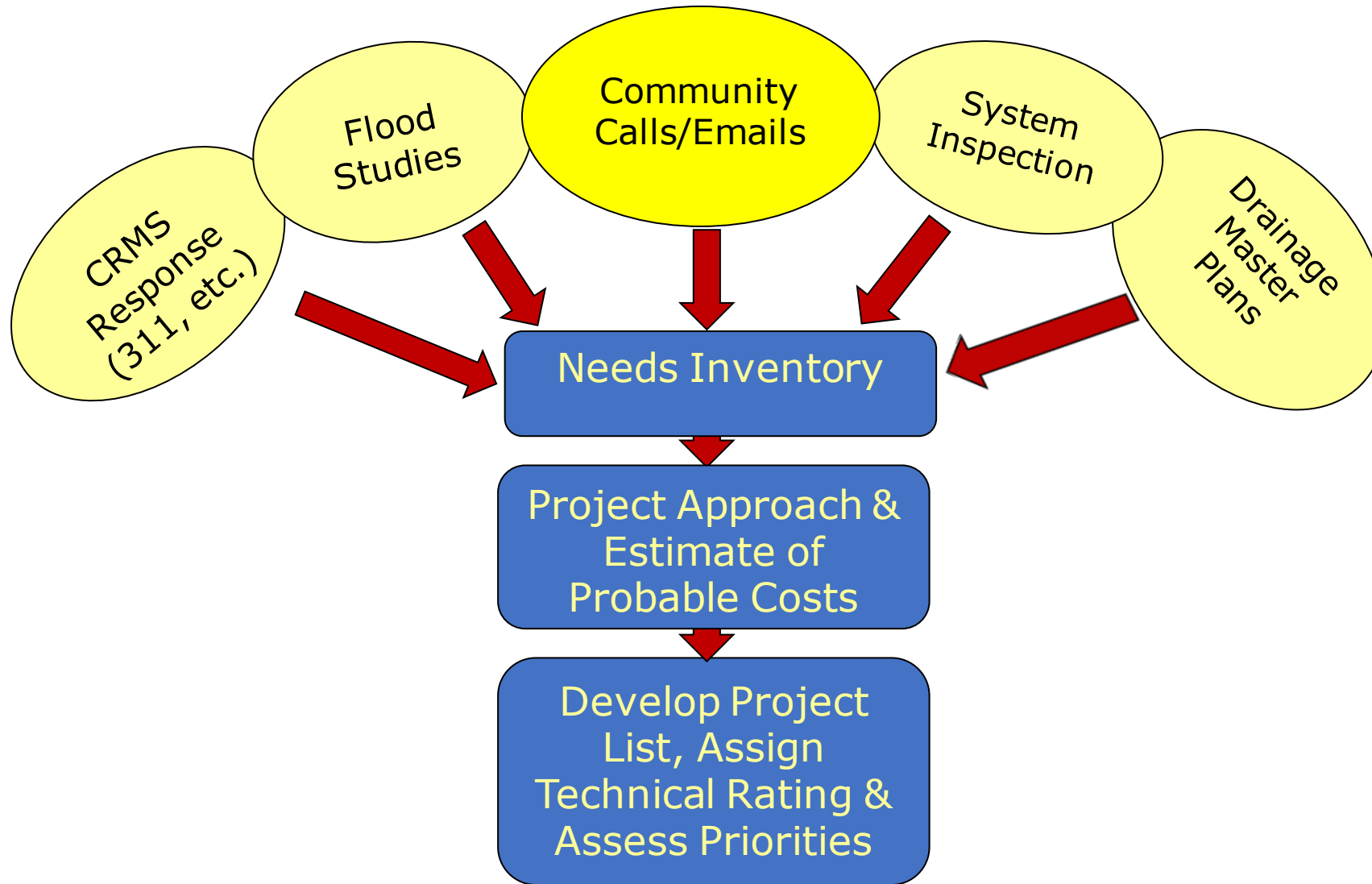




Recap of Key Items



Project Identification Process



Flood Protection and Drainage Categories



- Flood Management
- Storm Drainage Relief
- Erosion Control



Flood Management Category



Implements recommendations from Floodplain Management Plans and Studies, including bridges, culverts, channels, street pump stations, storm water dams, and voluntary purchase of flood prone properties.

Technical Ranking Criteria

Frequency of flooding

Depth of flooding (100-year frequency event)

Depth x velocity of flow

Number of structures affected

Ratio of project costs per protected structure

← Cost Benefit



Storm Drainage Relief Category



Provides drainage relief for areas served by undersized drainage systems, including upgrades and/or extensions of storm drain systems. Also, can include repetitive loss areas.

Technical Ranking Criteria

Type/effects of flooding

Frequency of flooding

Depth of 100-year flooding

Number of affected structures

Ratio of cost/affected structure

← Cost Benefit



Erosion Control Category



Provides armoring and erosion control for public and private* property along natural creeks, including protection for streets, bridges, alleys and homes.

Technical Ranking Criteria

Ratio of Distance to structure/depth of erosion

Rate of creek bank loss

Ratio of cost to number of structures protected ← Cost Benefit

Type of threat:

- 1: Homes, garages, streets, alleys, bridges
- 2: Pools and other permanent structures
- 3: Fences, yards, privately owned retaining walls

*1985 City Council Ordinance authorized City to provide erosion protection on private property, subject to willing property owners/easements/etc.



2024 Bond Project Scoring



- Each Department uses their own Technical Criteria based on departmental needs/concerns
- Departments score the Needs Inventory with a maximum of 80 points.
- After the technical score has been assigned, points for 'Priority Overlays' area assigned to each project via GIS.
 - 10 points for priority/project overlays
 - 10 points for Equity



Citywide Projects



- System-wide project or projects that have regional impact
- Serve multiple council districts or can be considered Citywide programs
- Typically have higher costs but not always
- Examples for Flood Protection and Storm Drainage:
 - Drainage Basin Relief Systems (Mill Creek – recall the tour)
 - Levee Drainage Systems (Able Pump Stations – tour)
 - Floodplain Management Studies
 - Voluntary Purchase Programs



Flood Management & Drainage Considerations



- Majority of flood protection category to focus on **Citywide** projects?
- Prefer a **neighborhood** focus?
- **Mix** of Citywide and neighborhood projects



May 2021: 25-Year Storm - Meaders Ln

Erosion Control Considerations



- Continue to provide erosion control to private property? ✓
- Place higher weight to public infrastructure or focus on private property for bond?
- Provide erosion control on residential, non-rental property only?




Summer Creek Circle



Voluntary Purchase Considerations



- Purchase Flood Prone Properties? 
- If so, strictly use FEMA guidelines of purchase of repetitive loss properties that are identified in their database only?
- Consider purchase of properties where the cost of related improvements exceeds the cost of purchase?



Additional Bond Considerations



- Attempt to provide the same value of improvements to each CD?
- Base recommendations on project score? ✓
- Recommendations based on ratio of needs in each CD?
- Recommendations based on combination of above? ✓
- Consider amount of time project has been in the Needs Inventory?
- Consider number of documented service requests for location?



Additional Bond Considerations(Cont'd)



- Proximity to other selected projects?
- Allocation of funding by type of project? As an example, 20% for EC and 80% for FM and SD. ✓
- Include projects already in 10-year capital plan if they can be started/completed sooner by Bond? ✓
- Include signature project? ✓
- Provide cost cap on individual project, and consider higher value for signature project and/or Citywide projects? ✓





Criteria for Recommended Projects



Proposed Allocations



- Project lists for \$200M, \$150M, \$125M, and \$100M
- Use 2026 escalated costs
- 20% - Erosion Control
- 80% - Flood Management & Storm Drainage
- Include Citywide & Signature Projects
- Test project list against Council District needs (NI statistics)



Selection Criteria



- No projects in 10-year capital plan unless slated for FY 28 or later
- Projects over \$12M must benefit multiple districts, be Citywide or signature projects
- \$35M cap on Citywide, multiple districts, and signature project; include planning/design costs for large signature projects
- Base on allocations and criteria above using highest project score
 - Erosion Control Projects – 53 and greater
 - Flood and Storm Drainage – 66 and greater

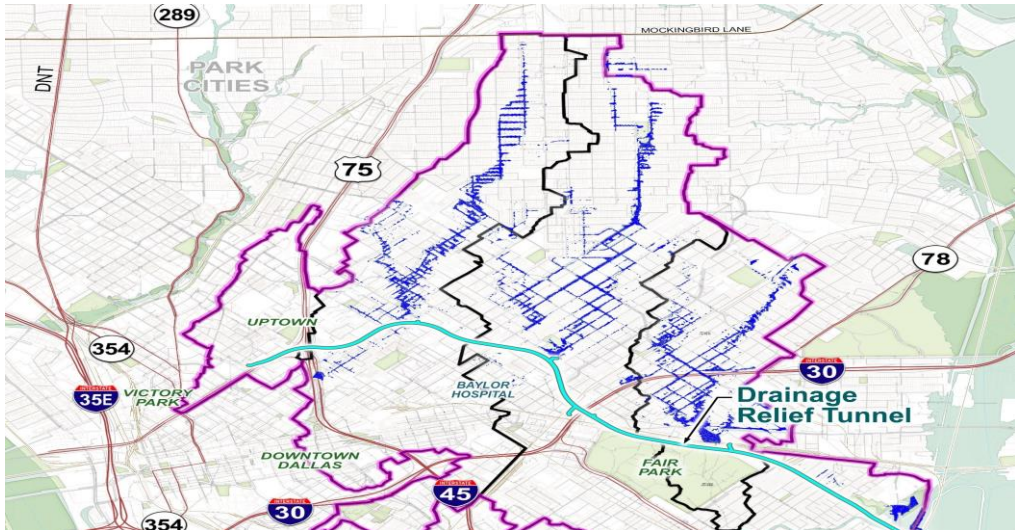
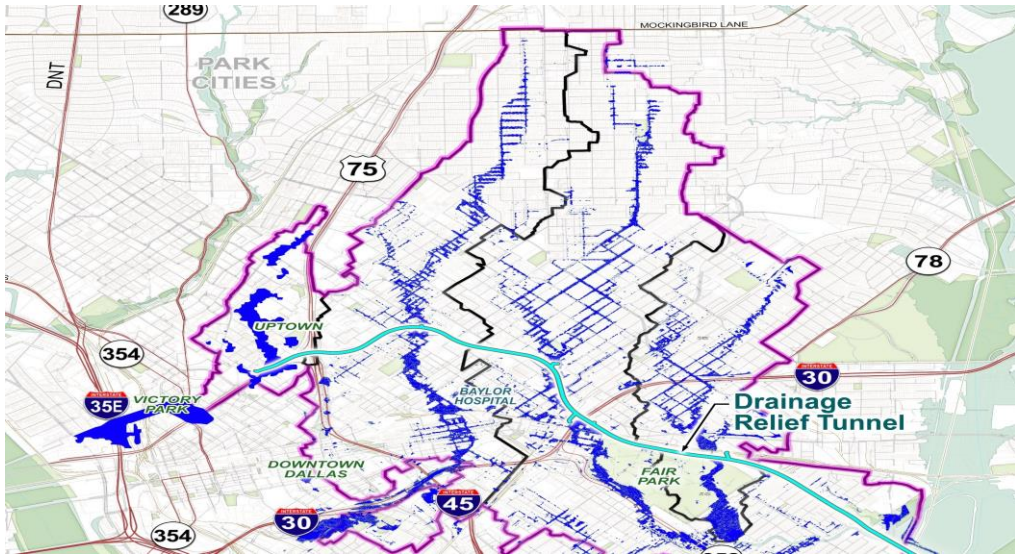




Signature Projects



Mill Creek/Peaks/East Peaks



- Storm drainage relief tunnel providing relief to East Dallas:
 - Lower areas of Mill Creek (around Baylor Hospital)
 - Peaks Branch (south of Buckner Park)
 - East Peaks Branch (around Fair Park area)
 - Woodall Rodgers area and the State-Thomas area
- \$212.5M construction – 2006/2012 Bond Programs
- Completion planned for 2025
- Reduces flooding/protects:
 - 3,200 acres
 - 2,200 properties
 - Over \$4B in property
- **Tunnel is initial phase of larger drainage master plans for Mill Creek and Peaks Branch watersheds**

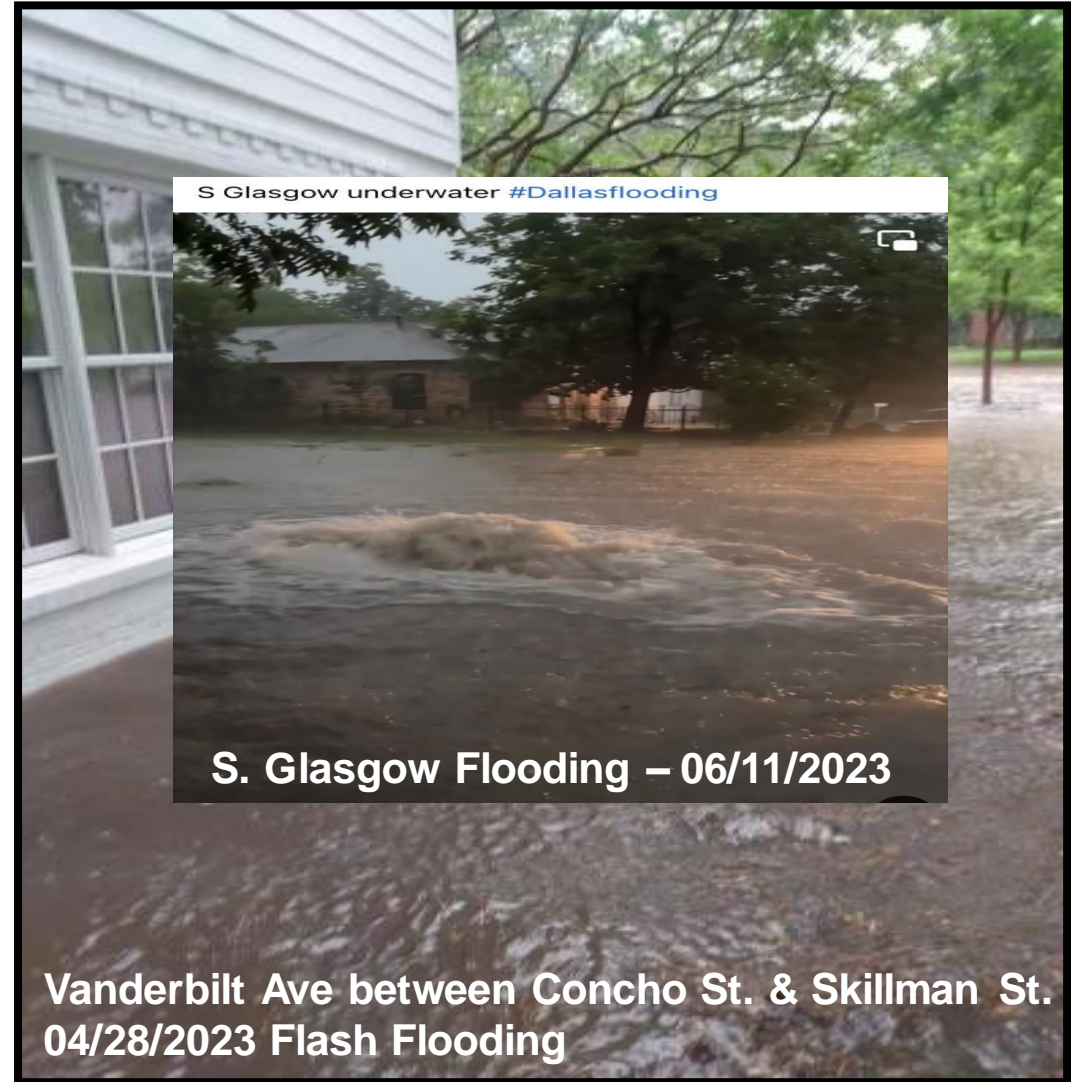


Mill Creek/Peaks/East Peaks (Next Steps)



- Improvements needed above tunnel up to Mockingbird within Mill Creek and Peaks Branch watersheds
- Costs estimated at ~ \$339M in 2026 dollars
- Planning and engineering in 2024 Bond to get a head start and fund construction in future bond and capital program - \$33.9M
- Highest rated projects in the Needs Inventory (2 entries)
- Citywide, signature project to capitalize on current investments for much of East Dallas

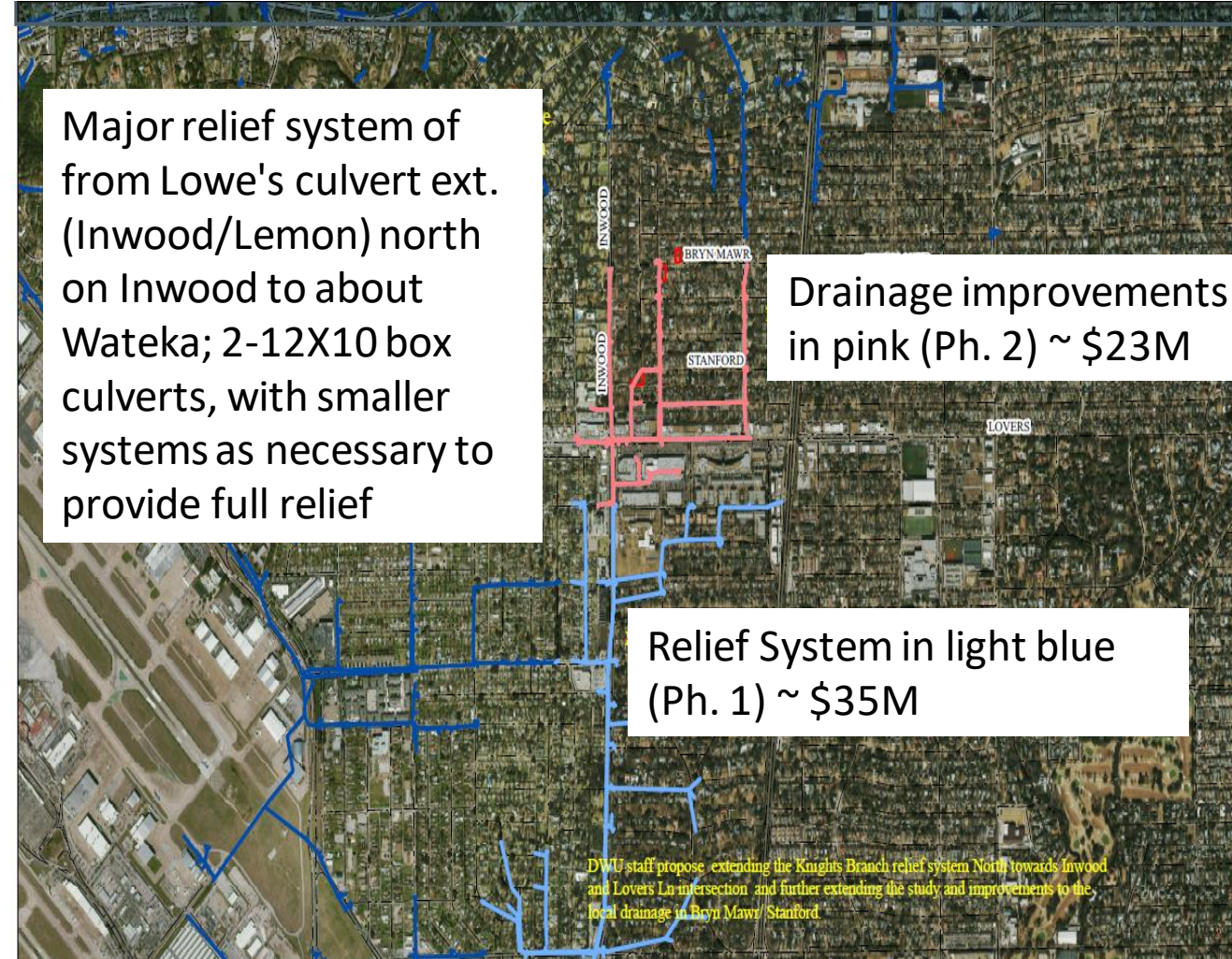
- **Properties protected ~ 1,710**
- **Property values > \$585M (based on 2009-2015 values)**



Knights Branch Upper Relief System



- Major relief system from Inwood/Lemmon to south of Lovers and neighborhood improvements to Preston Park (Bryn Mawr)
- Costs estimated at ~ \$58M in 2026 dollars (2 phases)
- \$35M in 2024 Bond to complete planning/engineering and first phase (relief system); \$17.1M to Ph. 2
- Highly rated project in the Needs Inventory; benefits districts 2,6,13



Knights Branch Upper Relief System





Other Citywide / Multiple District Projects



Trinity River Channel & White Rock Creek



Trinity River Channel

- Flood Management Project - \$23M
- Located in Districts 1, 2, 4, and 6
- Includes channel dredging, bank stabilization, tree removal, and other activities
- Necessary to meet regulatory requirements
- Ensures river channel can carry low and maximum flows (300 cfs & 13,000 cfs)



White Rock Creek Floodplain Study

- Flood Management Project - \$1M
- Citywide Project
- Study flood management options within watershed
- Update of 1989 study extended into entire White Rock Creek watershed



Selected Projects (Version 1)



Erosion Control - \$39.3M

Projects will prevent current and future erosion at 55 locations throughout the City.



Storm Drainage Relief - \$89.6M

Projects will include upgrading & replacing existing storm drainage lines and installing new lines at 6 locations throughout the City.



Flood Management - \$71.1M

Projects to prevent flooding and relieve properties that suffer repetitive flood loss at 11 locations throughout the City.



Highlight/Summary Sheets



COUNCIL DISTRICT 1: FLOOD PROTECTION & STORM DRAINAGE

The proposition will provide \$9,562,250.00 to fund over 11 projects within Council District 1 to address flood management, storm drainage relief and erosion control.



<p>Coombs Creek Dr 637 \$261,625.00 Unnamed Trib. to Coombs Creek - Private - Type 1, one home threatened, 11' from bank 15' deep, approximately 65 LF of erosion protection.</p> <p>Hampton N 635 \$241,500.00 Cedar Creek - Unnamed Trib. to Coombs Creek - Private - Type 1, one home threatened, 11' from bank 7' deep, approximately 60 LF of erosion protection.</p> <p>Cliffdale 120 \$342,125.00 Coombs Creek - Private - Type 1, one home threatened, approx. 15' from bank and 14' deep, approx. 85 LF of erosion protection.</p>	<p>Sheldon Ave 3303 (Fire Station 26) \$805,000.00 Unnamed Tributary to Coombs Creek - Public - Type 1, 1 structure threatened, approx. 4' from bank 14' deep. Approx. 200 LF of gabion wall.</p> <p>Jefferson W 2909 \$281,750.00 Coombs Creek - Private - Type 1, one home threatened, approx. 8' from bank 14' deep, approx. 70 LF of erosion protection.</p> <p>Barnett S 110 \$221,375.00 Coombs Creek - Private - Type 1, one home threatened, approx. 55LF of erosion protection.</p>	<p>Ravinia S. 326 and 406 \$483,000.00 Coombs Creek - Private - Type I, two houses threatened, 35' from bank, 120 LF 18' gabion wall.</p> <p>Elmwood 2227 \$301,875.00 Elmwood Branch - Private - Type I, house threatened, 20' from bank, 75 LF of 8' gabion wall.</p> <p>Stevens Wood Court 914 \$322,000.00 Coombs Creek - Private - Slight threat to home; 80 LF gabion wall, 10' height.</p>	<p>Coombs Creek Flood Management Study Update \$552,000.00 Update of 1983 Coombs Creek FMS & 2021 Kidd Springs Tunnel TM. Update H&H if needed. Identify new projects, including holistic streambank stabilization and protection, for Coombs Creek and Kidd Springs.</p> <p>Trinity River Channel Project \$23,000,000.00 (CD 1,2,4,6) Channel dredging, bank stabilization, tree removal, and other activities to meet regulatory requirements for ongoing PL 84-99 compliance to maintain the river channel to carry 300 cfs during low flow and maximum 13,000 cfs.</p>
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Statistics and Council District Breakdown



Project Statistics



Erosion Control

- 114 projects in the NI; 2026 est. \$83.6M
- 55 projects selected; 2026 est. \$39.3M

Storm Drainage

- 169 projects in the NI; 2026 est. \$1.3B
- 6 projects selected; 2026 est. \$83.6M

Flood Management

- 141 projects in the NI; 2026 est. \$1.4B
- 11 projects selected; 2026 est. \$71.1M

Citywide, Signature, Multiple Districts

- 7 of total projects - \$110.24M



Project Statistics by Council District



CD 1

- 11 projects - \$9,562,500.00
- 9 erosion, 2 flood

CD 2

- 6 projects - *\$31,025,483.33
- 1 erosion, 2 flood, 3 drainage

CD 3

- 10 projects - \$8,561,175.00
- All erosion control

CD 4

- 10 projects - \$11,904,225.00
- 9 erosion, 1 flood

CD 5

- 3 projects - \$12,439,550.00
- 2 erosion, 1 flood

CD 6

- 4 projects - *\$23,176,733.33
- 2 flood, 2 drainage

CD 7

- 6 projects - \$13,808,625.00
- 5 erosion, 1 flood

CD 8

- 4 projects - \$12,161,250.00
- 2 erosion, 2 flood

CD 9

- 4 projects - \$3,427,000.00
- 3 erosion, 1 drainage

CD 10

- 4 projects - \$3,441,375.00
- All erosion control

CD 11

- 7 projects - \$4,572,975.00
- 5 erosion, 1 flood, 1 drainage

CD 12

- 4 projects - \$2,233,875.00
- All erosion control

CD 13

- 4 projects - *\$18,030,483.33
- 1 erosion, 1 flood, 2 drainage

CD 14**

- 1 project - \$10,695,000.00
- 1 flood

Citywide

- 3 projects - \$34,960,000.00
- 1 flood, 2 drainage

*Includes signature project

**Significantly benefited by Mill Creek/Peaks Branch Signature Project (classified as Citywide)





Questions?



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