

Flood Protection Program

Status Report | November 2025

***All asterisks represent updated information.**

Prepared for
City of Virginia Beach

December 9, 2025



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PROGRAM PROGRESS HIGHLIGHTS

The City of Virginia Beach citizens passed a bond referendum on November 2, 2021, to allow the utilization of real estate taxes to fund flood protection projects. The referendum specifically included the design and construction of flood protection strategies making up the Flood Protection Program (FPP). Since the approval of the referendum, a 10-year (2022-2032) implementation plan comprising seven (7) Master Projects was developed to design and construct projects city-wide to mitigate flooding impacts on the community.

This monthly report intends to inform the City Council and the Flood Prevention Bond Referendum Oversight Board (FPBROB) of the program's progress along with risk and strategic decisions that may require Council support.



Image of Pleasure House Point Wetland Mitigation project showing the 12-acre site, new channels cut, and a new pedestrian bridge.

*Monthly Highlights

- ✓ Community Meetings:
 - A District 6 community meeting was hosted by Councilmember Worth Remick on Wednesday, November 12, 2025, 6:30 PM – 8:00 PM at the Virginia Beach Middle School, 600 25th St., Virginia Beach.
 - A District 9 community meeting was hosted by Councilmember Joash Schulman on Monday, December 1, 2025, 6:00 PM – 8:00 PM at the Bayside Recreation Center, 4500 First Court Road, Virginia Beach.
 - A District 2 community meeting was hosted by Councilmember Barbara Henley on Thursday, December 4, 2025, 5:15 PM – 7:00 PM at the Municipal Center – Building 19, 2416 Courthouse Drive, Virginia Beach.
- ✓ On Wednesday November 5, 2025, Mike Tippin presented “Resiliency and Life at Sea Level” for the Dutch Dialogues conference hosted in Norfolk, Virginia. The presentation was a summary of the Flood Protection Program.
- ✓ On Tuesday November 11, 2025, Mike Tippin presented the Bow Creek Stormwater Park and the Windsor Woods Tide Gate projects to approximately 30 attendees of the National Association for Interpretation conference.
- ✓ Blog post topics for November included:
 - Progress update on the First Colonial Road and Oceana Boulevard Drainage Improvements projects
 - Five ways and places FPP projects are working
- ✓ On Tuesday November 25, 2025, Toni Utterback presented to City Council on the guaranteed maximum price and the funding strategy for the Windsor Woods, Princess Anne Plaza, and The Lakes design-build mega bundle project.

*Upcoming Activities

- ✓ No community meetings are on the calendar from December 5, 2025 to December 31, 2025.
- ✓ Blog post topics for December include:
 - [The Ripple Effect: VB311 Helps Residents Report Flooding and Standing Water](#)
 - An update to the Bow Creek Stormwater Park progress
- ✓ Video production for December includes:
 - How It Works #18: “First Colonial Road and Oceana Boulevard Drainage Improvements Project” will describe how the project supports Virginia Beach’s military community.
 - The Windsor Woods Tide Gate and Bow Creek Stormwater Park Dutch Dialogue video will be repurposed for social media content.
- ✓ A FPP project progress poster is almost complete. It will be made available for print, posted on the website and shared via social media.

Program Estimates

The table below presents the FPP estimates at the master project level showing the program level benchmark estimate at \$1,489 and the current program cost estimate of \$1,552M.

MASTER PROJECTS	BENCHMARK ESTIMATE (\$M)	CURRENT ESTIMATE (\$M)
WINDSOR WOODS/PAP/THE LAKES	\$766	\$803
EASTERN SHORE DRIVE	\$101	\$110
LAKE BRADFORD/CHUBB LAKE	\$178	\$181
CENTRAL RESORT DISTRICT	\$113	\$113
SOUTHERN RIVERS WATERSHED	\$279	\$279
STORMWATER GREEN INFRASTRUCTURE	\$38	\$55
LINKHORN BAY DRAINAGE BASIN	\$14	\$12
TOTAL	\$1,489	\$1,552

Project Cost

There are no monthly cost changes. The table below identifies the projects in planning totaling \$521M.

PROJECTS IN PLANNING	PLANNING ESTIMATE* (\$M)	VARIANCE (\$M)
CENTRAL RESORT DISTRICT DRAINAGE IMPROVEMENTS BUNDLE (DESIGN-BUILD)	\$113	\$0
CHURCH POINT/THOROUGHGOOD BMP & CONVEYANCE PHASE 1B	\$30	\$0
LAKE BRADFORD/ CHUBB LAKE PS & OUTFALL (DESIGN-BUILD)	\$107	\$0
PUNGO FERRY ROAD IMPROVEMENTS	\$50	\$0
WEST NECK BRIDGE (DESIGN-BUILD)	\$221	\$0
TOTAL	\$521	\$0

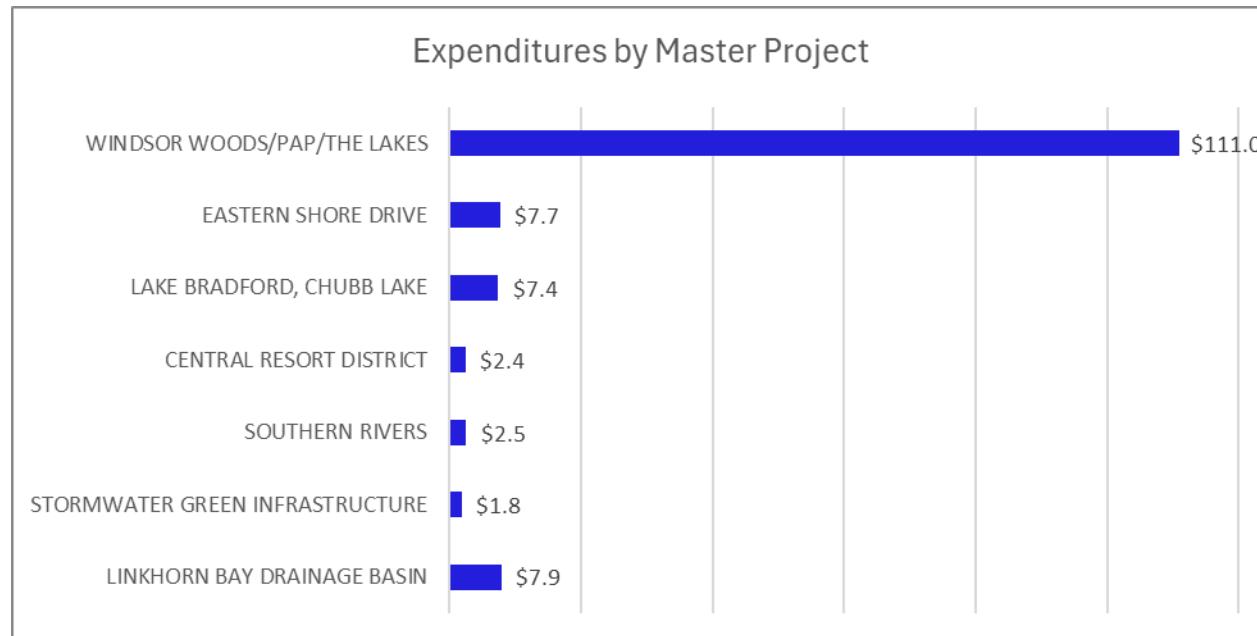
*Planning estimates do not calculate variances and are subject to change until the project is baselined at 30% design.

The table below identifies the projects with baseline estimates totaling \$968M. Currently, these project costs are estimated at \$1,031M with a variance of \$63M.

PROJECTS WITH BASELINES	ESTIMATE PHASE (\$M)	BASELINE ESTIMATE (\$M)	CURRENT ESTIMATE (\$M)	VARIANCE (\$M)
WINDSOR WOODS/PAP/THE LAKES BUNDLE (DESIGN-BUILD)	DESIGN	\$637	\$637	\$0
CHURCH POINT/THOROUGHGOOD BMP & CONVEYANCE PH.1A	DESIGN	\$38	\$38	\$0
SANDBRIDGE/NEW BRIDGE INTERSECTION IMPROVEMENTS	DESIGN	\$8	\$8	\$0
EASTERN SHORE DRIVE POINCIANA PUMP STATION	DESIGN	\$18	\$27	\$9
BOW CREEK STORMWATER PARK (GOLF COURSE - SECTION 2)	DESIGN	\$60	\$68	\$8
EASTERN SHORE DRIVE BUNDLE	DESIGN	\$76	\$76	\$0
EASTERN SHORE DRIVE NORTH SHORE DRIVE, STREET DRAINAGE IMPROVEMENTS, 1F	DESIGN	\$4	\$4	\$0
MARSH RESTORATION IN BACK BAY	DESIGN	\$27	\$47	\$20
ELIZABETH RIVER FLOODPLAIN RESTORATION PROJECT	DESIGN	\$11	\$8	-\$3
FIRST COLONIAL RD AND OCEANA BLVD DRAINAGE IMPROVEMENT	CONSTRUCTION	\$7	\$5	-\$2
SEATACK NEIGHBORHOOD DRAINAGE IMPROVEMENT	CONSTRUCTION	\$7	\$7	\$0
WINDSOR WOODS TIDE GATE	CONSTRUCTION	\$11	\$21	\$10
BOW CREEK STORMWATER PARK (GOLF COURSE - SECTION 1)	CONSTRUCTION	\$42	\$42	\$0
EASTERN SHORE DRIVE GRAVITY SEWER RELOCATION 1C	COMPLETE	\$3	\$2	-\$1
LAKE BRADFORD/CHUBB LAKE PARENT	COMPLETE	\$3	\$6	\$3
WINDSOR WOODS DRAINAGE PARENT	MULTIPLE	\$16	\$35	\$19
TOTAL		\$968	\$1,031	\$63

Program Spending

As detailed in the following graphic, the FPP Master Project expenditures through ***November 2025**, totaling ***\$140.7M**.



Monthly Appropriation Project Transfers

There are no appropriation transfers this month.

Program Schedule

The table below represents a high-level summary of the planning (P), design (D), and construction (C) phases included in the master program schedule for active projects. Project milestones are outlined in the project level information section.

FPP PROJECTS	2025	2026	2027	2028	2029	2030	2031	2032
WINDSOR WOODS/PAP/THE LAKES MASTER PROJECT								
WINDSOR WOOD TIDE GATE	C							
SOUTH PLAZA TRAIL/PRESIDENTIAL BLVD	C							
BOW CREEK STORMWATER PARK (SECTIONS 1)	C	C	C					
BOW CREEK STORMWATER PARK (SECTIONS 2)	D	C	C	C	C	C		
WINDSOR WOODS/PAP/THE LAKES BUNDLE (DESIGN-BUILD)	D	C	C	C	C	C	C	
EASTERN SHORE DRIVE MASTER PROJECT								
ESD CAPE HENRY CANAL DRAINAGE IMPROVEMENTS 1F	C	C	C					
ESD POINCIANA PUMP STATION	D	C	C	C				
EASTERN SHORE DRIVE BUNDLE	D	C	C	C				
LAKE BRADFORD/CHUBB LAKE MASTER PROJECT								
CHURCH POINT/THOROUGHGOOD BMP & CONVEYANCE 1A	D	D	D	C	C	C	C	
CHURCH POINT/THOROUGHGOOD BMP & CONVEYANCE 1B	D	TBD						
LAKE BRADFORD/CHUBB LAKE PS & OUTFALL (DESIGN-BUILD)	P	TBD						
CENTRAL RESORT DISTRICT MASTER PROJECT								
CENTRAL RESORT DISTRICT DRAINAGE (DESIGN-BUILD)	P	TBD						
SOUTHERN REIVERS MASTER PROJECT								
SANDBRIDGE/NEW BRIDGE INTERSECTION IMPROVEMENTS	D	D	D	D	C	C		
PUNGO FERRY ROAD IMPROVEMENTS	P	TBD						
WEST NECK BRIDGE (DESIGN-BUILD)	P	TBD						
STORMWATER GREEN INFRASTRUCTURE MASTER PROJECT								
MARSH RESTORATION IN BACK BAY			C	C				
ELIZABETH RIVER FLOODPLAIN RESTORATION	C	C						
LINKHORN BAY DRAINAGE MASTER PROJECT								
SEATACK NEIGHBORHOOD DRAINAGE IMPROVEMENT	C							
FIRST COLONIAL RD & OCEANA BLVD DRAINAGE	C	C						

Note: The dominant activity is shown for each calendar year in the above table. Actual work phases are likely to span multiple years. Planning projects scheduled activities beyond 2025 are to-be-determined (TBD) until the project is baselined.

Program Phase Overview

The table below shows the current delivery phase for each FPP project. Project phases include preliminary engineering, design, design-build, construction in progress, and construction complete.

Preliminary Engineering	Design	Design-Build	Construction In-Progress	Construction Complete
West Neck Creek Bridge	Eastern Shore Drive (ESD) Drainage Bundle <i>(Bid & Award)</i>	Windsor Wood, PAP, The Lakes Bundle	Windsor Woods Tide Gate	Club House Road Drainage
Pungo Ferry Road Improvements	ESD Roadway Drainage 1F & 1G	Lake Bradford/Chubb Lake Pump Station & Outfall	South Plaza Trail, Presidential Blvd Drainage	Cape Henry Canal Gravity Sewer Relocation
Central Resort District Drainage Improvements	Poinciana Pump Station		Bow Creek Stormwater Park (Section 1)	Lake Pleasure House Outfall
Church Point/Thoroughgood BMP & Conveyance 1B	Sandbridge/New Bridge Intersection <i>(On Hold)</i>		Seatack Drainage	Lake Bradford Dredging
	Bow Creek Stormwater Park (Section 2)		First Colonial Rd & Oceana Blvd Drainage	Old Forge Road & Red Lion Drainage
	Elizabeth River Floodplain Restoration <i>(Bid & Award)</i>			
	Back Bay Marsh Restoration			
	Church Point/Thoroughgood BMP & Conveyance 1A			

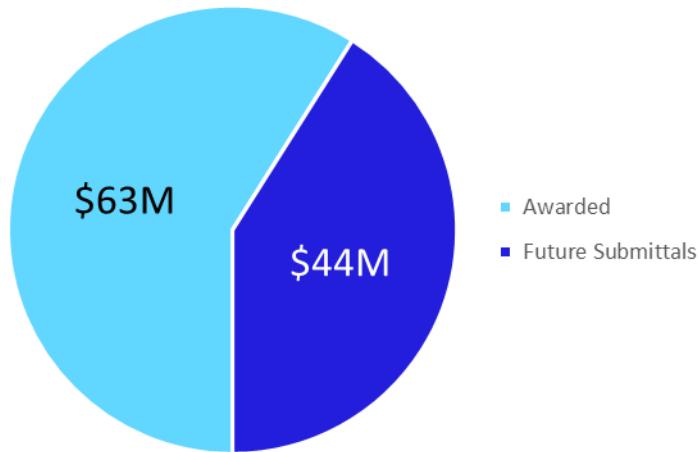
Procurement Activity

- ✓ The Elizabeth River Floodplain Restoration Project is currently in bid and award phase for construction.
- ✓ The Eastern Shore Drive Drainage Improvements BRIC Project (includes Lynnhaven Colony Park Pump Station, Widen and Deepen Cape Henry Ditch, Lynnhaven Drive Pump Station, and Elevate Lynnhaven Drive) Project is currently in bid and award phase for construction.

*Updated Since Last Report

Grant Program

The City has received \$63M and continues to seek grant funding from various state and federal grant programs.



The Federal Emergency Management Agency (FEMA) awarded \$25.1M to the Eastern Shore Drive Drainage Bundle from the Building Resilient Infrastructure and Communities (BRIC) fund. The Virginia Department of Conservation and Recreation (DCR) awarded grants from the Virginia Community Flood Preparedness Fund (CFPF) for the following projects: \$3.0M for Elizabeth River Floodplain Restoration, \$1.9M for Seatack Neighborhood Drainage Improvements, \$2.0M for First Colonial Road and Oceana Boulevard Drainage Improvements and, \$5.0M for the Marsh Restoration Project in Back Bay. The Marsh Restoration Project in Back Bay returned the \$9.9M grant to the National Fish and Wildlife Foundation (NFWF), National Coastal Resilience Fund due to project delays exceeding the grant period of performance. The U.S. Department of Transportation Federal Highway Administration (FHWA) awarded \$19.0M to the Pungo Ferry Road Project from the Promoting Resilient Operations for Transportation (PROTECT) Discretionary Grant Program. The Bow Creek Stormwater Park Project was selected to receive \$7M from the DCR Community Flood Preparedness Fund (CFPF).

The West Neck Creek Bridge Project is still under consideration for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grants.

The following table summarizes the total grant amounts awarded for a specific FPP Master Project and anticipated grant funding which may be received from future grant applications.

FPP Master Projects	Awarded	Future Submittals
Eastern Shore Drive	\$25M	-
Southern Rivers	\$19M	-
Stormwater Green Infrastructure	\$8M	-
Linkhorn Bay Drainage	\$4M	-
Lake Bradford/Chubb Lake	-	\$35M
Windsor Woods, Princess Anne Plaza, The Lakes	\$7M	\$4M
Central Resort District	-	\$5M

***Updated Since Last Report**

Program Communications

*November 2025 Highlights

- ✓ The following blogs were posted to VirginiaBeach.gov in November, sent to 12,000 “Be in the Know” email subscribers, and shared across social media channels:
 - November 13: "[The Ripple Effect: Improvements at First Colonial Road and Oceana Boulevard Build Resilience for the Area](#)" blog post received 555 views.
 - November 26: "[The Ripple Effect: Moving Flood Protection Forward](#)" blog post received 195 views.
 - Total views in November: 750, up from 322 in October.
 - 47% of traffic to the blogs came from email and 34% came from social media.
- ✓ Social media wrap up:
 - Social posts in November received 42,304 impressions, up from 8,155 in October.
 - The First Colonial Road and Oceana Boulevard Drainage Improvements Project post on Facebook made up 66% of these impressions and had the highest engagement rate (7.34%). Reach was bolstered by 51 comments, 10 post shares and 120 clicks on the blog.
- ✓ The [November 25 Informal Meeting of City Council](#) where the Windsor Woods, Princess Anne Plaza and The Lakes design-build mega bundle project was discussed received 2,296 views across Facebook and YouTube. The [YouTube video of the](#) Windsor Woods, Princess Anne Plaza and The Lakes design build project [presentation](#) and accompanying blogpost were added to the [project landing page](#) and have received 112 views.

*Upcoming Communications Activities

- ✓ Blog post topics for December include:
 - [The Ripple Effect: VB311 Helps Residents Report Flooding and Standing Water](#)
 - An update to the Bow Creek Stormwater Park progress and future
- ✓ Video production:
 - How It Works #18: “First Colonial Road and Oceana Boulevard Drainage Improvements Project” will describe how the project supports Virginia Beach’s military community.
 - The Windsor Woods Tide Gate and Bow Creek Stormwater Park Dutch Dialogue video will be repurposed for social media content.
- ✓ A FPP project progress poster is almost complete. It will be made available for print, posted on the website and shared via social media.
- ✓ A new City FPP website landing page has been proposed to make it easier for users to navigate directly to project-related information. Projects will be filtered alphabetically and by category, with one click leading the user to the project landing page of their choice. Once approved, the page is planned to go live in January or February 2026.
- ✓ The “Teacher’s Guide: Understanding Floods for Fourth Grade Students” will be introduced to third grade students in the spring of 2026, and then fully integrated into the fourth-grade classrooms in the fall of 2027.

*Updated Since Last Report

PROJECT LEVEL INFORMATION

Windsor Woods, Princess Anne Plaza, and The Lakes Master Project

The Windsor Woods, Princess Anne Plaza, and The Lakes Master Project has contractually obligated **\$167.1M** of which ***\$111M** has been spent.

The anticipated project schedules are illustrated below.

South Plaza Trail and Presidential Boulevard Drainage Improvements schedule delay is due to weather. Old Forge Road and Red Lion Road Drainage Improvements schedule delay is due to weather, franchise utilities and design changes related to site conditions.

Anticipated Schedule Design-Bid-Build	Status	Preliminary Engineering	Design Start	Invitation to Bid	Construction Start	Construction Complete
Club House Road	BL	Q2 2017	Q1 2018	Q3 2020	Q1 2021	Q4 2022
	Current	✓	✓	✓	✓	✓
Windsor Woods Tide Gate	BL	Q3 2019	Q4 2021	Q2 2022	Q4 2022	Q2 2025
	Current	✓	✓	✓	✓	Q4 2025→
South Plaza Trail and Presidential Blvd Drainage Improvements	BL	Q1 2017	Q1 2018	Q2 2022	Q2 2023	Q2 2025
	Current	✓	✓	✓	✓	Q4 2025→
Old Forge Rd and Red Lion Rd Drainage Improvements	BL	Q1 2017	Q1 2018	Q1 2023	Q3 2023	Q3 2024
	Current	✓	✓	✓	✓	Q4 2024→
Bow Creek Stormwater Park Section 1	BL	Q4 2019	Q3 2020	Q1 2023	Q3 2023	Q4 2026
	Current	✓	✓	✓	✓	Q2 2027→
Bow Creek Stormwater Park Section 2	BL	Q4 2019	Q3 2023	Q1 2026	Q3 2026	Q2 2030
	Current	✓	→			

Projects Identified in the Bond Referendum

*Updated Since Last Report

Variance

Baseline (BL)

Activity complete ✓

Activity in-progress →

Windsor Woods, Princess Anne Plaza, and The Lakes Master Project (Continued)

Anticipated Schedule Design-Build	Status	Bridging Documents	Design-Builder RFP	Design-Builder Selected	GMP	Construction Start	Construction Complete
Windsor Woods, Princess Anne	BL	Q2 2022	Q1 2023	Q3 2023	Q4 2025	Q2 2026	Q2 2031
Plaza, and The Lake Bundle*	Current	✓	✓	✓			



*Windsor Woods, Princess Anne Plaza, and The Lakes Bundle includes the following projects:

1. Windsor Woods Pump Station
2. Windsor Woods Flood Barriers
3. Windsor Woods Thalia Creek/Lake Trashmore Improvements
4. PAP North London Bridge Creek Tide Gate, Pump Station, and Barriers
5. The Lakes Holland Road Gate
6. The Lakes Flood Barriers
7. The Lakes South London Bridge Creek Channels and Gate

Projects Identified in the Bond Referendum

*Updated Since Last Report

Variance

Baseline (BL)

Activity complete ✓

Activity in-progress →

Eastern Shore Drive Master Project

The Eastern Shore Drive Master Project has contractually obligated \$8.5M of which \$7.7M has been spent.

The anticipated project schedules are illustrated in the table below.

Poinciana Pump Station schedule adjustments were made due to value engineering and relocating the pump station outfall at a different street. The Eastern Shore Drive Bundle schedule was baselined. North Shore Drive (1F) & Cape Henry Drive (1G) projects were separated. Cape Henry Drive Drainage Improvements (1G) were incorporated into the Eastern Shore Drive Bundle. North Shore Drive Drainage Improvements (1F) schedule adjustments were made because it will be constructed with the Shore Drive Phase III transportation project starting construction Q2 2025. The Vista Circle Pump Station was removed due to value engineering and increasing the size of the Lynnhaven Colony Park Pump Station thereby eliminating the need for the Vista Circle Pump Station.

Anticipated Schedule Design-Bid-Build	Status	Preliminary Engineering	Design Start	Invitation to Bid	Construction Start	Construction Complete
Cape Henry Canal Phase II Gravity Sewer Relocation	BL	Q2 2017	Q1 2020	Q4 2021	Q2 2022	Q3 2023
	Current	√	√	√	√	√
North Shore Drive Street Drainage Improvements (1F)*	BL	Q2 2017	Q2 2023	Q2 2025	Q3 2025	Q2 2027
	Current	√	√	√	√	→
Poinciana Pump Station	BL	Q1 2017	Q2 2023	Q2 2025	Q3 2025	Q3 2028
	Current	√	→	Q4 2025	Q2 2026	Q4 2028
Eastern Shore Drive Bundle**	BL	Q1 2017	Q2 2022	Q2 2025	Q4 2025	Q4 2028
	Current	√	→	Q3 2025	√	



*North Shore Drive Street Drainage Improvements (1F) will be constructed with the transportation project 100381, Shore Drive Phase III.

**Eastern Shore Bundle includes the following projects:

1. **Elevate Lynnhaven**
2. Lynnhaven Colony Park Pump Station
3. Lynnhaven Drive Pump Station
4. Cape Henry Canal Phase II – Widen and Deepen Canal
5. **Cape Henry Drive – Street Drainage Improvements (1G)**

Projects Identified in the Bond Referendum

*Updated Since Last Report

Variance

Baseline (BL)

Activity complete ✓

Activity in-progress →

Lake Bradford/Chubb Lake Master Project

The Lake Bradford/Chubb Lake Master Project has contractually obligated \$20.9M of which ***\$7.4M** has been spent.

The anticipated project schedules are illustrated below.

Anticipated Schedule Design-Bid-Build	Status	Preliminary Engineering	Design Start	Invitation to Bid	Construction Start	Construction Complete
Lake Pleasure House Outfall	BL	Q2 2018	Q2 2019	Q3 2021	Q3 2022	Q3 2023
Lake Bradford Dredging	Current	✓	✓	✓	✓	✓
Church Point/Thoroughgood BMP and Drainage Improvements 1A	BL	Q2 2018	Q2 2019	Q2 2022	Q4 2022	Q4 2023
Church Point/Thoroughgood BMP and Drainage Improvements 1B	Current	✓	→			



Anticipated Schedule Design-Build	Status	Bridging Documents	Design-Builder RFP	Design-Builder Selected	GMP	Construction Start	Construction Complete
Lake Bradford/Pump Station & Outfall	No BL	Q3 2022	Q2 2024	Q2 2025	TBD	TBD	TBD
	Current	✓	✓	✓	→		



Projects Identified in the Bond Referendum

***Updated Since Last Report**

Variance

Baseline (BL)

Activity complete ✓

Activity in-progress →

Central Resort District Master Project

The Central Resort District Master Project has contractually obligated \$2.8M of which \$2.4M has been spent.

The anticipated project schedules are illustrated below.

Anticipated Schedule Design-Build	Status	Bridging Documents	Design- Builder RFP	Design- Builder Selected	Construction Start	Construction Complete
Central Resort District Bundle*	No BL	Q2 2023	TBD	TBD	TBD	TBD



*Central Resort Bundle includes:

- ✓ 21st and Baltic
- ✓ **24th Street Culvert**
- ✓ **Central Resort District Drainage Improvements**

Projects Identified in the Bond Referendum

*Updated Since Last Report

Variance

Baseline (BL)

Activity complete ✓

Activity in-progress →

Southern Rivers Master Project

The Southern Rivers Master Project has contractually obligated \$5M of which \$2.5M has been spent.

The anticipated project schedules are illustrated below.

Anticipated Schedule Design-Bid-Build	Status	Preliminary Engineering	Design Start	Invitation to Bid	Construction Start	Construction Complete
Sandbridge/ New Bridge Intersection Improvements*	BL	Q2 2018	Q4 2022	Q3 2027	Q1 2028	Q1 2030
Pungo Ferry Road Improvements	Current	✓	→			
	No BL	Q1 2023	TBD	TBD	TBD	TBD



*The Sandbridge/New Bridge Intersection Improvements Project is on hold pending the completion of the Environmental Impact Statement for the Nimmo Parkway VIIB road project.

Anticipated Schedule Design-Build	Status	Bridging Documents	Design- Builder RFP	Design- Builder Selected	Construction Start	Construction Complete
West Neck Bridge	No BL	Q4 2023	TBD	TBD	TBD	TBD
	Current	→				



Projects Identified in the Bond Referendum

*Updated Since Last Report

Variance

Baseline (BL)

Activity complete ✓

Activity in-progress →

Stormwater Green Infrastructure Master Project

The Stormwater Green Infrastructure Master Project has contractually obligated \$8.9M of which ***\$1.7M** has been spent.

The anticipated project schedules are illustrated below.

The City has not received the critical environmental permits for the Marsh Restoration in Back Bay and Elizabeth River Floodplain Restoration projects. While the City is working diligently with the regulators, we must also look realistically at the project schedule. Due to the construction moratorium for environmental concerns that must be considered annually from October to March, we are now forecasting the Marsh Restoration in Back Bay project will need a third construction season in 2027.

Anticipated Schedule Design-Bid-Build	Status	Preliminary Engineering	Design Start	Invitation to Bid	Construction Start	Construction Complete
Marsh Restoration In Back Bay	BL	Q3 2021	Q4 2021	Q4 2023	Q2 2024	Q4 2026
Current	Current	✓	→	Q4 2026	Q1 2027	Q1 2028
Elizabeth River Floodplain Restoration	BL	Q3 2021	Q2 2022	Q1 2024	Q3 2024	Q1 2025
Current	Current	✓	✓	Q2 2025 →	Q1 2026	Q2 2026



Projects Identified in the Bond Referendum

***Updated Since Last Report**

Variance

Baseline (BL)

Activity complete ✓

Activity in-progress →

Linkhorn Bay Master Project

The Linkhorn Bay Master Project has contractually obligated \$11.1M of which ***\$7.9M** has been spent.

The anticipated project schedules are illustrated below.

The schedule delay for the First Colonial Road and Oceana Boulevard Drainage Improvements is due to coordination with an existing transportation project. The Seatack Neighborhood Drainage Improvements completion of construction delay is due to unforeseen private utility conflicts.

Anticipated Schedule Design-Bid-Build	Status	Preliminary Engineering	Design Start	Invitation to Bid	Construction Start	Construction Complete
Seatack Neighborhood Drainage Improvements	BL Current	Q4 2020 √	Q3 2022 √	Q4 2023 √	Q1 2024 √	Q1 2025 Q4 2025→
First Colonial Road and Oceana Boulevard Drainage Improvements	BL Current	Q4 2020 √	Q1 2023 √	Q1 2024 Q4 2024 √	Q2 2024 Q2 2025 √	Q3 2025 Q1 2026→



Projects Identified in the Bond Referendum

***Updated Since Last Report**

Variance

Baseline (BL)

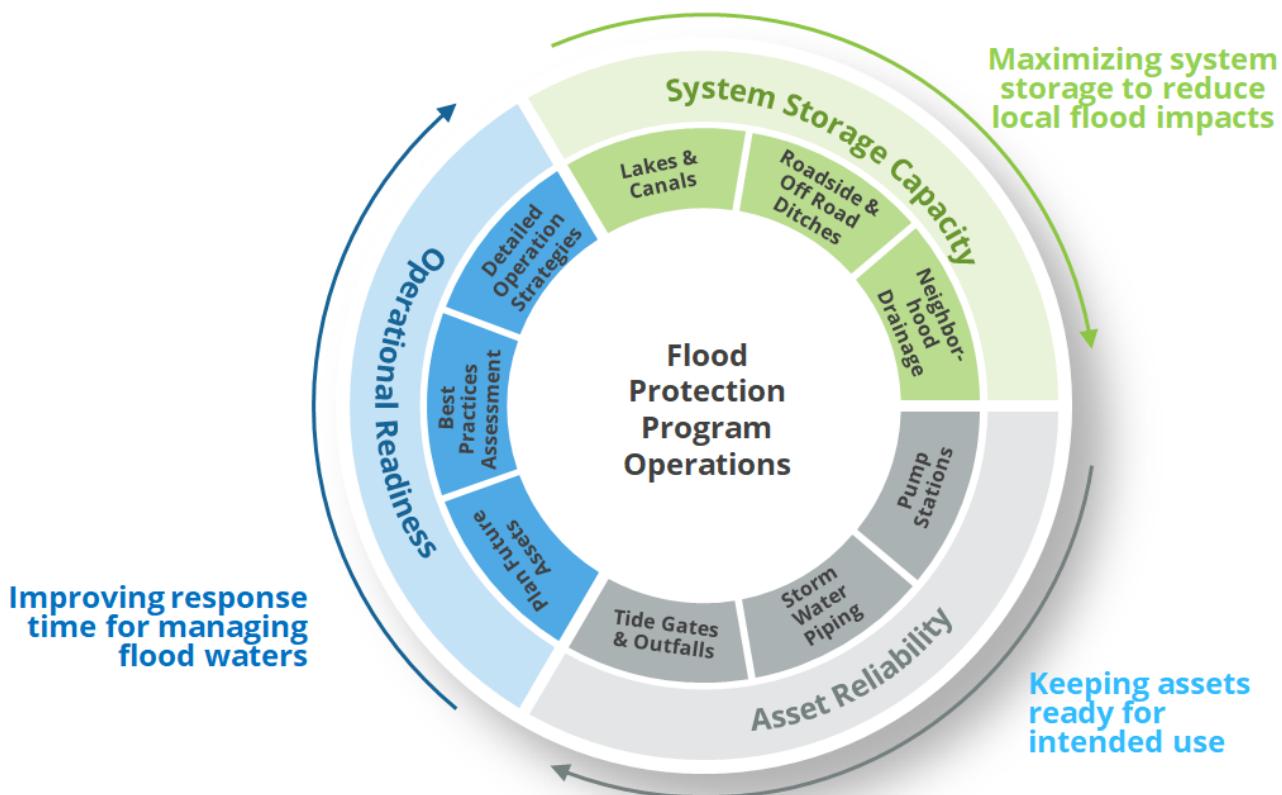
Activity complete √

Activity in-progress →

SUPPORTING CAPITAL INVESTMENTS

The Phase 1 FPP Master projects are not the only flood mitigation and protection work underway in the City. This section lists other capital investment projects and operational activities that support key flood protection drivers such as maximizing system storage to reduce local flood impacts; keeping assets ready for their intended use; and maintaining operational readiness that continuously improves the City's response time for managing flood waters.

The following figure presents how the system storage capacity projects, such as lakes, canals, roadside ditches, off-road ditches, and neighborhood drainage improvements, help maximize available system storage to reduce local flood impacts. Also shown are the asset reliability improvements to tide gates, outfalls, stormwater piping, and pump stations to keep assets ready for their intended use. Finally, the figure connects how activities such as planning for future assets; best practices; and detailed operation strategies help improve response time for managing flood waters.



*Updated Since Last Report

System Storage Capacity

Ashville Park Drainage Improvements Phase 1 Projects

- Princess Anne Farm Ditch Stabilization – Complete
- Roadway/Drainage/Intersection Improvements – Complete
- Stormwater Pump Station – Complete
- Cost Participation Ashville Developer – Complete
 - 3 new Stormwater Ponds (BMPs)
 - Existing Pond Expansion
 - Channels Connecting Ponds
 - Regrade and Stabilize Existing Ditches

South Lake Holly Watershed Section IIIB Project - Complete

Operations Activities for System Maintaining Storage Capacity

- Canal Management Program
- Lake Management Program
- Off-Road Ditch Cleaning Program
- Roadside Ditch Cleaning Program

ARPA Funded Lake Dredging Projects

- The Stormwater Operations Group is working on completing \$15.34 million of lake dredging projects funded by the American Rescue Plan Act (ARPA). Funds for these projects must be encumbered by December 2024 and fully spent by December 2026. The status of each lake dredging project is presented in the following table.
- The scope of this program currently includes dredging at 13 sites. The overall program estimate currently exceeds the allocated ARPA funding. Authorization to remove Package #4 from the ARPA funded projects list was approved and the projects will be completed utilizing CIP funds in the future.
- Through ***November** 2025, the City has spent \$8.2 million and encumbered \$15.34 million for these projects.
- There are currently no concerns with the timeline and all projects remain on schedule for completion by December 31, 2026.

***Updated Since Last Report**

The following table lists the Lake Dredging bid packages and the status and estimated project completion quarter for each location.

Lake Dredging Bid Package	Lake to be Dredged	Project Status	Estimated Project Completion
1	Indian Lakes #2	*Pending Completion of Post Stabilization	*Completed
	Lynnhaven Mall #1		Completed
	Lynnhaven Mall #3		Completed
	Sabre Street Ext #1		Completed
2	Chandler Creek Canal	*Pending Completion of Post Construction	Completed
	Green Meadows Lake		Completed
	Rosemont Road Lake Dredging		Completed
3	Chapel Lake	Chapel Lake Under Construction	Q2 2026
	Salem Lakes #1		Q3 2026
4	Charlestowne Lake South #3	Removed from Program	N/A
	Turtle Lake		N/A
5	Reedtown Lake	Pending Completion of Post Stabilization	Completed
	John B. Dey Lake		Completed
	Lovetts Pond		Completed
	Great Neck Lake #2		Completed

Asset Reliability

Neighborhood Stormwater Infrastructure Improvements Phase II Projects

- Country Club Circle Drainage Improvement: Construction started in October 2024. Construction complete, working on punch list and as-builts.
- Goodspeed Road Pump Station Upgrade: Construction has started.

College Park and Level Green Drainage Improvement Project

- Drainage improvement project construction is complete. Public Works Operations will perform additional storm drain pipe cleaning.

Operations Activities for Asset Reliability

- BMP/SWMF Maintenance Program
- Stormwater Pump Station Improvements
- Pipe Cleaning and Repair: Operations continues to transition from reactive work to proactive work.

***Updated Since Last Report**

ARPA Funded Neighborhood Drainage Rehabilitation Projects

- The Stormwater Operations Group is working on completing \$32.08 million of neighborhood stormwater infrastructure rehabilitation. This amount increased from \$25 million given the City Council's approval to transfer ARPA funds from lake dredging to drainage improvements.
- The scope of this project currently includes CCTV inspection/cleaning, recommendations and execution of repairs to the stormwater infrastructure systems in 24 neighborhoods. The overall project estimate currently exceeds allocated ARPA funding and CIP funds will supplement to fully fund the projects. Authorization to remove packages #12, #13, #14, and #15 that have not yet been spent or encumbered funding was approved as they are not needed to exceed the level of ARPA funding.
- Projects funded by the American Rescue Plan Act (ARPA). Funds for these projects must be encumbered by December 2024 and fully spent by December 2026. The status of each neighborhood drainage project is presented in the following table.
- Through ***November** 2025, the City has spent ***\$32.1** million for these neighborhood drainage rehabilitation projects. A total of 100% of ARPA funds have been encumbered.
- There are currently no concerns with the timeline and all projects remain on schedule for completion by December 31, 2026.

The following table lists the neighborhood drainage rehabilitation bid packages and the status and estimated project completion quarter for each location.

Package #	Neighborhood Drainage Rehabilitation Project Name	Project Status	Estimated Project Completion
1	Redwing Rehab	Completed	Completed
	Upton Estates Rehab	Completed	Completed
2	Great Neck Meadows Rehab	Completed	Completed
	Seatack Rehab	Completed	Completed
3	Birchwood Gardens Rehab	Completed	Completed
	Pembroke Meadows Rehab	Completed	Completed
	Thalia Manor Rehab	Completed	Completed
4	Courthouse Estates Rehab	Completed	Completed
5	Charlestown Lake South Rehab	Completed	Completed
	Hillcrest Farm Rehab	Completed	Completed
6	Red Mill Farms Rehab	Completed	Completed
7	Foxfire Rehab	Completed	Completed
8	Rock Creek Rehab	Completed	Completed
	Salem Village Rehab	*Completed	*Completed
9	Southgate Rehab	Completed	Completed
	Three Oaks Rehab	*Completed	*Completed
10	Lynnhaven Colony Rehab	Completed	Completed
	Northeast Basin - Bay Colony Rehab	Completed	Completed
	Northeast Basin - Birdneck Point	Completed	Completed
	Northeast Basin - Great Neck Estate	Completed	Completed
11	Groveland Park	Completed	Completed
12	Bellwood Estates, Lamplight Manor, Princess Anne Crossing	Removed from Program	N/A
13	Kempsville Colony, Point of View		
14	Broad Bay Estates, Laurel Cove	Completed	Completed
15	Cypress Point North, Hudgins Shores, L&J Gardens, Lakeville Estates	Removed from Program	N/A
16	Tier 2 repairs for Green Run	Under Construction	Q4 2025

***Updated Since Last Report**

Package #	Neighborhood Drainage Rehabilitation Project Name	Project Status	Estimated Project Completion
All	Construction Inspection Services #1	Completed	N/A
All	Construction Inspection Services #2	Completed	N/A
All	Construction Inspection Services #3	Ongoing	N/A
All	Staff Augmentation Services	Ongoing	N/A

Operational Readiness

Asset Management Program Development

Arcadis and Kennedy-Jenks have developed the asset management framework related to the stormwater pump stations. A total of 384 individual assets have been entered into Cartegraph with maintenance schedules. Asset inventory efforts are continuing for non-pump station equipment.

The following tasks have been completed under this program:

- (a) Pump Station Operational Plans
- (b) Review/update asset inventory
- (c) Develop asset hierarchy
- (d) Risk assessment

The following asset management program tasks are currently underway:

- (a) Benchmark O&M practices
- (b) Confirm AM program goals and levels of service
- (c) Formalize an Asset Management Plan
- (d) Tracking and reporting template development

Quarterly Stormwater Engineering-Operations Coordination Meeting

The next coordination meeting will be held in December 2025.

System-wide Sensor Network Evaluation

- SCADA and sensor components are being coordinated by Stormwater Operations staff with vendors and City IT staff.
- System-wide storm impact maps were created and reviewed as post-storm action reports with the Stormwater Operations Team.

Stormwater Master Planning

- All stormwater master plans have been completed.
- The City is in the process of having the consultants update the master plans to meet ADA Accessibility requirements.

***Updated Since Last Report**