CITY OF VIRGINIA BEACH

Jacobs Challenging today. Reinventing tomorrow.

Flood Protection Program
City Council Update

Jeffrey Waller, P.E., Flood Prevention Bond Referendum Oversight Board Chairman

Leisha Pica, P.E., Jacobs Engineering

September 16, 2025

Q3 2025 Board Updates

- Stormwater Modeling Staff Report
- Flood Protection Program Summary
- FPP Communications Update Staff Report
- Maintenance of Existing Storm Infrastructure Staff Report

Public Works Operations removing sediment and debris from a roadside ditch and placing it into a dump truck

The Board meets on the second Tuesday of the month at 2:00 pm at Town Center. Our meetings are open to the public and the public can provide comments. The Board webpage is accessible from the Ripple Effect website, and we can be contacted at the email address posted on our webpage.

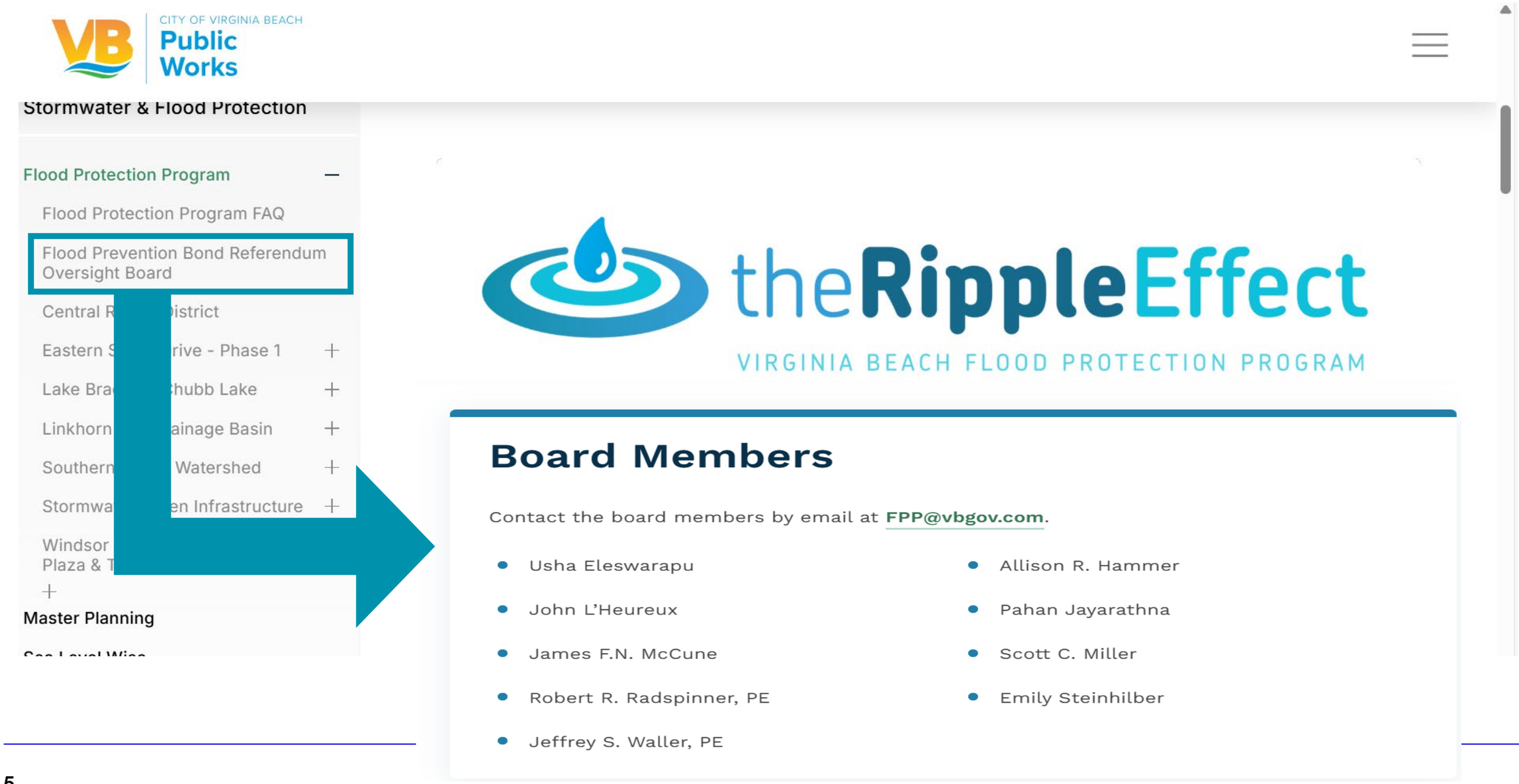
FPP Active Construction Projects

- Windsor Woods Tide Gate near I-264
- Bow Creek Stormwater Park Phase I
- South Plaza Trail/Presidential Boulevard Drainage Improvements
- Seatack Neighborhood Drainage Improvements
- First Colonial Road/Oceana Boulevard Drainage Improvements

FPP Project Milestones During Q3 2025

1 Planning	2 Design	3 Permitting	4 Procurement	5 Construction
Preliminary Engineering Report (PER)	*Detailed Design, 30%. 60%, 90%, 100%*	*Some FPP permits may require 24 months to obtain*	*Advertise Design-Build or Construction Bidding*	*Commissioning and Testing Complete*
✓ **West Neck Final PER**	✓ **Church Point / Thoroughgood BMP & Conveyance 1A 30% Design** ✓ **Poinciana 100% Design** ✓ **Bow Creek Section 2 100% Design**		✓ **Windsor Wood, PAP, The Lakes Bundle GMP submittal** ✓ **Elizabeth River Floodplain Restoration** ✓ **ESD Bundle Construction Advertisement**	✓ **Winsor Woods Tide Gate** ✓ **South Plaza Trail Presidential Blvd Drainage**

The Board is here to serve our Community – we are on the City's website



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Flood Protection Program Update

Q3 2025

Leisha Pica, P.E., Jacobs Program Manager

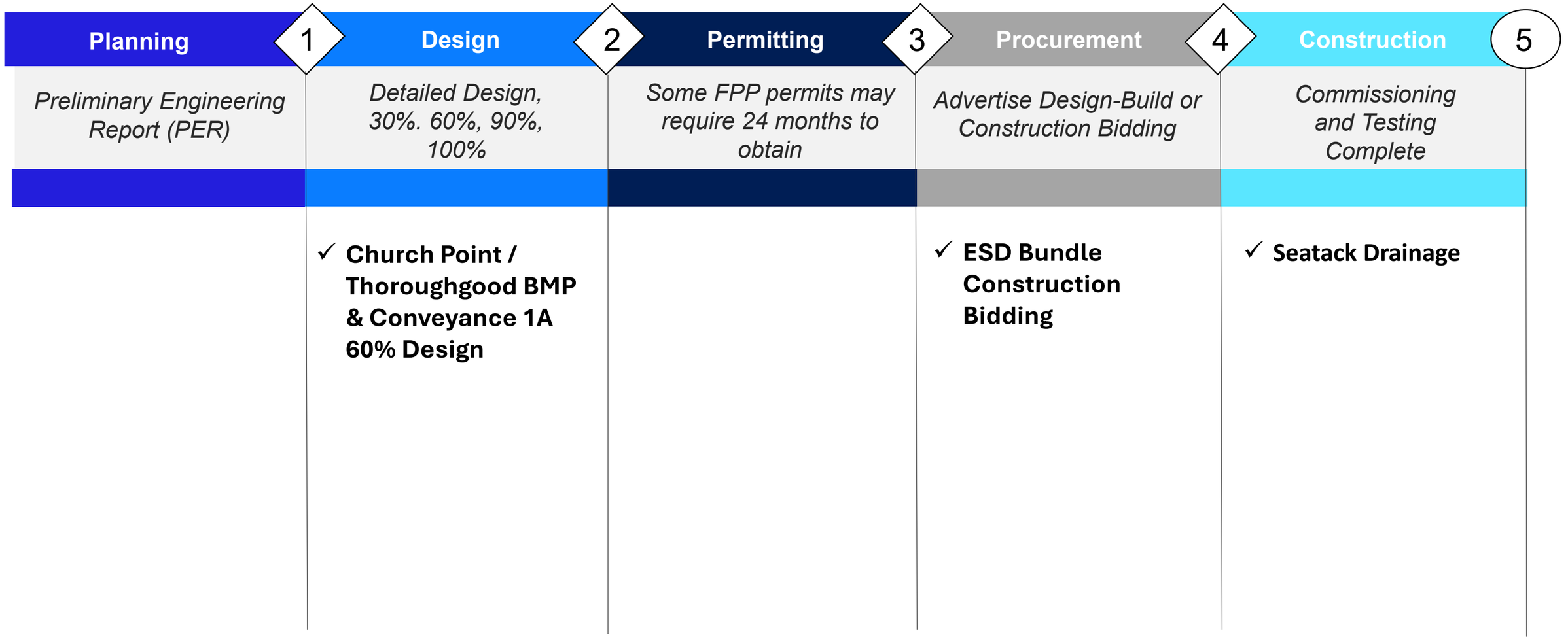
Preliminary Engineering	30% Design Phase	60% Design Phase	90% Design Phase	100% Design Phase	PS&E & ITB Phase	Design-Build	Construction In-Progress	Construction Complete
West Neck Creek Bridge	Church Point/ Thoroughgood BMP & Conveyance	Sandbridge/ New Bridge Intersection *(On Hold)*	Bow Creek Stormwater Park (Section 2)	Back Bay Marsh Restoration	Elizabeth River Floodplain Restoration	Windsor Wood, PAP, The Lakes Bundle *(30% design)*	Windsor Woods Tide Gate	Club House Road Drainage
Pungo Ferry Road Improvements			Poinciana Pump Station		Eastern Shore Drive (ESD) Drainage Bundle (added Phase 1G)	Lake Bradford/Chubb Lake Pump Station & Outfall *(NTP issued)*	South Plaza Trail, Presidential Blvd Drainage	Cape Henry Canal Gravity Sewer Relocation
Central Resort District Drainage Improvements					ESD Phase 1F North Shore Dr Drainage		Bow Creek Stormwater Park (Section 1)	Lake Pleasure House Outfall
							Seatack Drainage	Lake Bradford Dredging
							First Colonial Rd Oceana Blvd Drainage	Old Forge Road & Red Lion Drainage (substantially complete)

FPP Project Status Q2 2025

FPP Project Status Q3 2025

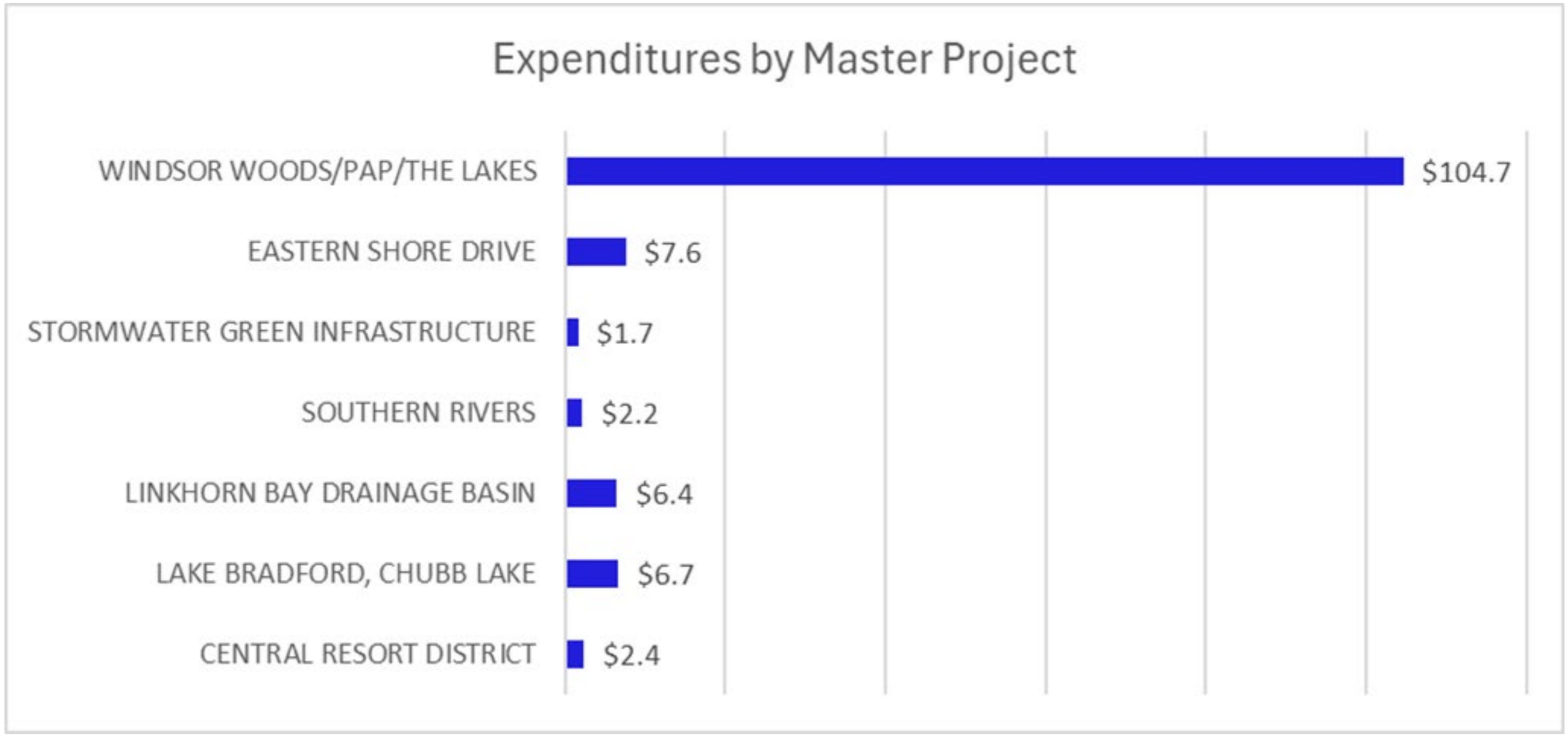
Preliminary Engineering	30% Design Phase	60% Design Phase	90% Design Phase	100% Design Phase	PS&E & ITB Phase	Design-Build	Construction In-Progress	Construction Complete
West Neck Creek Bridge	Church Point/ Thoroughgood BMP & Conveyance 1A	Sandbridge/ New Bridge Intersection *(On Hold)*		Back Bay Marsh Restoration	Elizabeth River Floodplain Restoration	Windsor Wood, PAP, The Lakes Bundle ***(GMP Submittal)***	Windsor Woods Tide Gate	Club House Road Drainage
Pungo Ferry Road Improvements				Poinciana Pump Station	Eastern Shore Drive (ESD) Drainage Bundle (added Phase 1G)	Lake Bradford/Chubb Lake Pump Station & Outfall ***(Design)***	South Plaza Trail, Presidential Blvd Drainage	Cape Henry Canal Gravity Sewer Relocation
Central Resort District Drainage Improvements				Bow Creek Stormwater Park (Section 2)	ESD Phase 1F North Shore Dr Drainage		Bow Creek Stormwater Park (Section 1)	Lake Pleasure House Outfall
Church Point/ Thoroughgood BMP & Conveyance 1B							Seatack Drainage	Lake Bradford Dredging
							First Colonial Rd Oceana Blvd Drainage	Old Forge Road & Red Lion Drainage (substantially complete)

FPP Project Milestones Three-Month Look Ahead through Q4 2025



theRippleEffect
VIRGINIA BEACH FLOOD PROTECTION PROGRAM

$131.7M Program Spending through August 2025



+$13.9M since last quarter

Phase 1 Flood Protection Program Estimate

MASTER PROJECTS	March Presentation Estimate ($M)	Current Estimate ($M)
WINDSOR WOODS/PAP/THE LAKES	$504	$803
EASTERN SHORE DRIVE	$109	$109
LAKE BRADFORD/CHUBB LAKE	$158	$181
CENTRAL RESORT DISTRICT	$113	$113
SOUTHERN RIVERS WATERSHED	$113	$279
STORMWATER GREEN INFRASTRUCTURE	$55	$55
LINKHORN BAY DRAINAGE BASIN	$15	$12
TOTAL	**$1,067**	**$1,552**

Why have Phase 1 FPP Costs Increased?

- **Refined Scope:** Projects went from planning concept to reality with designed scope based on actual field conditions
- **Cost Escalation:** General market cost escalation from initial project estimates (some were developed pre-COVID in 2017) to construction timing
- **Labor Cost Increases:** Construction labor costs continue to increase due to staff shortages in specialized construction fields
- **Market Uncertainty :** Cost uncertainty remains with applicable commodities
- **Supply & Tariffs:** Global supply chain and tariff impacts

Windsor Woods/Princess Anne Plaza/The Lakes Bundle (Design-Build)

The projects were changed from planning status to baselined status. The project costs were updated based on the 30%-complete project cost estimate.

- **Cost Escalation:** Significant cost escalation from 2021 (conceptual estimates provided for the referendum) thru 2031 (construction completed)

- **Environmental Coordination:** North London Bridge Creek Pump Station environmental conditions, Thalia Creek dredging area for bank stabilization, preservation and mitigation of wetland corridors, etc.

- **Roadway Coordination:** Raising of South Boulevard, rerouting Lynnhaven Parkway, access to Lamplight Lane, and other roadway coordination needs

Lake Bradford/Chubb Lake Pump Station and Outfall (Design-Build)

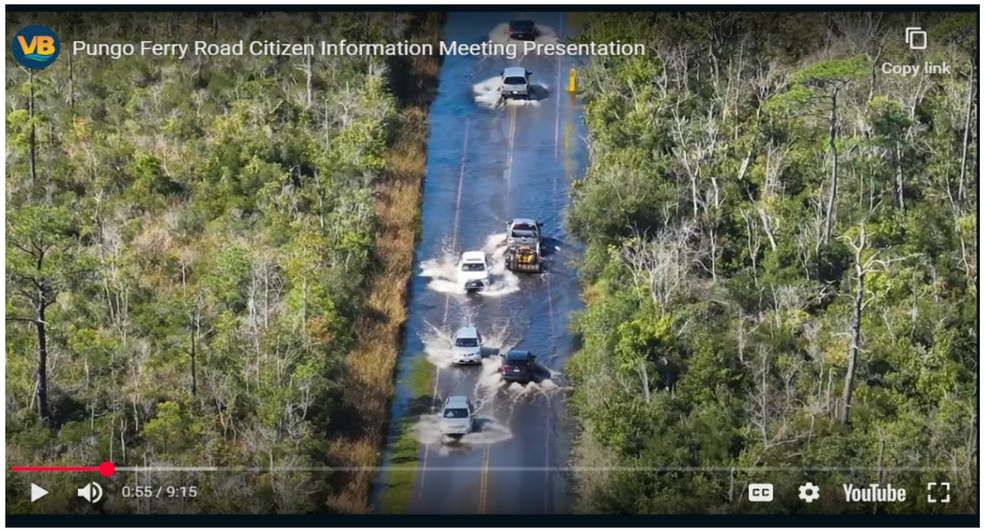
The project costs were updated based on the most recent project planning cost estimate as reflected in the FY26 Capital Improvement Plan.

- **Cost Escalation:** Significant cost escalation from 2021 (conceptual estimates provided for the referendum) thru 2031 (construction completed).

- **Environmental Coordination:** Much of construction occurs within or near tidally affected and weather affected waterways; protective measures for beach/bank/dune erosion at the beach outfall; multiple excavations are required; site is in hurricane affected region.

Southern Rivers Master Project

The project costs were revised to align with the preliminary cost information developed from extended planning efforts.



Pungo Ferry Road Improvements – The project costs were revised to align with the lowest cost option presented at the public meeting on October 23, 2024.

- **Environmental Conditions**: poor, low-lying and saturated soils, proximity to North Landing River, 10 acres of wetland impacts, National Environmental Policy Act (NEPA) study requirements
- **Roadway Coordination**: Blackwater Road and Pungo Ferry Bridge extension

West Neck Bridge (Design-Build) – The project costs were revised to align with the preliminary cost information provided in the Preliminary Engineering Report. **Similar conditions and coordination is required for this project.**

Key Takeaways

- We will spend $567.5 million of bond funds by 2032.
- Within the 10-Year window, the highest priority projects will be completed.
- All Phase 1 FPP projects are underway though some will extend beyond the initial 10-year window.

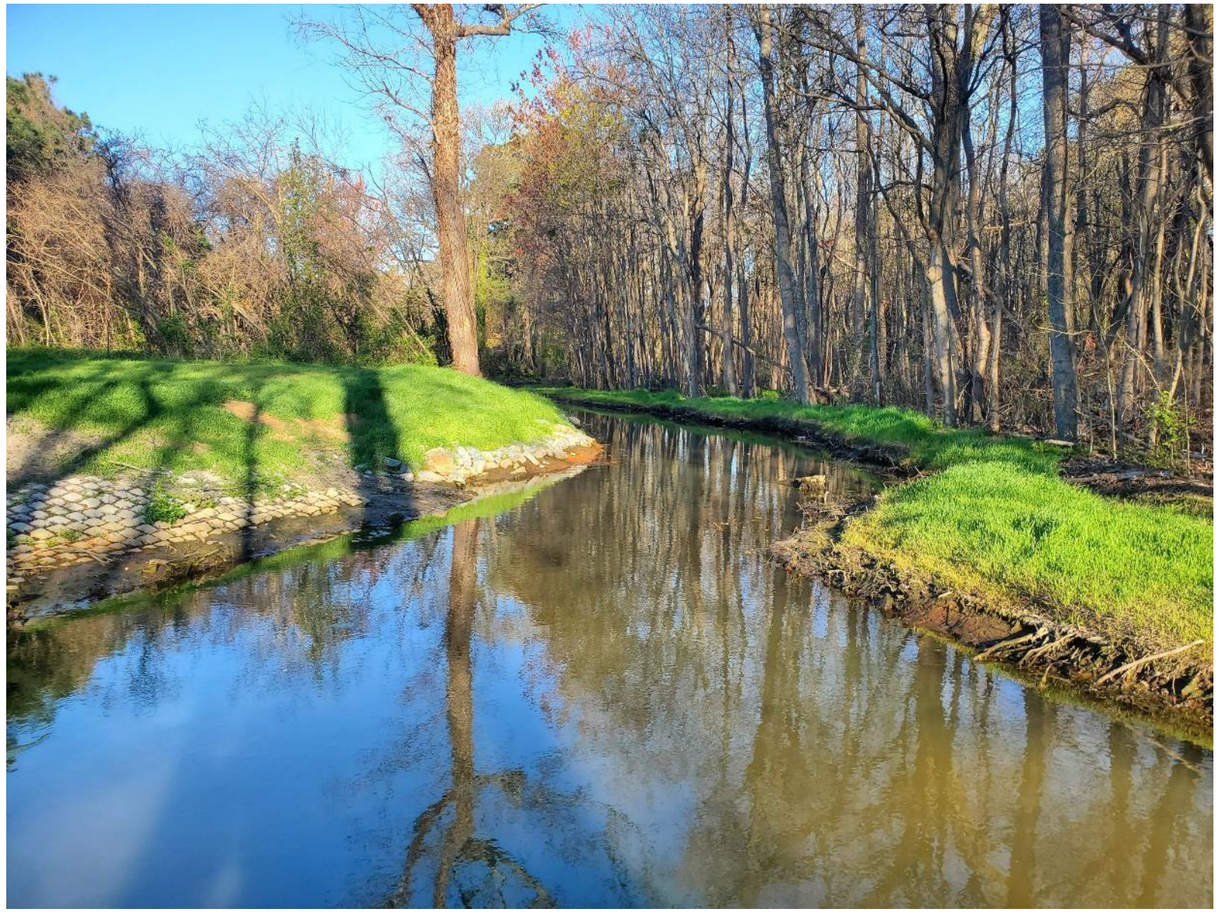
The Windsor Woods Tide Gate performed well during recent weather events.

We are getting system improvements constructed!

Bow Creek Stormwater Park Phase 1 Project

First Colonial Road/Oceana Boulevard Drainage Improvements Project

We are getting system improvements constructed!



Lake Bradford Dredging Project

Old Forge Road and Red Lion Road Drainage Improvements Project

We are getting system improvements constructed!

Club House Road Drainage Improvements Project

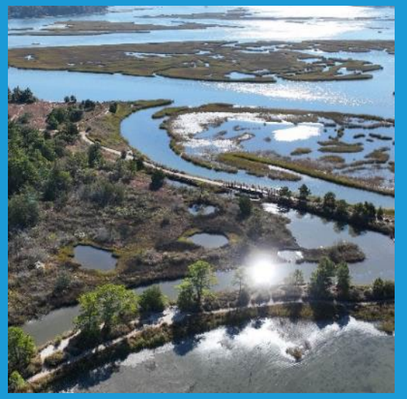
South Plaza Trail/Presidential Blvd Drainage Improvements Project

We are getting system improvements constructed!

Seatack Neighborhood Drainage Improvements Project

Cape Henry Canal Sewer Relocation Project



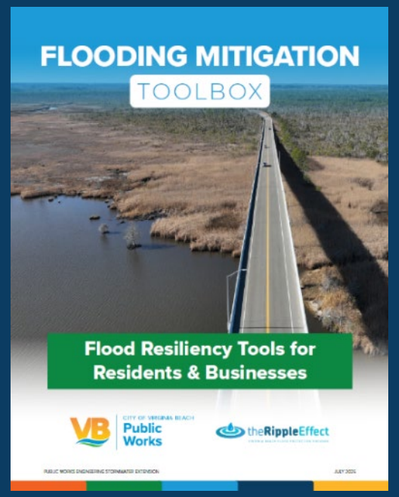



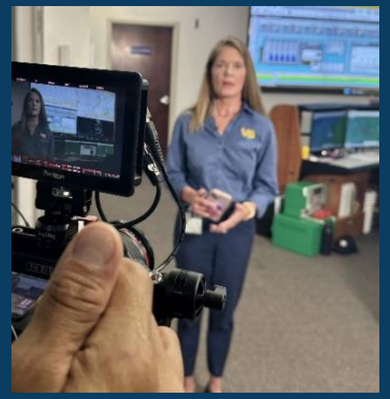
FPP Communications Update

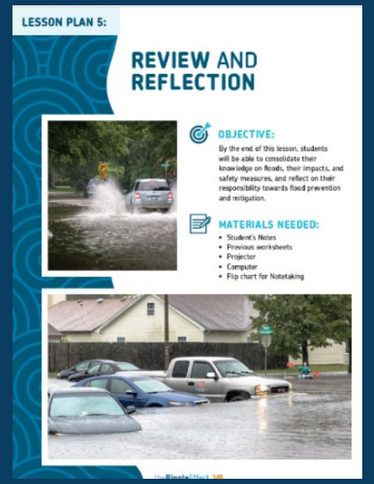
CITY OF VIRGINIA BEACH

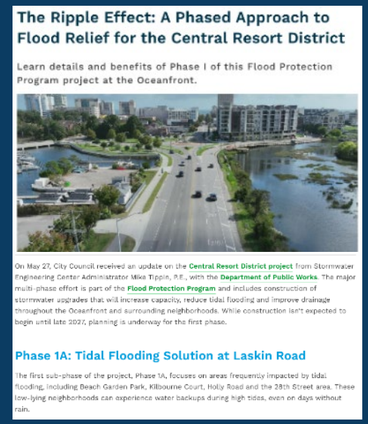
From Concept to Content

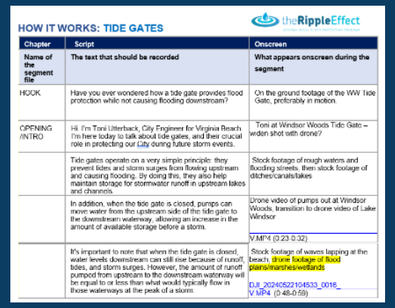
- Campaigns
- Blog posts & articles
- Webpage creation & updates
- Script-writing
- Video production & editing
- Graphic design
- Photography

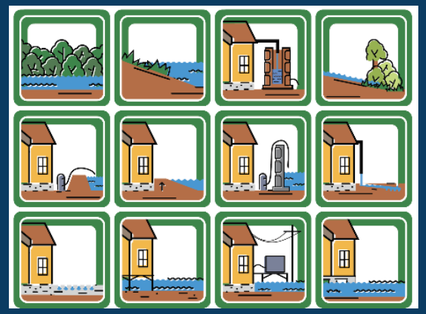






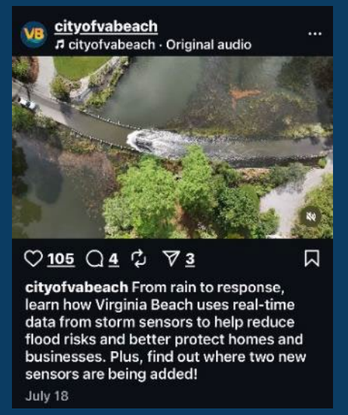


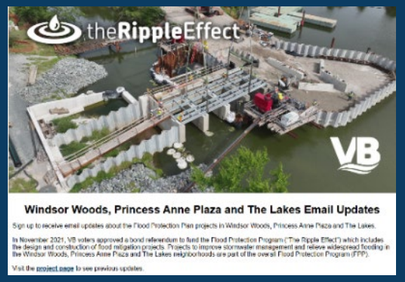




From Content to Community

- Email newsletters
- News releases & media advisories
- Digital and printed materials
- Social media posts (Facebook, Instagram, X and Nextdoor)
- YouTube “The Ripple Effect” playlist videos
  - “How It Works” series
  - City Council presentations
- Media pitches, interviews and stories





Blog Posts

43

Blogs Published

26,457

Total Blog Views

615

Avg. Views per Blog

Most Viewed Blog Posts

Debunking PHP Myths

December 23, 2024

The Real Deal: Debunking Myths about the Pleasure House Point Wetlands Restoration Project

Gain a stronger understanding of this important flood protection initiative before Council votes Jan. 7.

3,619 Views

Five Things To Know

February 22, 2024

The Ripple Effect: Five Things Residents Should Know About Coastal Flood Vulnerability

Part of coastal living is understanding factors that make our community vulnerable to flooding.

1,801 Views

Three Flood Types

November 7, 2024

The Ripple Effect: Virginia Beach's Three Most Common Flood Types

Knowing the differences in each type aids the City in developing solutions to reduce the impacts of flooding.

1,296 Views

“How it Works” Videos

18

“How it Works” Videos Produced

122,773

Video Views

61%

Of Video Views Occurred on Instagram

Most Viewed “How it Works” Videos

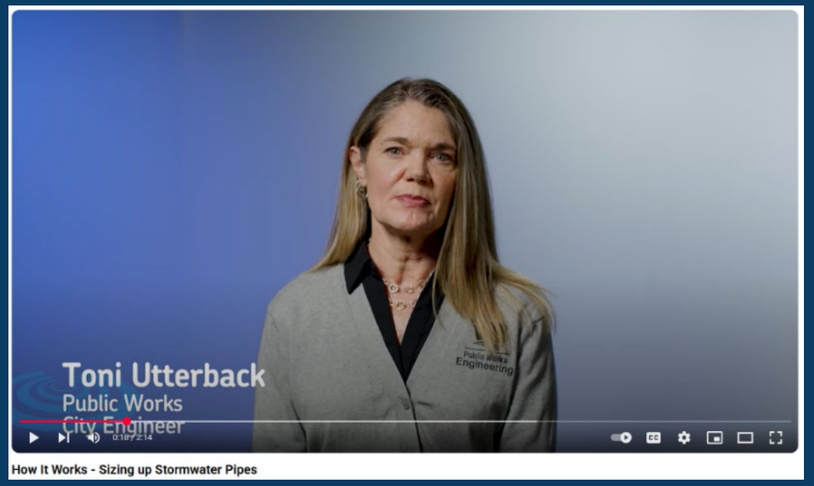
Windsor Woods Tide Gate

14,783 Views

Bow Creek Stormwater Park

13,132 Views

Sizing Up Stormwater Pipes



10,560 Views

Social Media

155

Social Posts Published

872,422

Impressions

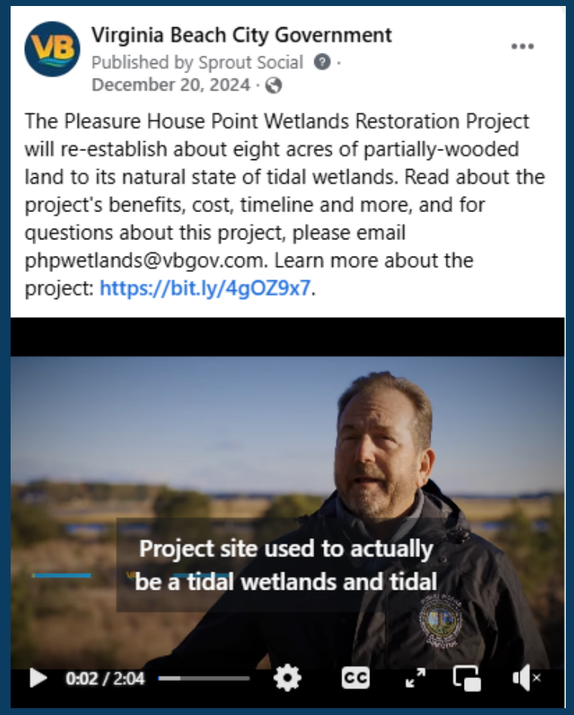
Note: This includes the ad run in Oct. 2024, which accounts for 96,499 impressions.

Most Engaging Social Posts

Facebook: Debunking PHP Myths

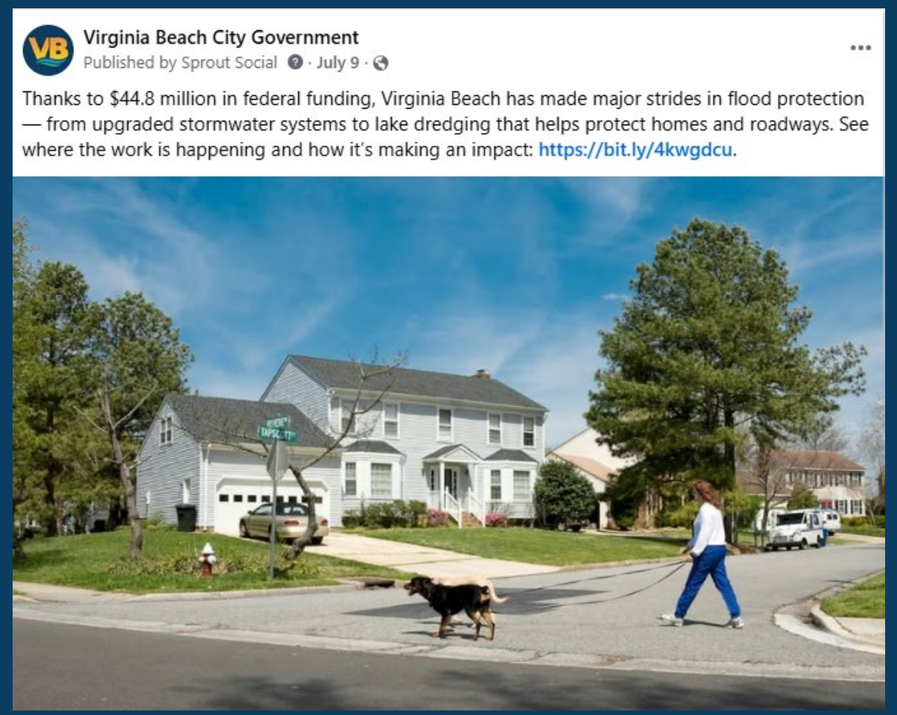
23.6% Eng. Rate

Facebook: PHP Video



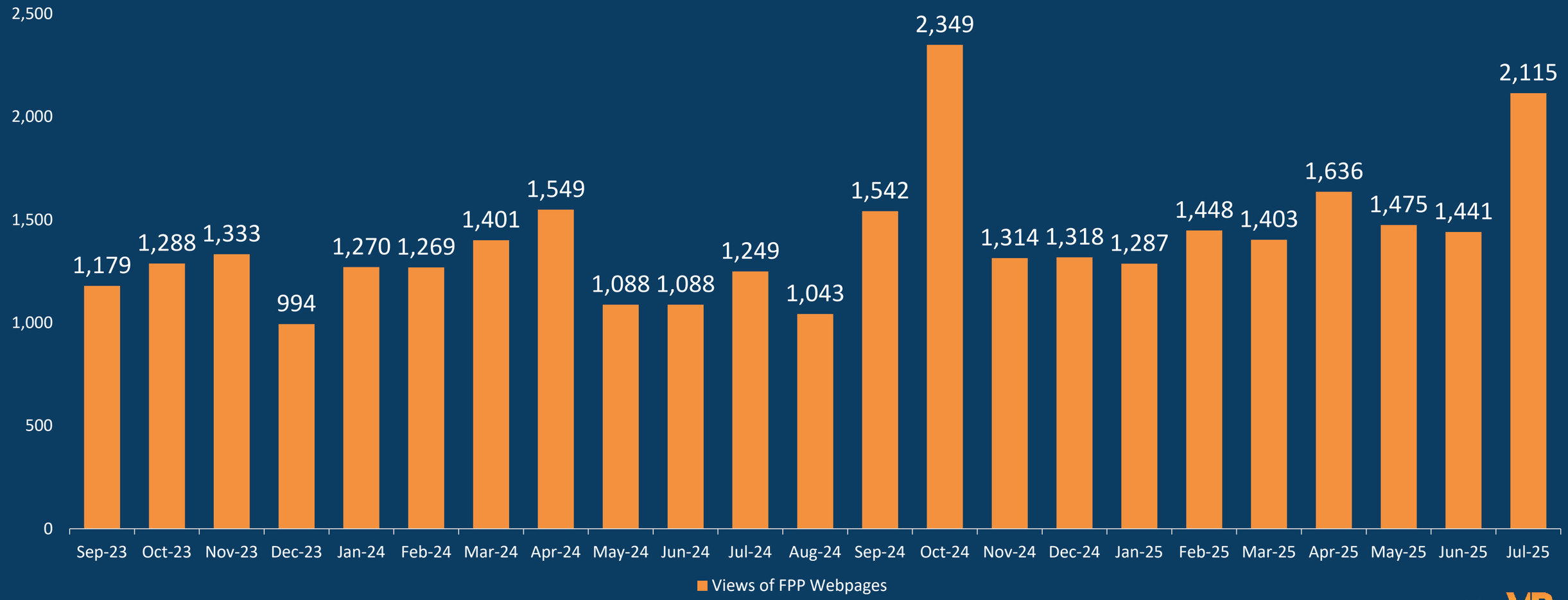
21.1% Eng. Rate

Facebook: Federal Funding



15.9% Eng. Rate

FPP Webpage Views



Thank you

Leisha.pica@jacobs.com

Construction progress for the Pleasure House Point project

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