TOWN OF OCCOQUAN

Circa 1734 | Chartered 1804 | Incorporated 1874

314 Mill Street
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Occoquan, VA 22125
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Occoquan Town Council

Town Council Meeting

April 16, 2024 | 7:00 p.m.

1. **Call to Order**

2. **Consent Agenda**
   a. Request to Accept April 2, 2024, Town Council Meeting Minutes
   b. Request to Adopt Resolution of Appreciation for Darby Leondra

3. **Presentations**
   a. Treasurer's Report for February 2024
   b. Resilient Stormwater Assessment - Final Report by Weston & Sampson

4. **Regular Business**
   a. Request to Adopt Resolution of Appreciation for Marisela Rumberg
   b. Request to Set Public Advertising for the FY 2025 Budgets and Tax Rates

5. **Discussion Items**
   a. Report on Planning Commission Strategic Planning Recommendations to Town Council
   b. Report on Riverwalk Expansion from RESC

6. **Closed Session**

7. **Adjournment**

Portions of this meeting may be held in closed session pursuant to the Virginia Freedom of Information Act.
A copy of this agenda with supporting documents is available online at www.occoquanva.gov.

TOWN OF OCCOQUAN
TOWN COUNCIL MEETING
Agenda Communication

2. Consent Agenda	**Meeting Date:** April 16, 2024
Request to Approve Consent Agenda	

Attachments: See below

Submitted by: Adam C. Linn
Town Manager

Explanation and Summary:
This is a request to approve the consent agenda:

a. Request to Approve April 2, 2024, Town Council Meeting Minutes
b. Request to Adopt Resolution of Appreciation for Darby Leondra

Staff Recommendation: Recommend approval as presented.

Proposed/Suggested Motion:
"I move to approve the consent agenda."

OR

Other action Council deems appropriate.

OCCOQUAN TOWN COUNCIL

Meeting Minutes - DRAFT
Town Hall – 314 Mill Street, Occoquan, VA 22125
Tuesday, April 2, 2024
7:00 p.m.

Present: Mayor Earnie Porta; Vice Mayor Jenn Loges (remote), Councilmembers Nancy Freeborne Brinton, Cindy Fithian, Eliot Perkins, and Theo Daubresse

Absent: None

Staff: Adam Linn, Town Manager / Chief of Police; Matt Whitmoyer, Deputy Town Manager; Philip Auville, Town Clerk; Julie Little, Events Director; Jason Forman, Deputy Chief of Police; Asma Rupani, Town Treasurer (remote); Bruce Reese, Town Engineer (remote); Martin Crim, Town Attorney (remote)

1. CALL TO ORDER

Mayor Porta called the meeting to order at 7:00 p.m.

As a result of illness, Vice Mayor Loges attended remotely from her home.

2. PLEDGE OF ALLEGIANCE

3. CITIZENS' TIME

No one spoke during citizens' time.

4. CONSENT AGENDA

a. Request to Accept March 19, 2024, Town Council Meeting Minutes

Councilmember Fithian moved to approve the Consent Agenda. Councilmember Perkins seconded. Motion passed unanimously by voice vote.

5. MAYOR'S REPORT

Mayor Porta reported the following:

- On March 9th, he attended the ribbon cutting for the Ballywhack Shack Café.
- On March 14th, he attended the semi-annual Occoquan River Safety Forum and participated in the Occoquan District Budget Committee Meeting.
- On March 20th, he chaired the RESC Meeting.
- On March 22nd, he spoke at the Economic Summit of the Prince William Association of Realtors.
- On March 23rd, he spoke at the Prince William History Symposium.
- On March 24th, he attended the OWL installation of the new officer's dinner.
- On March 26th, he attended the Community Sponsorship Breakfast, along with Councilmember Daubresse.
- On March 28th, he met with a Fairfax County Parks Department Representative regarding trail connections.
- On March 29th, he participated in the Occoquan District Budget Committee Meeting.

Mayor Porta addressed his condolences on the passing of Officer David Ralston.

6. COUNCILMEMBER REPORTS

Councilmember Freeborne Brinton noted that she attended the ribbon cutting for the Ballywhack Shack Café.

Councilmember Daubresse noted that he attended the ribbon cutting for the Ballywhack Shack Café and attended the Community Sponsorship Breakfast.

Councilmember Fithian noted that she attended the ribbon cutting for the Ballywhack Shack Café and participated in Peeps Week.

7. BOARDS AND COMMISSIONS

Councilmember Perkins reported that the Planning Commission met on March 26th. He noted that the Planning Commission's zoning review is going before Council during Regular Business and that the Strategic Planning Report will be sent out to Council before their next meeting.

Councilmember Daubresse reported that the ARB met on March 26th and the board reviewed one exterior elevation application. The board had questions regarding the application and since the applicant was not present at the meeting, the application was tabled until the next meeting for the questions to be answered.

8. ADMINISTRATIVE REPORTS

a. Administrative Report

Mr. Linn provided a written report as part of the agenda packet.

Mr. Linn noted that the Zoning Administrator provided an interpretation letter to Council which indicated that the temporary use of goats or sheep to remove invasive species would not be a violation of the Town's current zoning code. He also noted that staff has been in contact with Prince William County regarding placing a glass recycling bin under the Rt. 123 Bridge and will be placed in a manner that will not take up parking spaces.

Mayor Porta noted concern about restaurants that are delinquent on their Meals Tax payments for several months, remarking that this is money they are holding in trust for taxpayers that would be lost if they go out of business.

Mr. Linn reported that staff have been working on collection solutions, including the issuance of summons for those businesses that haven't paid their meals taxes.

Mayor Porta asked why the International Peace Center is paying real estate taxes according to the real estate records.

Mr. Linn reported he too noted that the County had the International Peace Center as paying taxes and believes that the organization did not file the required forms for their status as a non-profit religious organization to qualify for tax exemptions. However, when doing the proposed revenue for the real estate taxes, he had removed them believing it would eventually be changed to not be taxable property.

Mayor Porta noted on the meals tax that since the rate was raised there hasn't been a significant increase. Mayor Porta also recommended that staff perform a rolling audit on the businesses to make sure they are reporting their gross sales correctly.

It was discussed that some reasons for the drop in gross meals sales is a mix of delinquencies and low sales due to inflation.

Mayor Porta noted that the police volunteer hours are on track to equal two full time employees and noted his appreciation on having the storm drains cleared in town before each storm.

Councilmember Perkins asked about the Occoquan Greenway Trail and River Mill Park updates.

Mr. Linn replied that the Occoquan Greenway Trail is being handled by the County and they are looking at some concerns that arose regarding the turn from Mill Street onto Ellicott Street. They are trying to design solutions for installing a sidewalk along Ellicott Street.

Mr. Linn also advised that staff has been in contact with Fairfax Water on the River Mill Park drainage issue, and they confirmed that the water is likely from the construction of the new water main crossing the Occoquan River. He indicated that Fairfax Water responded favorably that they plan on creating a solution once the construction is completed. They are planning on adding remediations to stop water from going into the park.

b. Treasurer's Report

Due to the report not being included in the agenda packet, Ms. Rupani will brief the Council at the next meeting.

c. Town Attorney Report

Mr. Crim reported that he researched deeds of easement for the Riverwalk to prepare a template for additional deeds of easements. He consulted with staff on ceremonial naming of streets in Town, on the Mill at Occoquan demolition schedule, on the water leak on Edgehill, and advised staff on the budget adjustment process and the contract for police record software.

9. REGULAR BUSINESS

a. Request to Review Zoning Administrator Reports on Density Items Referred to Planning Commission

Mayor Porta noted that the parcel east of the Rt. 123 Bridge doesn't need to be rezoned to accommodate any potential future surface parking. Consequently, unless the property owner specifically requests that the property be rezoned it seems unnecessary to do so. Given that no such request from the property owner appears to be outstanding, with the concurrence of the Council he directed that review of the zoning for the parcel be removed from the zoning items referred to the Planning Commission.

Mr. Reese noted that his team looked at two other items referred by the Planning Commission that included evaluating the appropriateness of altering the density in certain areas on Washington Street and reviewing restrictions on accessory dwellings to determine if adjustments are warranted.

Mr. Reese noted the potential changes could include reducing the minimum lot size for single family detached homes to 6,000 square feet, consider allowing flag or stem lots, adopt zoning changes to allow for cluster development, permit the use of accessory dwellings, and to consider relaxing the

slope restrictions for land areas exceeding twenty percent (20%) slope.

Mayor Porta noted that removing the twenty percent (20%) slope restriction is presumably not something the Council would want to consider given that it is an important component of the town's compliance with Chesapeake Bay Act requirements and resulted, in part, from a prior legal decision involving a townhouse development in town.

Councilmember Perkins also noted that the twenty percent (20%) slope issue came up during the Planning Commission and they reached the same conclusion on not changing the restriction.

After discussion, the council directed that the Planning Commission continue its zoning review consistent with the Council's revised request.

10. DISCUSSION ITEMS

a. FY2025 Budget Work Session #2

Mr. Linn provided a presentation and briefed the Town Council on the proposed budget covering the General Fund and the Capital Improvement Program Fund. Mr. Linn reviewed the proposed budgets and responded to various questions from the Council.

Mr. Linn advised that at the next Council Meeting, Staff would be requesting Council approve the tax rates and proposed budgets for advertising purposes.

11. ADJOURNMENT

The meeting was adjourned at 9:48 p.m.

_____

Philip Auville, Town Clerk

TOWN OF OCCOQUAN
TOWN COUNCIL MEETING
Agenda Communication

2. Consent Agenda	**Meeting Date:** April 16, 2024
2B: Request to Adopt Resolution of Appreciation for Darby Leondra	

Attachments: a. Draft Resolution

Submitted by: Adam C. Linn
Town Manager

Explanation and Summary:
This is a request to adopt a resolution of appreciation and recognition for Darby Leondra for her work on designing and installing a mural on the LOVEwork in River Mill Park.

Darby will complete the installation on April 22nd and it will be dedicated on April 24th, 2024. The finished mural is inspired by the seasons of Virginia.

Staff Recommendation: Adopt the Resolution as presented.

Proposed/Suggested Motion:
"I move to adopt Resolution R-2024-04 recognizing Darby Leondra for sharing her time and talents with the Occoquan community through the design and installation of a mural on the LOVEwork at River Mill Park."

OR

Other action Council deems appropriate.

TOWN OF OCCOQUAN, VIRGINIA
RESOLUTION R-2024-04

RESOLUTION OF APPRECIATION AND RECOGNITION TO DARBY LEONDRA FOR HER DESIGN AND INSTALLATION OF A LOVEWORK MURAL FOR THE TOWN OF OCCOQUAN

WHEREAS, the Town of Occoquan has planned for a new local artist to install their art on the LOVEwork in River Mill Park every few years; and

WHEREAS, in 2023, the Town secured a grant from the Virginia Tourism Corporation's LOVEworks Reimbursement Program to refurbish and place new public art on its LOVEwork; and

WHEREAS, in January 2024, the Town engaged with Darby Leondra to design a mural for the structure; and

WHEREAS, from January 2024 through April 2024, Darby Leondra showed great enthusiasm, flexibility, and skill in working with the Town to install the mural; and

WHEREAS, on April 24th, 2024, the Town of Occoquan will dedicate the mural and hold a ribbon cutting ceremony in honor of Darby's work; and

WHEREAS, the completed mural is an engaging, attractive work of art that enhances the beauty and character of Occoquan and welcomes visitors to town.

NOW, THEREFORE, BE IT RESOLVED, the Occoquan Town Council hereby expresses its profound and sincere appreciation to Darby Leondra for generously sharing her artistic gifts with the Occoquan community in creating and installing a wonderful piece of art that will enhance River Mill Park for years to come.

Adopted by the Town Council of the Town of Occoquan, Virginia this 16th Day of April, 2024.

MOTION: **DATE: April 16, 2024**
Town Council Meeting

SECOND:

Votes
Ayes:
Nays:
Absent from Vote:
Absent from Meeting:

BY ORDER OF THE TOWN COUNCIL

Attested:

_____ _____

Earnest W. Porta, Jr., Mayor **Philip Auville, Town Clerk**

TOWN OF OCCOQUAN
TOWN COUNCIL MEETING
Agenda Communication

3. Presentations	**Meeting Date:** April 16, 2024
3A: Treasurer's Report for February 2024	

Attachments: a. Report

Submitted by: Adam C. Linn
Town Manager

Explanation and Summary:
This is a presentation by Town staff on the February 2024 Treasurer's Report that was intended for but not presented at the April 2nd Town Council meeting.

Town staff are available to answer any questions on the attached report.

TOWN OF OCCOQUAN

FINANCIAL STATEMENTS

AS OF 2/29/2024

	As of 7/1/23 Unaudited	Unaudited Income/ (Loss) YTD FY24	As of 02/29/2024 Unaudited
Nonspendable:			
Mamie Davis Fund	$ 100,000	$ -	$ 100,000
Prepaid Items	$ -	$ -	$ -
Restricted:			
E-Summons Fund	$ 36,123	$ 5,974	$ 42,097
Assigned:			
Events Fund	$ 88,024	$ 14,392	$ 102,416
CIP Fund*	$ 26,843	$ (14,855)	$ 11,988
Public Safety Grant Fund	$ 14,283	$ 4,975	$ 19,258
Mamie Davis Park Fund	$ 6,498	$ 147	$ 6,645
PEG Fund	$ 1,955	$ -	$ 1,955
Subtotal Assigned:	$ 137,603	$ 4,659	$ 142,262
Unassigned:			
Emergency Operating Fund	$ 200,000	$ -	$ 200,000
Other Unassigned	$ 44,858	$ 744,096	$ 788,954
Subtotal Unassigned:	$ 244,858	$ 744,096	$ 988,954
Total Fund Balance:	**$ 518,583**	**$ 754,729**	**$ 1,273,313**
Additional Information:			
SLFRF Balance:	$ 658,340	$ (658,340)	$ -

*CIP amounts paid with HB 599 grant are shown in Public Safety Grant

Town of Occoquan
Budget vs. Actuals
July 2023 - February 2024

	Actual	Annual Budget	Over Budget	% of Budget
Income				
40000 TAXES				
40010 Real Estate	288,009	288,769	(760)	99.74%
40020 Meals Tax	194,011	357,641	(163,630)	54.25%
40030 Sales Tax	32,136	40,000	(7,864)	80.34%
40040 Utility Tax	26,000	31,000	(5,000)	83.87%
40050 Communications Tax	20,291	33,000	(12,709)	61.49%
40060 Transient Occupancy Tax	23,602	21,000	2,602	112.39%
40070 Peer-to-Peer Vehicle Tax	1,313		1,313	
Total 40000 TAXES	**585,362**	**771,410**	**(186,048)**	**75.88%**
41000 FEES/LICENSES	-	3,000	(3,000)	0.00%
41010 Vehicle License	9,876	11,000	(1,124)	89.78%
41020 Business Licenses	69,219	79,140	(9,921)	87.46%
41030 Late Fees	2,497	1,500	997	166.45%
41040 FINES (PUBLIC SAFETY)	283,695	349,830	(66,135)	81.10%
41100 Administrative Fees	7,973	8,500	(527)	93.80%
41120 Service Revenue - Eng	2,235	14,000	(11,765)	15.96%
41130 Service Revenue - Legal	-	10,000	(10,000)	0.00%
41140 Service Revenue - Other	-	500	(500)	0.00%
41160 Convenience Fees	668	-	668	
Total 41000 FEES/LICENSES	**376,547**	**477,470**	**(100,923)**	**78.86%**
42000 GRANTS				
42010 LITTER	2,085	1,329	756	156.88%
42020 HB 599	13,694	26,821	(13,127)	51.06%
42021 NHSTA (DMV)		15,375	(15,375)	0.00%
Total 42021 NHSTA (DMV)	**7,364**	**15,375**	**(8,011)**	**47.89%**
42030 SLFRF	506,588	-	506,588	
42040 PEG	-	-	-	
42103 Virginia Dept of Fire Programs	-	-	-	
Total 42000 GRANTS	**529,731**	**43,525**	**486,206**	**1217.07%**
43000 RENTALS				
43020 River Mill Park	1,750	3,000	(1,250)	58.33%
43030 Mamie Davis Park Rental	1,500	1,500	-	100.00%
43040 200 Mill Street Lease	(1,157)	7,613	(8,770)	-15.19%
Total 43000 RENTALS	**2,093**	**12,113**	**(10,020)**	**17.28%**
44000 OTHER				
44005 Insurance Proceeds	2,000			
44010 General Fund Interest	18,820	10,200	8,620	184.51%
44020 Events Fund Interest	-		-	
44030 Mamie Davis Park Interest	-		-	

44040 Bricks Revenue	-	300	(300)	0.00%
44060 Other	7,369	1,000	6,369	736.90%
Total 44000 OTHER	**28,189**	**11,500**	**16,689**	**245.12%**
Total Income	**1,521,923**	**1,316,018**	**205,905**	**115.65%**
Gross Profit	**1,521,923**	**1,316,018**	**205,905**	**115.65%**
Expenses				
Total 60000 PERSONNEL SERVICES	**429,903**	**734,673**	**(304,770)**	**58.52%**
Total 60400 PROFESSIONAL SERVICES	**80,412**	**174,325**	**(93,913)**	**46.13%**
Total 60800 INFORMATION TECH SERV	**29,401**	**40,092**	**(10,691)**	**73.33%**
Total 61200 MATERIALS AND SUPPLIES	**21,840**	**31,125**	**(9,285)**	**70.17%**
Total 61600 OPERATIONAL SERVICES	**4,981**	**10,172**	**(5,191)**	**48.96%**
Total 62000 CONTRACTS	**72,898**	**122,135**	**(49,237)**	**59.69%**
Total 62400 INSURANCE	**29,269**	**40,300**	**(11,031)**	**72.63%**
Total 62800 PUBLIC INFORMATION	**2,319**	**4,036**	**(1,717)**	**57.46%**
Total 63200 ADVERTISING	**713**	**7,640**	**(6,927)**	**9.33%**
Total 63600 TRAINING AND TRAVEL	**10,031**	**16,510**	**(6,479)**	**60.76%**
Total 64000 VEHICLES AND EQUIPMENT	**38,899**	**30,050**	**8,849**	**129.45%**
Total 64400 SEASONAL	**10,984**	**11,700**	**(716)**	**93.88%**
64700 FACILITIES EXPENSE				
Total 64800 TOWN HALL	**8,150**	**12,624**	**(4,474)**	**64.56%**
Total 65200 MILL HOUSE MUSEUM	**66**	**6,500**	**(6,434)**	**1.01%**
Total 65600 200 MILL ST	**-**	**-**	**-**	
Total 66000 ANNEX / MAINTENANCE YARD	**6,385**	**3,190**	**3,195**	**200.15%**
Total 66400 MILL ST STORAGE FACILITY	**-**	**-**	**-**	
Total 66800 RIVER MILL PARK & FACIL	**11,543**	**19,318**	**(7,775)**	**59.75%**
Total 67200* MAMIE DAVIS PARK & RIVERWALK	**1,344**	**3,350**	**(2,006)**	**40.11%**
Total 67600 TANYARD HILL ROAD PARK	**-**	**2,500**	**(2,500)**	**0.00%**
Total 67800 OCCOQUAN RIVER	**-**	**-**	**-**	
Total 68000 FURNACE BRANCH PARK	**-**	**-**	**-**	
Total 68400* STREETS AND SIDEWALKS	**-**	**2,800**	**(2,800)**	**0.00%**
Total 68800 HISTORIC DISTRICT	**4,997**	**20,600**	**(15,603)**	**24.26%**
Total 64700 FACILITIES EXPENSE	**32,484**	**70,882**	**(38,398)**	**45.83%**
Total Expenses	**764,134**	**1,293,640**	**(529,506)**	**59.07%**
Net Operating Income	**757,790**	**22,378**	**735,412**	
Net Income	**757,790**	**22,378**	**735,412**	

CIP FUND

	Actual	Annual Budget	over Budget	% of Budget
Income				
42000 GRANTS	-	1,372,157.75	(1,372,158)	0.00%
42030 SLFRF	151,751	538,079	(386,328)	28.20%
42103 Virginia Dept of Fire Programs	8,519		8,519	
42120 DCR	67,369	84,903	(17,534)	79.35%
Total 42000 GRANTS	**227,639**	**1,995,139**	**(1,767,501)**	**11.41%**
44000 OTHER				
44060 Other	22,726	9,000	13,726	252.51%

Total 44000 OTHER	**22,726**	**9,000**	**13,726**	**252.51%**
Total Income	**250,365**	**2,004,139**	**(1,753,775)**	**12.49%**
Gross Profit	**250,365**	**2,004,139**	**(1,753,775)**	**12.49%**
Total Expenses	**-**	**-**	**-**	
Net Operating Income	**250,365**	**2,004,139**	**(1,753,775)**	**12.49%**
Expenses				
64000 VEHICLES AND EQUIPMENT				
64050 Equipment and Tools	-			
Total 64000 VEHICLES AND EQUIPMENT	**-**			
Other Expenses				
70000 CIP EXPENSE	-		-	
70001 Streetscape	34,930	45,000	(10,070)	77.62%
70003 Street Improvements	-	10,000	(10,000)	0.00%
70004 Sidewalk Improvements	-	-	-	
70005 Building Improvements	20,126	68,000	(47,874)	29.60%
70006 Stormwater Management	162,089	1,806,073	(1,643,984)	8.97%
70012 Street Lights	1,712			
70014 Timed Parking Equipment	3,588	5,500	(1,912)	65.24%
72006 Riverwalk Improvements	-	26,204	(26,204)	0.00%
74001 Vehicles & Equipment	50,364	66,000	(15,636)	76.31%
74003 Body Armor	936	4,725	(3,789)	19.81%
74005 Police Radios	193	-	193	
Total 70000 CIP EXPENSE	**273,939**	**2,031,502**	**(1,757,563)**	**13.48%**
Total Other Expenses	**273,939**	**2,031,502**	**(1,757,563)**	**13.48%**
Net Other Income	**(273,939)**	**(2,031,502)**	**1,757,563**	**13.48%**
Net Income	**(23,574)**	**(27,363)**	**3,788**	**86.15%**

E SUMMONS FUND

	Actual	Annual Budget	over Budget	% of Budget
Income				
41000 FEES/LICENSES				
41040 FINES (PUBLIC SAFETY)				
41170 E-Summons	10,787	11,500	(713)	93.80%
Total 41040 FINES (PUBLIC SAFETY)	**10,787**	**11,500**	**(713)**	**93.80%**
Total 41000 FEES/LICENSES	**10,787**	**11,500**	**(713)**	**93.80%**
Total Income	**10,787**	**11,500**	**(713)**	**93.80%**
Gross Profit	**10,787**	**11,500**	**(713)**	**93.80%**
Expenses				
60800 INFORMATION TECH SERV				
60860 Hardware/Software & Maintenance	4,395	4,300	95	102.21%
Total 60800 INFORMATION TECH SERV	**4,395**	**4,300**	**95**	**102.21%**
61200 MATERIALS AND SUPPLIES				
61220 Operational supplies	418	1,200	(783)	34.79%
Total 61200 MATERIALS AND SUPPLIES	**418**	**1,200**	**(783)**	**34.79%**
Total Expenses	**4,812**	**5,500**	**(688)**	**87.50%**
Net Operating Income	**5,974**	**6,000**	**(26)**	**99.57%**

Net Income	**5,974**	**6,000**	**(26)**	**99.57%**

EVENTS FUND

	Actual	Annual Budget	over Budget	% of Budget
Income				
41000 FEES/LICENSES				
41160 Convenience Fees	4,399	5,875	(1,476)	74.88%
Total 41000 FEES/LICENSES	**4,399**	**5,875**	**(1,476)**	**74.88%**
42000 GRANTS	5,872	6,000	(128)	97.87%
44000 OTHER				
44020 Events Fund Interest	17	1,200	(1,183)	1.40%
44035 Bricks Interest		-	-	
44040 Bricks Revenue	1,087	1,275	(188)	85.28%
Total 44000 OTHER	**1,104**	**2,475**	**(1,371)**	**44.61%**
47000 EVENTS REVENUE		-	-	
47010 Sponsorships	11,233	42,500	(31,267)	26.43%
47020 Booth Rentals	91,610	160,375	(68,765)	57.12%
47021 Ticket Sales	8,937			
47022 HolidayFest	-	600	(600)	0.00%
47023 River Mill Park	2,820	11,000	(8,180)	25.64%
Total 47021 Ticket Sales	**11,757**	**11,600**	**157**	**101.35%**
47030 Shuttle Fees	45	60,500	(60,455)	0.07%
47040 Parking Space Sales	4,475	8,900	(4,425)	50.28%
47060 Merchandise	353	3,000	(2,647)	11.78%
47100 Cost Share Reimbursement	1,066	-	1,066	
Total 47000 EVENTS REVENUE	**120,539**	**286,875**	**(166,336)**	**42.02%**
Total Income	**131,915**	**301,225**	**(169,310)**	**43.79%**
Gross Profit	**131,915**	**301,225**	**(169,310)**	**43.79%**
Expenses				
Total 60000 PERSONNEL SERVICES	**36,467**	**84,531**	**(48,064)**	**43.14%**
Total 60400 PROFESSIONAL SERVICES	**11,064**	**17,600**	**(6,536)**	**62.87%**
Total 60800 INFORMATION TECH SERV	**1,239**	**1,200**	**39**	**103.22%**
Total 61200 MATERIALS AND SUPPLIES	**8,037**	**18,025**	**(9,988)**	**44.59%**
61630 Postal Services	**292**	**-**	**292**	
Total 62000 CONTRACTS	**26,137**	**75,125**	**(48,988)**	**34.79%**
Total 63200 ADVERTISING	**14,944**	**24,875**	**(9,931)**	**60.08%**
Total 64400 SEASONAL	**144**			
64700 FACILITIES EXPENSE				
Total 66800 RIVER MILL PARK & FACIL	**449**	**600**	**(151)**	**74.83%**
Total 64700 FACILITIES EXPENSE	**449**	**600**	**(151)**	**74.83%**
69200 SPECIAL EVENTS				
69210 HolidayFest	8,064	2,675	5,389	301.47%
69240 Annual Tree Lighting	182			
69220 Volunteer TY / Town Party	1,617	1,575	42	102.67%
69250 River Mill Park Events	2,332	4,850	(2,518)	48.09%
69290 Other Special Events	6,553	3,225	3,328	203.20%

Total 69200 SPECIAL EVENTS	**18,749**	**12,325**	**6,424**	**152.13%**
Total Expenses	**117,522**	**234,281**	**(116,759)**	**50.16%**
Net Operating Income	**14,392**	**66,944**	**(52,552)**	**21.50%**
Net Income	**14,392**	**66,944**	**(52,552)**	**21.50%**

MAMIE DAVIS PARK

	Actual	Annual Budget	over Budget	% of Budget
Income				
44000 OTHER				
44030 Mamie Davis Park Interest	147	500	(353)	0
Total 44000 OTHER	**147**	**500**	**(353)**	**0**
Total Income	**147**	**500**	**(353)**	**0**
Gross Profit	**147**	**500**	**(353)**	**0**
Net Operating Income	**147**	**500**	**(353)**	**0**
Other Expenses				
70000 CIP EXPENSE				
72005 Mamie Davis Park Renovations		-	-	
Total 70000 CIP EXPENSE	**-**	**-**	**-**	
Total Other Expenses	**-**	**-**	**-**	
Net Other Income	**-**	**-**	**-**	
Net Income	**147**	**500**	**(353)**	**0**

TOTAL NET INCOME (LOSS) ALL FUNDS	**754,729**	**68,459**	**686,270**	**11**

Town of Occoquan
Balance Sheet Comparison
As of February 29, 2024

	Total		
	As of Feb 29, 2024	As of Feb 28, 2023 (PP)	Change
ASSETS			
Current Assets			
Bank Accounts			
10001 Petty Cash - Operating	100	100	0
10010 Petty Cash - Events	0	0	0
10022 Checking Account 0058	113,242	171,991	-58,749
10024 Money Market 4220	200,585	200,688	-103
10029 Checking Account 3126	80,536	45,429	35,107
10033 Events Fund - Paypal (deleted)	0	5,255	-5,255
10034 VIP - Investment Pool	0	0	0
25-0001 VIP 1-3 Year Bond Fund 0001	0	0	0
25-0002 VIP 1-3 Year Bond Fund 0002	0	0	0
25-5001 VIP NAV Liquidity Pool 5001	422,533	583,824	-161,291
Total 10034 VIP - Investment Pool	**422,533**	**583,824**	**-161,291**
10082 Mamie Davis Savings 4201	2,260	7,236	-4,977
10083 Mamie Davis CD	100,000	100,000	0
10091 Bricks - PayPal	0	656	-656
10094 Money Market 5997 (deleted)	0	35,617	-35,617
10095 Bricks MM 2125 (deleted)	0	12,331	-12,331
Total Bank Accounts	**919,256**	**1,163,128**	**-243,872**
Accounts Receivable			
10180 Accounts Receivable	419,729	77,563	342,166
Total Accounts Receivable	**419,729**	**77,563**	**342,166**
Other Current Assets			
10190 Real Estate Receivable	0	0	0
11000 Prepaid Expenses	0	0	0
14990 Undeposited Funds	7,913	1,132	6,780
Total Other Current Assets	**7,913**	**1,132**	**6,780**
Total Current Assets	**1,346,898**	**1,241,823**	**105,075**
TOTAL ASSETS	**1,346,898**	**1,241,823**	**105,075**
LIABILITIES AND EQUITY			
Liabilities			
Current Liabilities			
Accounts Payable			
20000 Accounts Payable	27,084	102,251	-75,166
Total Accounts Payable	**27,084**	**102,251**	**-75,166**
Credit Cards			
22000 Credit Cards			0
22010 ExxonMobil	1,497	1,535	-38

22020 Home Depot	118	0	118
22030 Lowe's Proservices	1,099	419	680
22040 United Bank Credit Cards	9,568	2,589	6,979
Total 22000 Credit Cards	**12,282**	**4,544**	**7,738**
Total Credit Cards	**12,282**	**4,544**	**7,738**
Other Current Liabilities			
20935 Performance Bond	1,188	35,989	-34,801
20940 Unearned Craft Show Rev	24,375		24,375
20941 Show (deleted)	0	11,725	-11,725
20942 Parking Fee (deleted)	0	1,200	-1,200
Total 20940 Unearned Craft Show Rev	**24,375**	**12,925**	**11,450**
20960 Unearned Other Revenue			0
20970 Unearned Rental	250	700	-450
20973 Unearned SLFRF Revenue	0	719,516	-719,516
Total 20960 Unearned Other Revenue	**250**	**720,216**	**-719,966**
20980 Unearned R.E. Tax	558	771	-212
21100 Unearned Fire Dept Grant	7,848	0	7,848
21200 Payroll Liabilities	0	0	0
21230 VRS Employee Contributions	0	-96	96
Total 21200 Payroll Liabilities	**0**	**-96**	**96**
Total Other Current Liabilities	**34,219**	**769,804**	**-735,585**
Total Current Liabilities	**73,585**	**876,599**	**-803,014**
Total Liabilities	**73,585**	**876,599**	**-803,014**
Equity			
30000 Nonspendable			0
30001 Inventory	0	0	0
30005 PrePaid Items	0	0	0
Total 30000 Nonspendable	**0**	**0**	**0**
31000 Restricted			0
31100 Mamie Davis (Endowment)	100,000	100,000	0
31200 E Summons Fund	36,123	24,059	12,064
Total 31000 Restricted	**136,123**	**124,059**	**12,064**
31400 Assigned			0
30030 Events Fund	88,024	25,000	63,024
30040 CIP Fund	26,843	101,000	-74,157
31045 Financing Proceeds	0	0	0
31050 Public Safety Grant Fund	14,283	14,283	0
31060 Mamie Davis Park Fund	6,498	11,492	-4,994
31070 Public Education Grant Fund	1,955	1,776	180
31080 Public Art Fund	0	0	0
Total 31400 Assigned	**137,603**	**153,551**	**-15,948**
31500 Unassigned			0
30010 Emergency Operating Fund	200,000	187,861	12,139
30020 Unrestricted	44,858	0	44,858
Total 31500 Unassigned	**244,858**	**187,861**	**56,997**
32000 Retained Earnings	0	0	0
Net Income	754,729	-100,246	854,975

Total Equity	**1,273,313**	**365,224**	**908,089**
TOTAL LIABILITIES AND EQUITY	**1,346,898**	**1,241,823**	**105,075**

TOWN OF OCCOQUAN
TOWN COUNCIL MEETING
Agenda Communication

3. Presentations	**Meeting Date:** April 16, 2024
3B: Resilient Stormwater Assessment - Final Report by Weston & Sampson	

Attachments: a. Final Report

Submitted by: Adam C. Linn
Town Manager

Explanation and Summary:
This is a presentation by Weston & Sampson, a Town contractor, on the Resilient Stormwater Assessment, which has been undertaken by Weston & Sampson over the past year to evaluate the Town's stormwater system and flood resilience.

Representatives from Weston & Sampson will be in attendance to present on the study and answer any questions from the Town Council.

The report includes hydrologic and hydraulic modeling of the Town's resilience to flooding, an inventory and assessment of the overall stormwater system, and recommendations for improvements to make the Town more protected from and resilient to flooding in the future.

The study found that:

- Flooding along Mill Street is largely caused by Occoquan River flood levels.
- Sea level rise projections (2070) will likely increase Occoquan River flooding.
- Tidal events and large runoff events may have significant impacts on public and private properties in downtown.
- Sea level rise-induced backwatering is not expected to cause additional street flooding except during more extreme rain events.

The study also concluded that the stormwater system is largely functioning properly and can handle present day conditions. However, several locations were identified in which action is needed and signs of flooding were observed.

- Indicators of flooding such as debris and sediment deposition within and around culverts, were noted at Boundary Branch culvert/road crossings.
- There were varying degrees of sedimentation and debris clogging the upstream portion of the culverts, potentially exacerbating the flooding around those low-lying road crossings.
- Ballywhack Creek conduit should be sufficient to convey runoff beneath downtown Occoquan during even the 100-year storm event.

Background

In April 2022, Town staff prepared and submitted a grant application for the third round of the Virginia Community Flood Preparedness Fund administered by the Virginia Department of Conservation and Recreation (DCR). In January 2023, town staff received notification that the grant was awarded in the amount of $84,902.50 with a total project cost of $169,805 and a required match of 50% by the Town.

In Spring 2023, the study commenced with Weston & Sampson with initial data collection and background research being performed. Fieldwork occurred in September and October of 2023. The field team was able to inspect and collect data on private and public stormwater BMPs in the Town.

Town of Occoquan

Resilient Stormwater Assessment and Flood Mitigation Plan

April 11, 2024

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EXECUTIVE SUMMARY

The Town of Occoquan pursued funding through the Virginia Department of Conservation and Recreation's Community Flood Preparedness Fund to complete a Resilient Stormwater Assessment and Flood Mitigation Plan. The project involved evaluating the conditions of the Town's stormwater system, stream channels, and best management practices. Using this information, the Town's technical consultant, Weston & Sampson, created a Hydraulic and Hydrologic model to evaluate the capacity of the Town's stormwater system and areas of current or future flooding accounting for climate change. Through this assessment, Weston & Sampson was able to confirm the major cause of flooding in Town and verify the adequacy of the current system to handle stormwater volumes and flow. The resulting plan identified opportunities for green infrastructure projects and grey infrastructure improvements, where needed.

Ultimately, Weston & Sampson found that the primary source of flooding is riverine, from the Occoquan River which overtops causing impacts in the historic area of downtown. In the future, the Town may need to coordinate with waterfront properties to implement a flood mitigation system along the river. Additional measures may include regional projects upstream within the watershed to reduce downstream flooding. Through this project, hydraulic and hydrologic modeling indicated that:

- Flooding along Mill Street is largely caused by Occoquan River flood levels.
- Sea level rise projections (2070) will likely increase Occoquan River flooding.
- Tidal events and large runoff events may have significant impacts on public and private properties in downtown.
- Sea level rise-induced backwatering is not expected to cause additional street flooding except during more extreme rain events.

The stormwater system is largely functioning properly and can handle present day conditions. However, several locations were identified in which action is needed and signs of flooding were observed.

- Indicators of flooding such as debris and sediment deposition within and around culverts, were noted at Boundary Branch culvert/road crossings.
- There were varying degrees of sedimentation and debris clogging the upstream portion of the culverts, potentially exacerbating the flooding around those low-lying road crossings.
- Ballywhack Creek conduit should be sufficient to convey runoff beneath downtown Occoquan during even the 100-year storm event.

Implementation of green infrastructure could help mitigate flooding around Town. Weston & Sampson identified opportunities to implement green infrastructure (GI) to better intercept stormwater and reduce flooding. Thirty-one green infrastructure opportunities were identified. The top three opportunities were as follows:

- Ellicott Street, Bioswale Opportunity
- Ellicott Street, Bioretention Opportunity
- Downtown Mill Street, Bioretention Opportunity

1.0 INTRODUCTION

The Town of Occoquan (the Town) received a grant in 2023 from the Virginia Department of Conservation and Recreation (DCR) Community Flood Preparedness Fund (CFPF) to complete a Resilient Stormwater Assessment and Flood Mitigation Plan. The purpose of the CFPF program is to enhance the resilience of cities, towns, or counties within the Commonwealth of Virginia to flood-related impacts or events. The Town sought funding through CFPF to evaluate the conditions of its stormwater system, assess the capacity of the system under current and future storm events, and develop high priority actions to mitigate flood impacts. High priority actions identified included green infrastructure, grey infrastructure, or stormwater system maintenance needs.

The Town is responsible for managing and administering its stormwater program, including maintenance of existing stormwater structures and planning for capital improvements to the system. Increased development in the region and impacts from climate change are anticipated to put stress on the existing system capacity. The Town of Occoquan would like to be incorporated into the Prince William County Stormwater Program, and this project is an initial step towards consideration.

The Town of Occoquan is situated along the Occoquan River. Historic Occoquan, the first developed area of town, where the downtown is located, is directly adjacent to the waterfront. Generally, this area is characterized by denser development, older structures, and is lower lying than the surrounding less developed areas in town. This part of town has an older stormwater infrastructure system that convenes to outfalls at the Occoquan River. Several high priority areas for investigation were identified at the offset of the project because they had flooded in the past or were known to be in poor condition.

The scope of this project included:

- Field data collection effort to create a more comprehensive GIS layer of the system its components, and component sizes;
- Development of a Hydraulic and Hydrologic (H&H) model of the system to evaluate the volumetric capacity today and under the probabilistic conditions of climate change, accounting for increased rainfall events;
- Identification of potential projects, including green and grey infrastructure, to mitigate flooding.

Document1

2.0 EXISTING CONDITIONS AND DATA GATHERING

A key goal of this project was to prepare a map of the Town of Occoquan's stormwater system. This was accomplished by gathering available information related to:

- The Town of Occoquan's stormwater management program;
- The Town's drainage system structures and piping location and condition;
- Existing related conditions (e.g., watershed boundaries, land cover, buildings, etc.);
- Identifying data gaps; and
- Completing field data collection.

This Chapter discusses the data gathering, gap identification, and field data collection.

2.1 Existing Programs, Planning Efforts, and Data Pertaining to Stormwater Management

Weston & Sampson gathered and reviewed available existing data on the stormwater system (both in GIS and as-builts/record drawings), county Geographic Information Systems (GIS) layers, and programs, policies, and plans related to stormwater management and flood mitigation measures in Occoquan. From this review, Weston & Sampson created a map of the system in GIS, including spatial locations of structures and pipes and a database of system attributes.

2.1.1 Basis of Stormwater System Mapping

The Town originally provided a system site map created in conjunction with the county in spring of 2018. However, the extents of this map were non inclusive of areas outside of historic Occoquan (Figure 1). Additionally, this map did not include details on the system components. Therefore, the team reviewed additional GIS layers to establish a more complete base map, prior to the field investigations.

Figure 1: 2018 Stormwater System Inventory Completed by Prince William County and the Town of Occoquan

The following GIS data was obtained from the Prince William County GIS data portal on May 26, 2023. Weston & Sampson used the GIS shapefiles listed below to create the existing conditions base map.

1. Jurisdictional boundaries
2. Parcels
3. Building footprints and paved areas
4. Culverts
5. Hydrological features
6. Protected open space
7. Streams
8. Watersheds
9. Land Use
10. Soils
11. Stormwater management facilities
12. Stormwater management lines
13. Stormwater management points
14. FEMA Flood Zones
15. Coastal Flood Hazards (2020, 2040, 2060, 2080, 2100)
16. Dam Break Inundation

Additionally, the Town provided as-built drawings of infrastructure throughout Town, which was added to the geocoded information. From these drawings, ESRI world imagery, and Google Street View, Weston & Sampson approximated locations of existing drainage structures, and some pipe diameter, material, and elevation data. Some information was not discernable because the drawings and the quality of the digital scanned document was low.

The data were compiled into a map file. Based on this compilation, Weston & Sampson developed a list of "data gaps" that were further investigated during a field data collection and surveying task. Data gaps primarily included information regarding elevation, connectivity, and condition.

2.2 Field Investigation Methodology and Results

Weston & Sampson and Legacy Engineering completed a total of five days of field investigations on September 25, 26, 27, October 31, and November 6, 2023. Investigations were conducted to document the spatial characterization of the stormwater system and its condition in the watershed. This information was also used to inform the development of the H&H model, and to provide more specificity to the flood reduction actions developed.

The following section describes the process and summarizes the information collected.

2.2.1 *Watershed Boundary Verification*

The Occoquan watershed boundary is the area that drains to three streams that traverse through town: Ballywhack Creek, Furnace Branch and Boundary Branch. The first step in the field investigation was verification of the watershed boundary. The watershed boundary was established using the ArcPro GIS software using publicly available contours based on Light Detection and Ranging (LiDAR) elevations. The boundaries' accuracy was verified in the field from visual observation of overland flow direction at publicly accessible roads.

The LiDAR delineated sub-catchment was verified as accurate and required just two areas to be expanded to include infrastructure that contributes flow to the Town's watershed. These small changes were then reflected in the watershed boundary that the PCSWMM model used.

2.2.2 *Stormwater Infrastructure Verification*

The field data collection team observed and documented the location, connectivity, diameter, material, and condition of the stormwater infrastructure, by completing the following. *Recorded GPS points of the stormwater infrastructure feature. Documented overall function of the feature, noting if sediment or debris are causing a lack of functionality. Collected rim elevations. Measured the vertical distance down to the invert of all incoming and exiting pipes. Measured pipe diameters. Documented pipe material and conditions. Took photos documenting the condition of outlets and contributing drainage system, such as undermining, rust, deterioration, wall concerns, etc.*

Figure 2 shows the stormwater network as verified through the physical survey described above. The information collected was compiled in shapefiles for the town GIS database. Overall, the collection of desktop delineated stormwater infrastructure was verified by the survey teams as accurate, with the following conditions assessment.

Pipes

All pipes are reinforced concrete (RCP). There were no pipes noted in poor condition.

Catch Basins

Connectivity confirmation/verification occurred from the outfalls to the Occoquan River upstream catch basin by catch basin, until reaching the Town's boundary and County verified infrastructure. Catch basins were primarily accessible for survey (except for the occasionally paved over or embedded grate). Catch basins were generally free of sediment and debris except as described below regarding deferred maintenance suggestions.

Outfall A

Receives flow from Mill Street cul-de-sac and surrounding hillslope. This outfall's exact location was estimated as it was not discharging the day of observation and from a safety perspective, access was questionable. Based on as-built drawings provided by the town, the outfall is about halfway up the hillslope adjacent to the footbridge over the Occoquan River. The general location of the outfall is also indicated by the direction of the outgoing pipe within the inlet adjacent to the public restroom.

Outfall B

Receives flow from Barrington Point, Ellicott Street, and Mill Street. The outfall is perched above the Occoquan River on a retaining wall and in good condition.

Photo 1: Outfall B

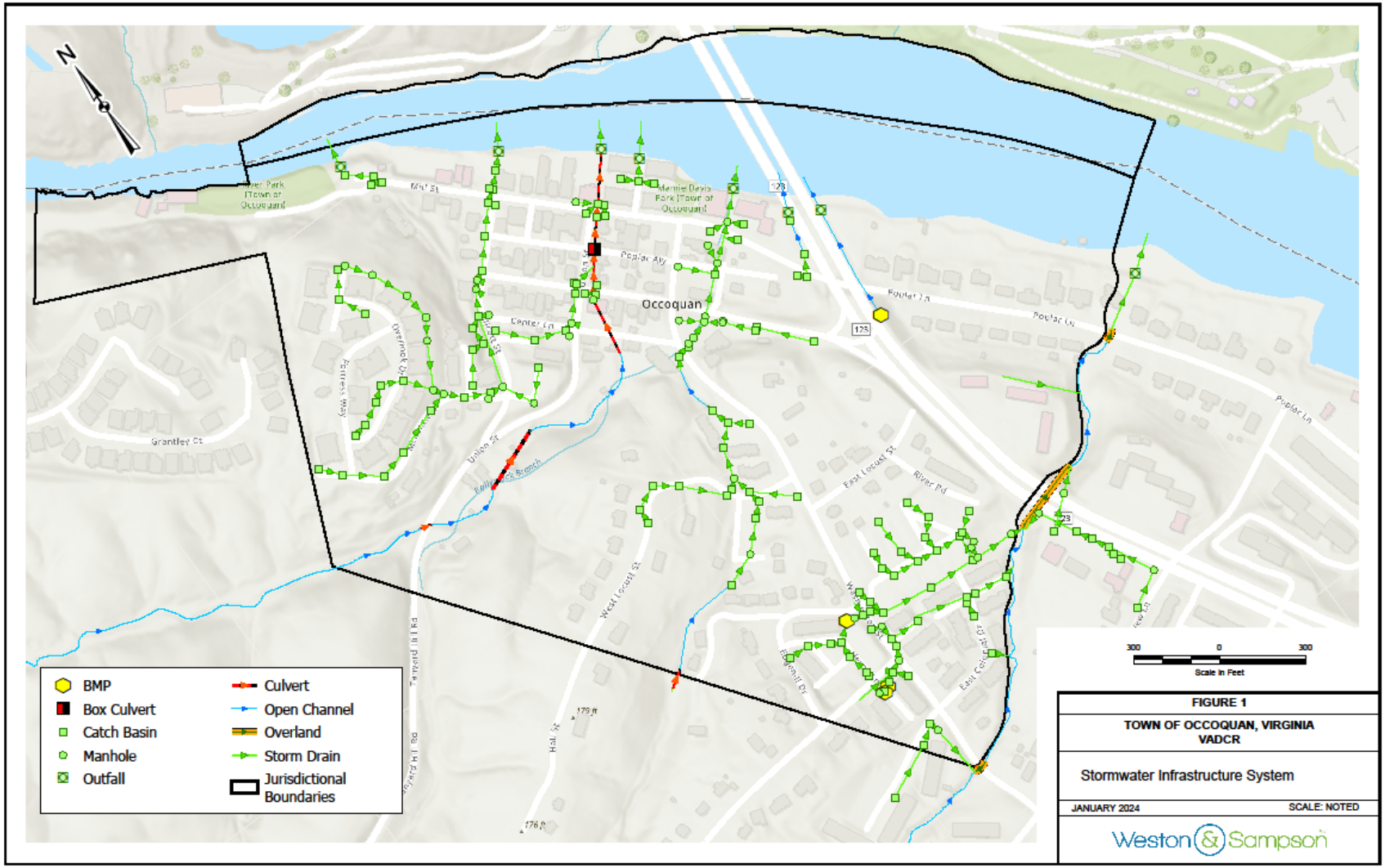

Figure 2: Town of Occoquan Stormwater Infrastructure System

Outfall C

Conveys Ballywhack Creek via side-by-side outfalls which were approximately 50% submerged on October 31, 2023. Outfalls were flush with retaining wall and in good condition. Accessible by boat only.

Photo 2: Outfall C

Outfall D

Receives flow from the Gaslight Landing complex and parking lot and some of Mill Street. The outfall was perched approximately 2 feet above the Occoquan River on the day of observation (October 31, 2023). Accessible by boat only.

Photo 3: Outfall D

Outfall E

Conveys Furnace Branch and was partially submerged in the Occoquan River on the day of observation. Outfall surrounded by riprap and in good condition. Accessible by boat only.

Photo 4: Outfall E

Outfall Chan A

Receives flow from western portion of the parking lot underneath 123 via inlets and has a discrete pipe outfall to the riprap lined bank of the Occoquan River.

Photo 5: Outfall Chan A

Outfall Chan B

Receives flow from eastern portion of the parking lot underneath 123 via sheet flow to an open, riprap lined trapezoidal channel that drains to the Occoquan River.

Photo 6: Outfall Chan B

Outfall F (Inlet Pipe Only)

Conveys Boundary Branch to the Occoquan River. Observations from the public roadway include Boundary branch passing through a debris and sediment clogged five-barrel culvert underneath Poplar Lane into a riprap lined basin prior to the stream and stormflow entering a five-foot diameter concrete pipe and then flowing into the Occoquan River.

Photo 7: Outfall F

2.2.3 Stream Channel Conditions Assessment

The team investigated streams and streambank conditions. The team also observed open channel reaches of the three streams and collected cross section dimensions by measuring bankfull stage width, depth to channel bottom, channel bottom width, and side slope configurations. Observations were noted, and photos of stream reaches were taken. Generally, the upstream portions of the reaches are narrower and have steeper side slopes, while downstream reaches are either channelized, piped underground, or where natural, are wider, have gentler side slopes and are more sinuous.

Ballywhack Creek

Ballywhack Creek begins at the outfall from a flood control structure at the upstream reach of the town's watershed boundary. This perennial creek flows through a forested tract of town land where its riparian zone is wide, over 100 feet on each side. Its banks were stabilized with woody vegetation, root wads, and large woody debris was found in the stream and across the stream. Little streambank erosion was noted. There were several ephemeral and one perennial tributary inflow. The streambed contained a mixture of gravel sizes ranging from sand to boulder. Ballywhack then enters a buckling culvert underneath Union Street, before becoming channelized. The concrete rectangular reach of Ballywhack Creek ends and the creek is conveyed underneath a development. The development includes a house, driveway, and above ground pool, before returning to a naturalized portion in a forested area. This naturalized portion has noted deposits of sediments, is wider and more sinuous than the upstream reach, and contains less variety of substrate (more fines and less large boulders). The channel then narrows significantly into a grassy area north of Center Lane and behind townhouses before entering a 9.5' wide by 3.5' tall box culvert that travels underneath the historic district before discharging via dual outfalls (Outfalls C) into the Occoquan River.

Furnace Branch

Furnace Branch begins at a flood control structure at the upstream reach of the town's watershed boundary. The creek flows through an outfall onto private property, with the streambed fully comprised of riprap to abate erosion from flow over steep slopes. Furnace Branch eventually combines with the stormwater network underground at the end of Frayer's Farm Court. It then daylights through a forested area alongside Washington Street. Finally, it flows under the historic district before it discharges to the Occoquan River via Outfall E.

Boundary Branch

Boundary Branch originates from a forested area outside of town, north of Occoquan Road. It flows underneath the road via a clogged three-barrel culvert. The creek's sinuosity increases compared to upstream portions as it flows through a forested riparian area behind the Occoquan Heights neighborhood. Portions of the riparian zone are overgrown with invasive kudzu, and if left untreated, could spread. Boundary Branch is then piped underneath Route 123 before daylighting to a forested area in a steep ravine. At this point, Boundary Branch receives storm flow from the adjacent apartment complexes. Boundary Branch then passes underneath Poplar Lane through a debris and sediment clogged five-barrel culvert. It then enters a riprap lined basin and finally flowing underneath private property to the Occoquan River via Outfall F.

2.2.4 Green Infrastructure Opportunities

Prior to the field data collection efforts, Weston & Sampson identified potential green infrastructure opportunities using Google Earth and GIS. The locations of the opportunities were observed, and

information logged regarding the adjacency to existing stormwater infrastructure (catch basins/pipes), conflicting infrastructure (gas lines, water mains, etc), room for implementation, and slope observations.

2.2.5 Previously Identified Flooded Areas

Previously identified flooded areas, provided by the town, were observed to generally be low-lying areas adjacent to streams. Indicators of flooding such as debris and sediment deposition within and around culverts, were noted at Boundary Branch culvert/road crossings. There were varying degrees of sedimentation and debris clogging the upstream portion of the culverts, potentially exacerbating the flooding around those low-lying road crossings.

Photos 8-9: Boundary Branch - Upstream of Occoquan Rd

Photo 10: Boundary Branch - Upstream of Poplar Lane

3.0 HYDRAULIC AND HYDROLOGIC MODELING

Weston & Sampson developed a hydraulic and hydrologic (H&H) model to better understand the capacity of the stormwater system and the locations of potential flood problem areas within the watershed.

The Town sought to answer the following questions by creating the model.

1. What are the frequency, magnitude, extents, and depths of flooding under a baseline climate and existing watershed conditions?
2. How might the scale of flooding and the associated impacts change under future climate scenarios if no action is taken in the watersheds?
3. How effective are various potential solutions at addressing flooding impacts under both the baseline climate and future climate scenarios?

The stormwater model was developed through a combination of publicly available reports, drawings, and GIS databases; existing information provided by the Town of Occoquan; and through field measurements and survey taken by Weston & Sampson and Legacy Engineering, all of which are described in Chapter 2. The model was subsequently calibrated against observations recorded in anecdotal reports by Town of Occoquan staff and from photographs, documenting the location, magnitude, and date(s) of prior flood events.

The image below shows the modeling extents.

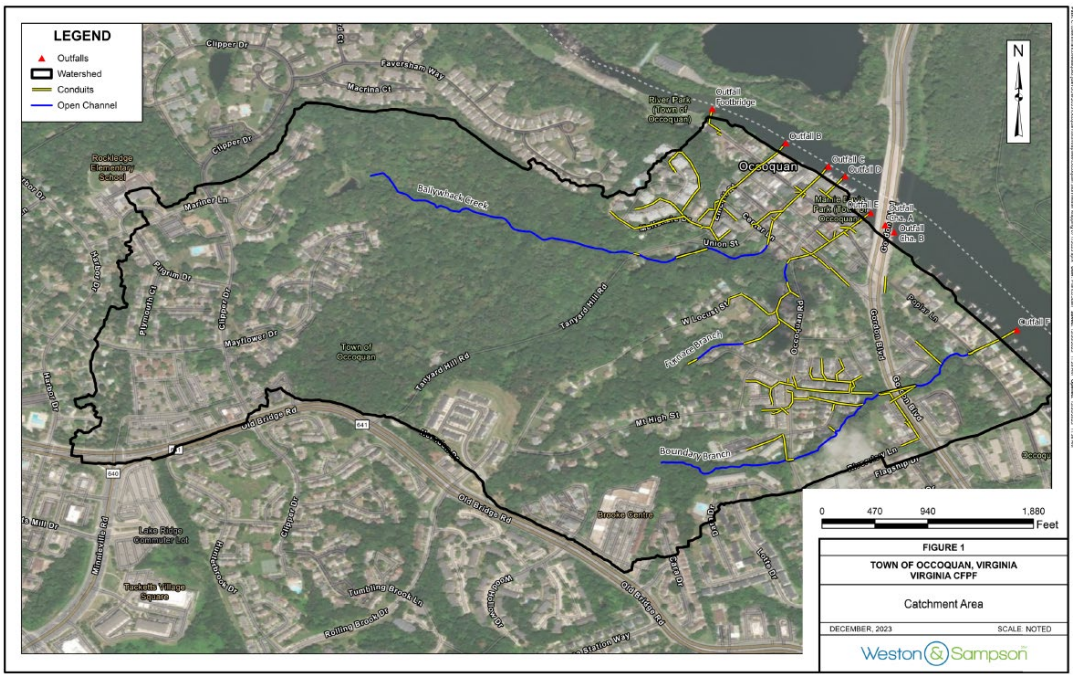

Figure 3: Stormwater Model Study Area

Despite limitations of the stormwater model, common to all such models, the model provides a reliable means to understand present and future flood risk in the Town of Occoquan and to test the efficacy of potential flood reduction solutions. The following subsections document the development of the model, its calibration and validation to ensure its accuracy, and the findings of the model's effort with regard to anticipated increases in flooding due to climate change and an evaluation of the efficacy of green and gray infrastructure improvements.

3.1 Model Development

The stormwater model, developed with the PCSWMM software package, consists of several different components:

- Subcatchments to reflect the land's response to rainfall;
- Conduits to represent stream channels, stormwater drains, culverts, ditches, and other natural and manmade features that carry runoff;
- Junctions to represent stream banks, manholes, and catch basins;
- A storage node to represent a flood control dam in the headwaters of Ballywhack Creek;
- A detailed 2D mesh to represent the flood storage and conveyance capacity of the waterbodies, floodplains, and ground surface within the watershed; and
- 1D and 2D outfalls to represent the potential backwatering influence of the Occoquan River.

A brief summary of each of these model components follows.

3.1.1 Sub-catchments

The entire study area, depicted in Figure 3, is approximately 377 acres (0.59 square miles), consisting of three primary subwatersheds, that of Ballywhack Creek (226 acres), Furnace Branch (49 acres), and Boundary Branch (73 acres). The land surface within the study area is represented by a series of 239 subcatchments, which were delineated based on the location of waterbodies, storm drains, and associated catch basins and manholes; land use patterns; project goals; and potential future modeling needs.

SWMM-based models, like this one, generally calculate runoff from a subcatchment for impervious surfaces and pervious surfaces independently as they can have vastly different runoff patterns. Impervious surfaces were identified from a combination of the Prince William County's impervious surface and building footprints GIS as well as through visual review of the latest aerial imagery of the study area and field observations. The entire study area consists of approximately 28% impervious surfaces, comprised primarily of rooftops, roadways, and parking lots in the downtown Occoquan area in the eastern and southern parts of the watershed. There are also significant impervious surfaces in the headwaters of Ballywhack Creek in the western portion of the study area, which contribute significantly to runoff patterns in that watershed.

The Green-Ampt method was used for estimating the infiltration rates of the pervious areas within the subcatchment, and, therefore, what volume of rainfall would be infiltrated versus what volume of rainfall would run off of those pervious areas. Input parameters for this methodology were established for each subcatchment based on the soil classes present. Soil classes were obtained from the USDA's latest Soil Survey for the region.

The subcatchments were further defined by impervious and pervious storage coefficients, which represent depression storage within a subcatchment. Examples of impervious storage are roadway

potholes, isolated low spots in parking lots, and rain barrels fed from rooftops. Examples of pervious storage are vernal pools, ditches alongside driveways, and the many small pockets of water that naturally occur in grasslands and woodlands during heavy rain events. The values assigned to these parameters were estimated from the subcatchments' land uses as defined from the latest National Land Cover Database for the region.

Rainfall not infiltrated or stored within a subcatchment is then simulated to run off, thereby leaving the subcatchment. The rate of runoff from each subcatchment is affected by a subcatchment's length and surface roughness. These two parameters were estimated from LiDAR and from the National Land Cover Database.

3.1.2 Conduits

SWMM-based stormwater models use "conduits" to represent a wide range of runoff conveyance structures and geometries, ranging from round storm drains to rectangular spillways to complex stream channel cross-sections. In total, 316 conduits, totaling 5.7 miles of open channel and 1.18 miles of storm drains and culverts, were incorporated into the model. Figure 3 identifies the location of these modeled channels and storm drains. The location, connectivity, material, and dimensions of these storm drains were measured and surveyed in the field, obtained from record drawings, or, in a few open channel cases, estimated from LiDAR.

3.1.3 Junctions

SWMM-based stormwater models use "junctions" to represent manholes, catch basins, and other such structures. Junctions also represent the upstream and downstream faces of dams, road-stream crossings, or points where there are significant changes in the shape or slope of channels and infrastructure in the incorporated conduits. Primarily, junctions are used to define the vertical profile of channels and pipes and to represent the confluence of two streams or two storm drains. Junctions are defined through two inputs: a rim elevation and an invert elevation. These elevations were either obtained from design drawings, surveyed in the field, or approximated by a combination of vertical measurements in the field and LiDAR.

3.1.4 Storage Nodes

A flood control dam in the headwaters of Ballywhack Creek was constructed to manage runoff from upstream development in Prince William County. This structure has a significant influence on runoff rates in Ballywhack Creek so it was incorporated into the model as a "storage node," defined by a stage-storage volume curve and a rating curve, which dictate the storage in the impoundment and the downstream discharge at 1-foot intervals, respectively.

3.1.5 2D Mesh

Following completion of the 1D framework, consisting of subcatchments, storage nodes, conduits, and junctions, Weston & Sampson developed and overlaid a 2D mesh over those 1D components. The 2D mesh serves two purposes: first, to account for floodplain storage, and second, to reflect the conveyance capacity of floodplains or areas of overland flooding such as roadways. The 2D mesh also increases the accuracy and usefulness of the model output with regard to flooding extents, depths, flow directions, and velocities within the river channels and floodplains. The extents of the 2D mesh incorporated into this model are shown in Figure 4. In total, 6,826 2D cells, roughly 30x30 feet in size, were incorporated into the model to represent flooding extents, depths, and conveyance capacity of flood prone areas.

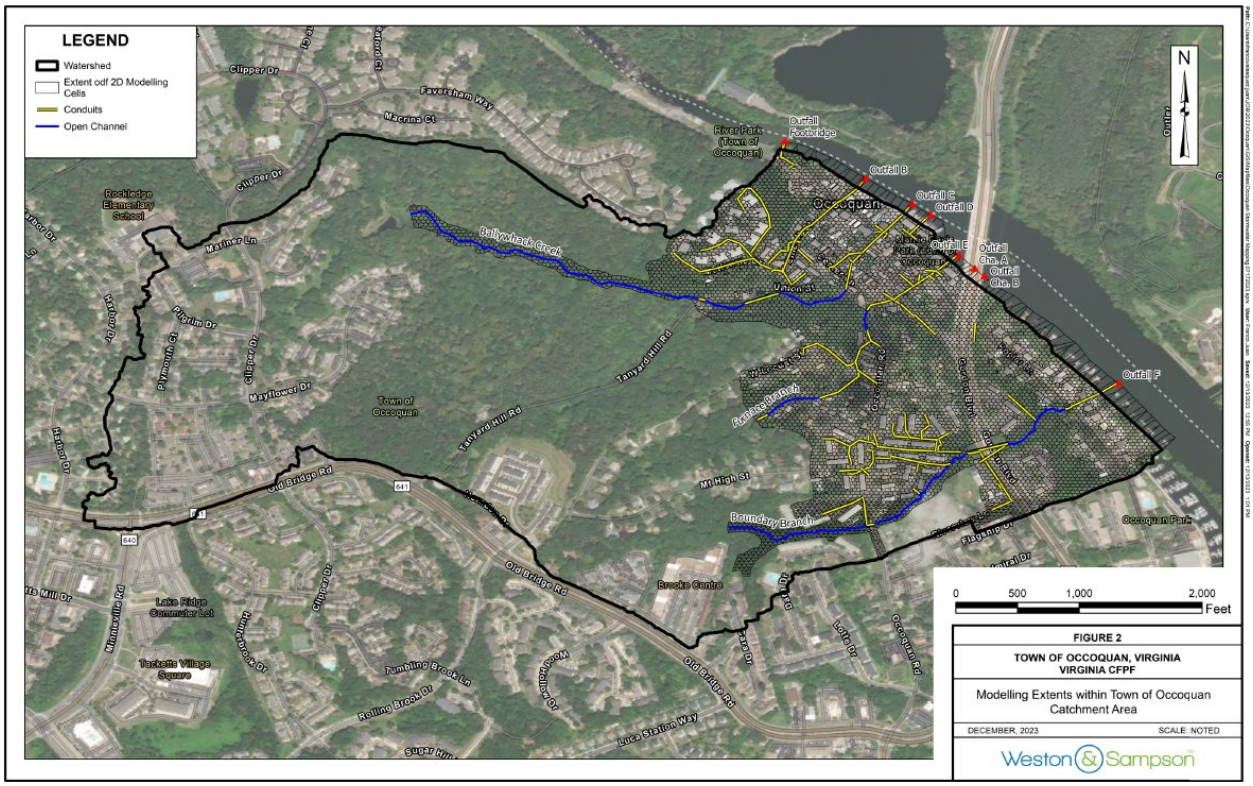

Figure 4: 2D Mesh Extents

3.1.6 Downstream Boundary Conditions

Like most hydraulic models, this SWMM-based stormwater model requires that a downstream boundary condition be defined. In this case, the downstream boundary for all stormwater outfalls and overland flowpaths is the Occoquan River, which is in large part tidally controlled. A total of four different river levels were considered, a typical high tide and a 100-year storm surge under both the present-day climate and a potential 2070 climate scenario. The Occoquan River elevations used for each of these four cases are identified in feet above the NAVD88 datum in the table below.

Table 1. Occoquan River Boundary Conditions

Model	Typical Tide (MHHW) (ft. NAVD88)	100-year Storm Surge (ft. NAVD88)
Present Day	1.73	14.00
2070 Climate Scenario	4.49	16.76

The typical tide level was assumed equal to the Mean Higher High Water (MHHW) – the long-term average of the highest tide of each day. For the present-day climate, the MHHW in the Occoquan River was estimated by taking the average of the MHHW reported by NOAA at their Dahlgren, Virginia gage (further seaward) and their Washington, DC gage (further inland). The increase in MHHW from present day to a 2070 climate scenario, approximately 2.76 feet, was estimated using the Adapt VA web tool.

The present day 100-year storm surge condition was estimated from the 2015 FEMA Flood Insurance Study for Prince William County. That elevation, 14.0 is slightly higher than the El. 12.4 value identified by NOAA for their Washington, DC tidal gage, likely because during the 100-year storm event, significant river discharge in the Occoquan raises the river level above the tidal influence, a more realistic condition. The 100-year storm surge level under a 2070 climate scenario was against estimated by adding 2.76 feet to its present-day counterpart.

3.2 Model Calibration and Validation

To improve the accuracy and reliability of the stormwater model's results, Weston & Sampson calibrated the PCSWMM stormwater model by iteratively modifying model input parameters to maximize agreement between simulation results and historical observations of flooding. These calibration efforts focused on three recent storms which had significant flooding impacts in Occoquan. The table below summarizes the timing and precipitation patterns experienced during those three events.

Table 2. Model Calibration Events

Event	Total Rainfall (in)	Peak Hourly Rainfall (in)	Peak 6-Hour Rainfall (in)	Peak Tide Level (ft NAVD88)
May 2008	2.68	0.58	2.46	3.61
Sept. 2011	9.70	2.65	7.03	3.79
May 2014	3.06	0.99	1.83	4.27

Sub-hourly rainfall data was obtained for each event from meteorological station KVAA at Davidson Army Airfield in Fort Belvoir, Virginia, approximately 5 miles from the study area. Tidal data was obtained from NOAA's Washington, DC gage on the Potomac River, the nearest available gage with publicly available data for all three storm events. Of the three calibration three events considered, the September 2011 event, also known as Tropical Storm Lee, produced the greatest total rainfall depth and the greatest peak rainfall intensity. This event became the focus of calibration efforts.

Based on photos and descriptions of the impacts of Tropical Storm Lee from town staff, we understand that Ballywhack Creek jumped its banks where it goes underground beneath downtown Occoquan at Center Lane. Significant, high velocity flooding occurred down Center Lane onto Union Street and continued downhill on Union Street before running up against the row of buildings and parked cars along the river side of Mill Street, ultimately discharging overland into the Occoquan River. Repeated attempts to reproduce these observed impacts with the model were unsuccessful. Even modifying the input parameters used to define the land surface in the model subcatchments to mimic a complete lack of infiltration or storage, as if the ground was already completely saturated, produced notably less flooding, shown in Figure 5, than was historically observed.

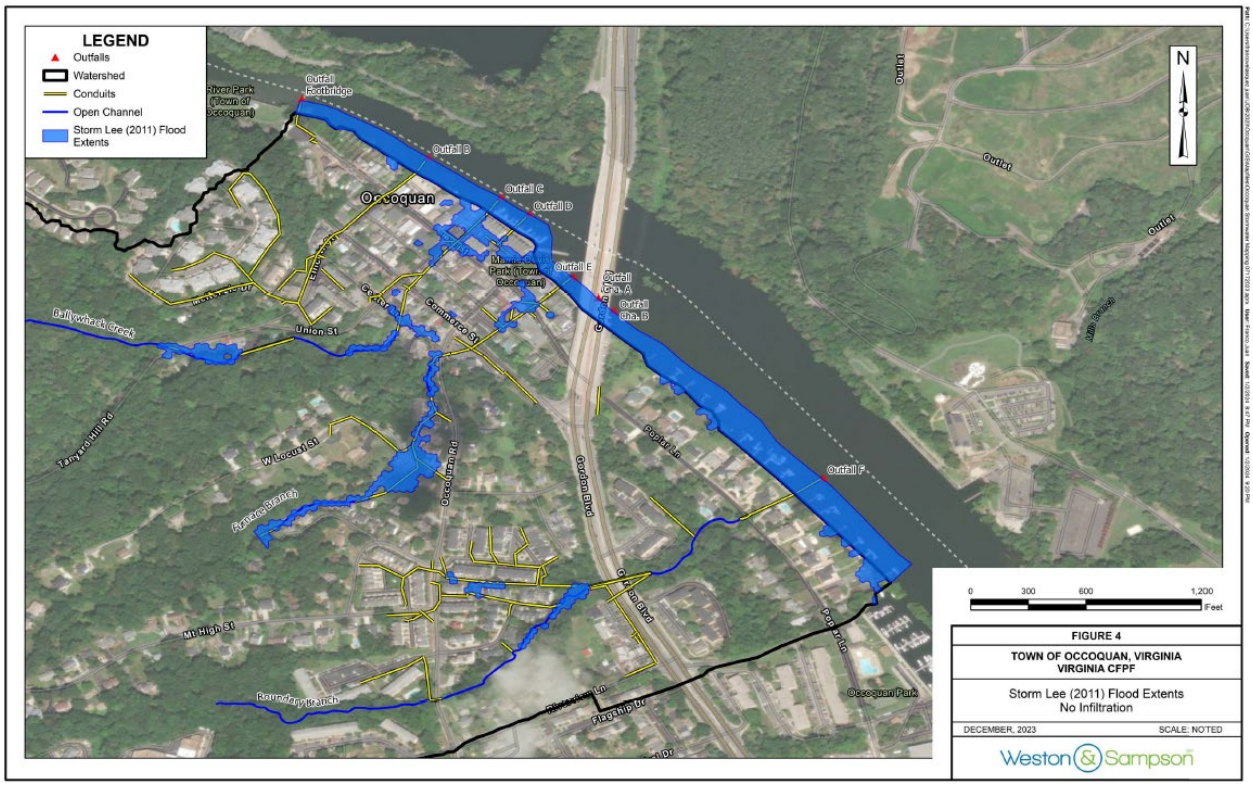

Figure 5: Tropical Storm Lee Simulated Impacts

As the hydraulics of the model were rigorously reviewed for accuracy based on high quality survey data gathered in support of this project, these results suggest one or more of the following may be true with regard to the model's interpretation of Tropical Storm Lee:

- The rainfall data, despite being recorded by a National Weather Service approved gage approximately 5 miles away, may not be consistent with rainfall experienced by the study area.
- The operation of the flood control dam in the headwaters of Ballywhack Creek during Storm Lee may not be consistent with the dam's design drawings.
- Significant debris accumulating within the Ballywhack Creek conduit or immediately upstream of its entrance at Center Lane may have dramatically reduced the conduit's hydraulic capacity, resulting in the overland flow experienced on Center Lane and Union Street during the historical event. This possibility is perhaps strengthened by the presence of approximately 4- to 6-inch diameter woody debris in the Union Street roadway in photos taken during or near the peak of the event.

The model was also calibrated against the rainfall and tide levels experienced during the May 2014 event. Those model results matched historical observations of flooding quite accurately, with most significant flooding occurring along Mill Street as shown in Figure 6.

Document1

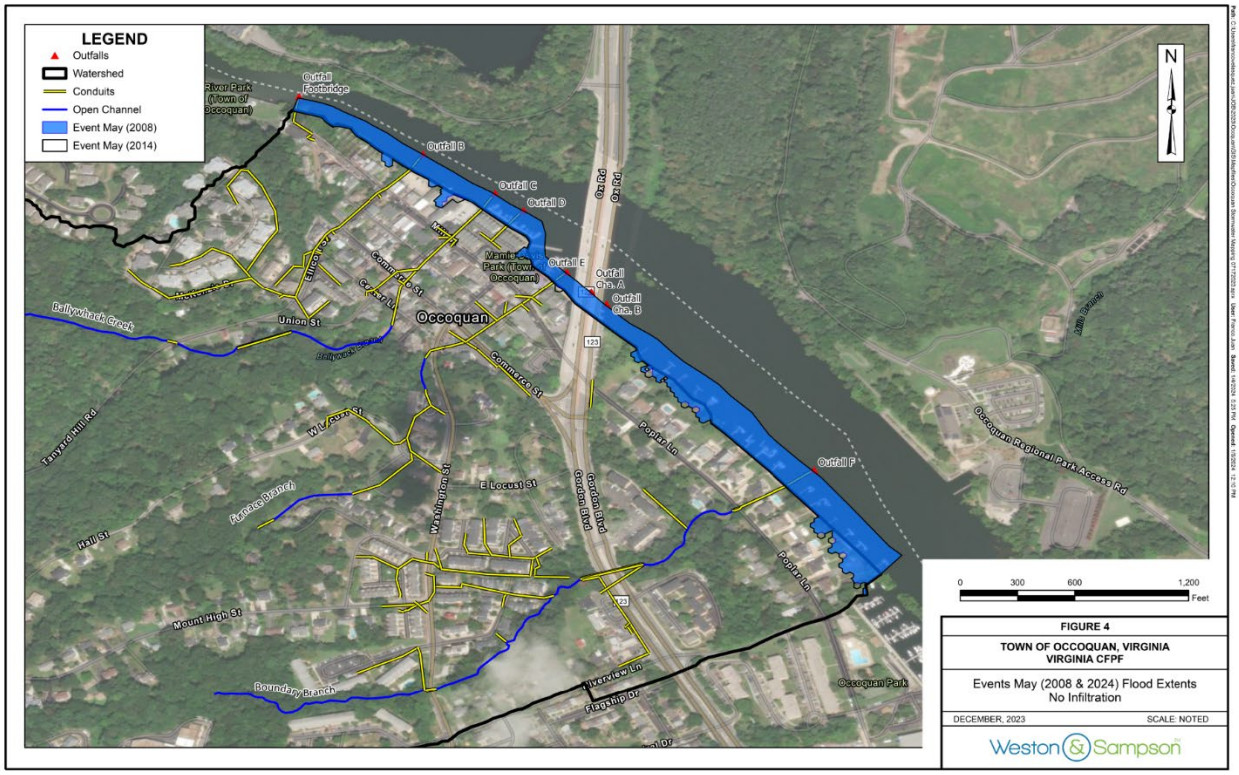

Figure 6: May 2008 & 2014 Simulated Impacts

It is clear from model simulations of the May 2008 and May 2014 events and from a comparison of historical tidal levels to the invert elevations of outfalls and storm drains, that much of the flooding during these two recent events and likely Hurricane Agnes in 1972 is attributed to flood levels in the Occoquan River. It is telling that the greatest impacts occurred well after peak rainfall occurred in the study area, but instead occurred 1-2 days later when Occoquan River levels peaked in response to delayed runoff from its much larger watershed.

Based on simulations of the three recent flood events identified in Table 4, the model was determined to successfully reproduce much of the hydraulic response of the study area to rainfall and downstream Occoquan River levels. As a result, the model is considered calibrated and capable of producing reliable outputs from which to evaluate baseline and future flood risk as well as the flood reduction benefits of several green and gray infrastructure improvements.

3.3 Model Results

Using the calibrated model, Weston & Sampson evaluated flooding within the study area in response to a wide range of design storm intensities under both a present day and potential 2070 climate scenario. These design storms are defined by a total rainfall depth and by a hypothetical distribution of that rainfall over time. That distribution was developed specifically for the study area using the NRCS' methodology. For present day design storms, total rainfall depths were derived from NOAA14. Potential 2070 climate design storm depths were estimated from the study Prince William County – Vulnerability Assessment Report (2023). Table 5 provides the total design rainfall depth used for each simulation.

Table 3. Design Rainfall Depths		
Design Storm	Present Day (in)	2070 Climate (in)
1-year, 24-hour	2.57	2.78
2-year, 24-hour	3.11	3.36
10-year, 24-hour	4.80	5.18
25-year, 24-hour	6.00	6.48
100-year, 24-hour	8.28	8.94
2-year, 6-hour	2.26	2.44
10-year, 6-hour	3.34	3.61

The simulated flooding extents associated with the 2-, 25-, and 100-year, 24-hour design storms under both present day and 2070 climate conditions are shown below in Figures 7, 8, and 9, respectively.

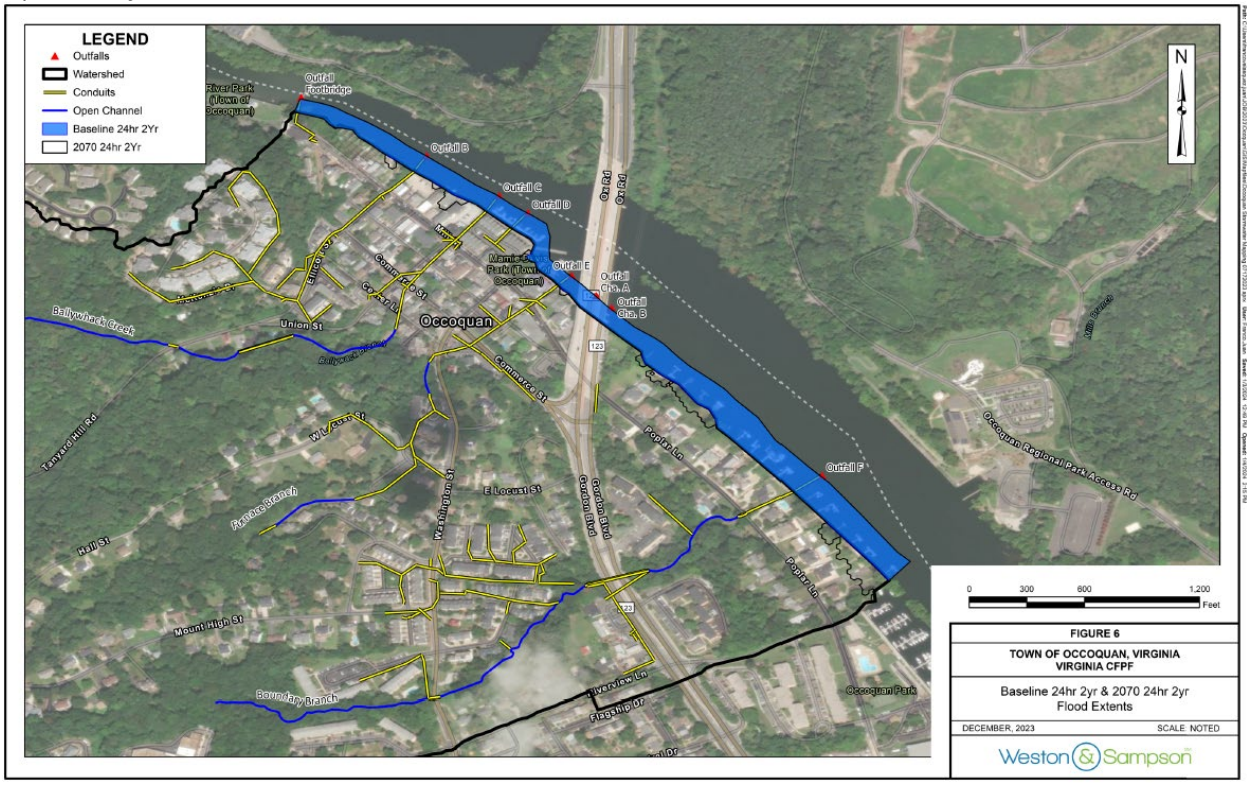

Figure 7: Present Day vs. 2070 Flooding Extents (2-year, 24-hour design storm)

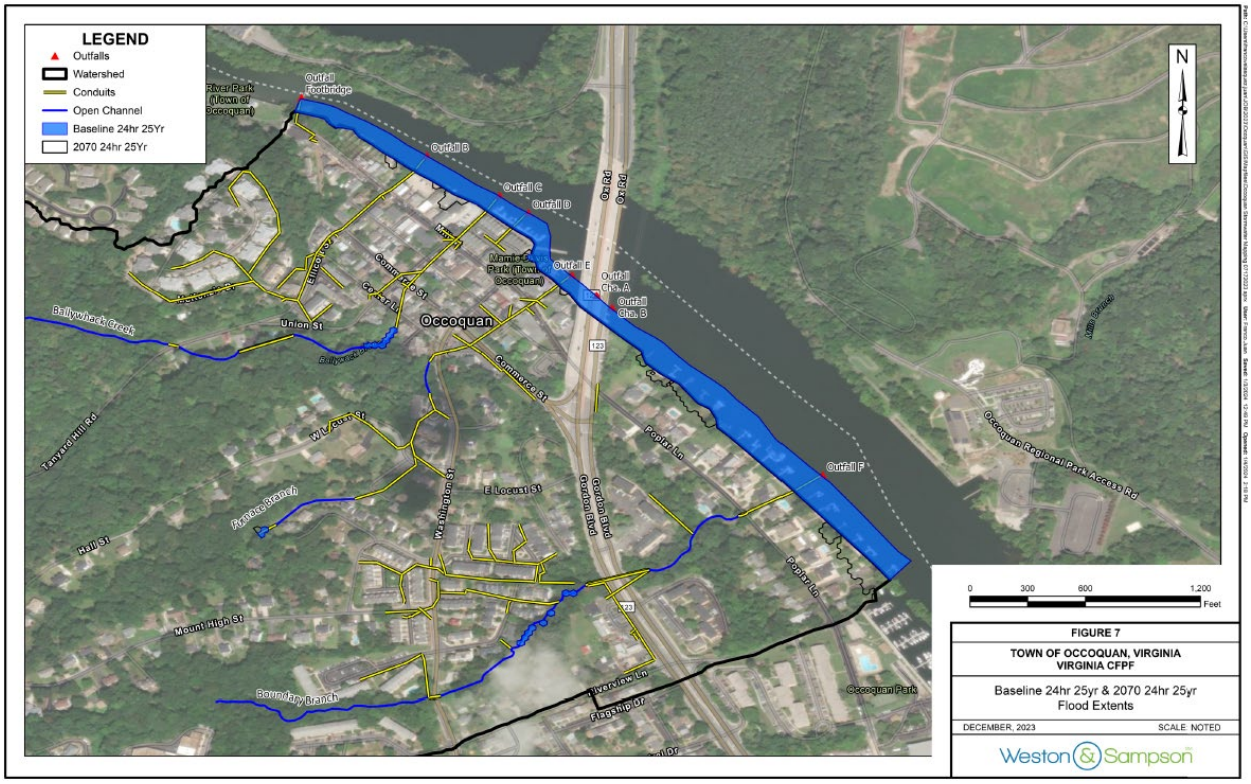

Figure 8: Present Day vs. 2070 Flood Extents (25-Year, 24 hour design storm)

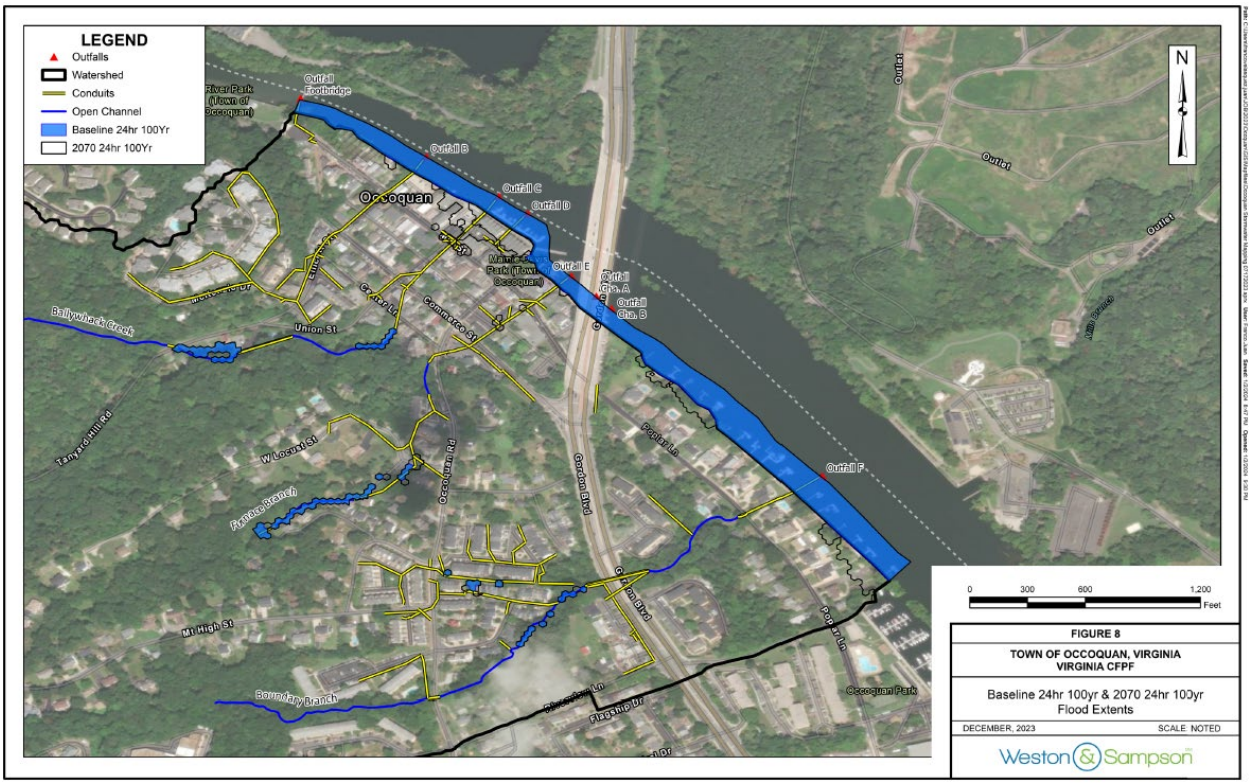

Figure 9: Present Day vs. 2070 Flood Extents (100 year, 24-hr design storm)

As shown in Figure 7, during the present day 2-year, 24-hour design storm, flooding is limited to the Occoquan River channel. No Occoquan River-induced flooding is expected in the Mill Street area and none of Ballywhack Creek, Furnace Branch, or Boundary Branch are expected to flood beyond their channels. Flooding during the 2-year design storm of 2070 produces very similar flooding extents, except for some modest additional flooding on the river side of Mill Street, which is caused by sea level rise-induced increases in the Occoquan River level.

Flooding extents are expected to increase only modestly from the 2-year to the 25-year design storm. As shown in Figure 8, some flooding is indicated along Boundary Branch during the present-day climate simulation, although it is generally contained within a relatively deep reach of channel immediately upstream of the Route 123 crossing. Due to the deep channel, the increased magnitude and intensity of the 2070 25-year rain event is not expected to significantly increase flooding extents or impacts in that area. The model also shows some flooding along Ballywhack Creek where it enters the closed conduit beneath downtown Occoquan at Center Lane, although no overland flow down Union Street is expected. Those flooding extents are not expected to increase significantly under a 2070 climate scenario. While not shown in any figure, model simulations indicate that this Ballywhack Creek flooding near Center Lane is expected to begin occurring during 10-year design storms under a 2070 climate scenario, whereas it does not occur until closer to a 25-year design storm under present day conditions.

The model also indicates no change between the 2-year and 25-year present day design storms with regard to Occoquan River-induced flooding under either climate scenario. This result occurs because the Occoquan River water level was held constant at a typical high tide level (MHHW) for both design storms. This result is consistent with the model calibrations simulations and highlights the fact that the more frequent flooding experienced near Mill Street is controlled by the combination of flood flows and tidal control in the Occoquan River.

Figure 9 shows the flooding that might be expected during the 100-year design storm under both present day and a 2070 climate scenario. More extensive flooding is expected along three streams in the study area compared to their 25-year storm counterparts. Flooding along Boundary Branch is not much increased, but flooding does begin to occur along Furnace Branch, although much of it remains near the channel. The most significant impacts expected along that stream might be Brawners Farm and Frayers Farm Court. Under a 2070 climate scenario, this large storm event is expected to begin to overtop those roadways in places, causing additional impacts. On Ballywhack Creek, there is significantly more flooding immediately downstream of where it crosses under Union Street, in what has historically been a floodprone area. However, model results indicate that the extents of flooding in this area are not expected to increase significantly under a 2070 climate scenario. Model results also indicate that flooding extents near Center Lane are also not significantly worse than their 25-year design storm counterparts with no overland flooding indicated down Center Lane or Union Street. Debris or sediment build up at or near the inlet to the conduit could, however, cause additional flooding above and beyond what is shown.

Given the significant role that Occoquan River levels show, Weston & Sampson also used the model to evaluate flooding impacts during a modest storm event, the 10-year, 24-hour storm, that coincided with 100-year flood levels in the Occoquan River, estimated from FEMA mapping in the area. Those simulated flood impacts are shown in Figure 20.

As shown in Figure 10, 100-year flood levels in the Occoquan River have extensive impacts even under a present-day climate, inundating large parts of Mill Street and extending as far inland as Poplar Alley near its intersection with Union Street and inundating a small portion of Poplar Lane as well where the Outfall F stormwater system is completely backwatered. Flooding extents are expected to increase significantly as a result of the 2.76-foot increase in the Occoquan River flood level estimated from the Adapt VA web tool with Poplar Alley inundated in multiple locations and significantly more extensive flooding on Poplar Lane expected. Increases in flood depths will also cause extensive damage with flood levels well above first floor sill elevations all along Mill Street. As shown in Figure 20, these findings are generally consistent with current FEMA mapping.

In the Mill Street area, the present day 100-year event results are similar to the 2- and 25-year, again highlight the influence of the Occoquan River water level on surface flooding in this area. However, under a 2070 climate scenario, the increased magnitude and intensity of rainfall does finally appear to exceed the capacity of the storm drains near the Union and Mill Streets intersection, exacerbated by anticipated sea level rise-induced increases in typical (MHHW) Occoquan River tide levels.

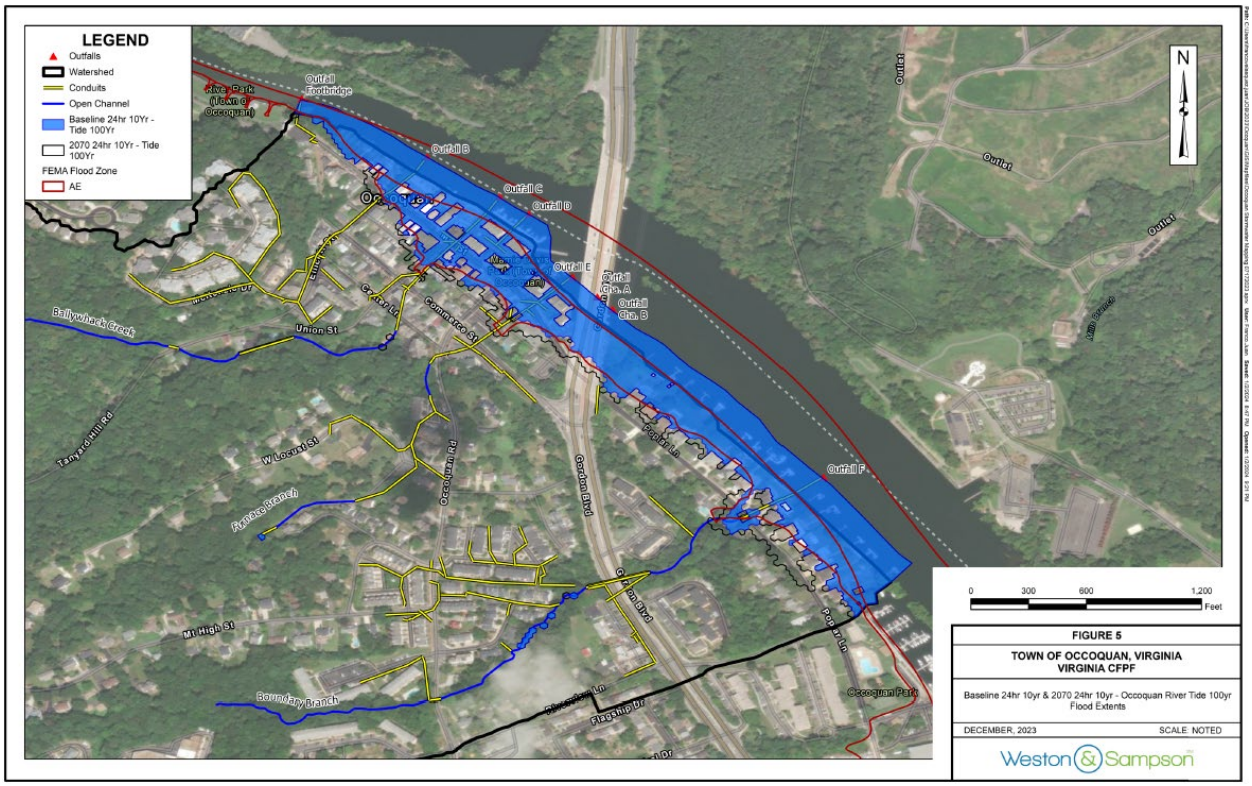

Figure 10: Present Day vs. 2070 Flood Extents (10-Year, 24-Hour Design Storm with 100-year Occoquan River Flood Levels)

3.4 Modeling Findings

Based on field observations, a review of historical photos and articles documenting historical flood events, and extensive simulations of a wide range of design storms under both present day and potential 2070 climate conditions, Weston & Sampson has identified the following general findings regarding Occoquan's vulnerability to extreme rainfall events and sea level rise:

- Significant flooding along Mill Street is largely caused by Occoquan River flood levels, not by undersized storm drains or conduits.
- Sea level rise projections for 2070 will likely result in modest increases in Occoquan River-induced flooding during typical tide cycles although the increased flooding extents are not expected to produce significant impacts to public infrastructure or privately owned buildings.
- Extreme tidal events and large runoff events in the Occoquan River watershed, however, may have significant impacts on public and private properties in downtown Occoquan.
- Sea level rise-induced backwatering of outfalls and storm drains is not expected to reduce conveyance capacity and cause additional street flooding except during the more extreme rain events like the 100-year and possibly 50-year storms.
- The Ballywhack Creek conduit should be sufficient to convey runoff beneath downtown Occoquan during even the 100-year storm event. The fact that is has overtopped and caused significant overland flooding at Center Lane and further upstream at the Union

Street crossing during at least three Hurricanes or Tropical Storm events in the past fifty years suggests that sedimentation and debris buildup may be an issue. It is also possible that the flood control dam in the Ballywhack headwaters may not be functioning as designed.

4.0 ACTION IDENTIFICATION AND PRIORITIZATION

This Chapter discusses the process to identify and prioritize green stormwater infrastructure solutions for the Town of Occoquan.

4.1 Green Infrastructure Opportunities

Using the modeling results and field observations, Weston & Sampson identified green infrastructure opportunities. Green Infrastructure (GI) filters and absorbs stormwater where it falls. GI systems such as bioretention basins, bioswales, porous paving, detention pond retrofits, and subsurface infiltration chambers were considered for flood mitigation in Occoquan. GI also offers numerous co-benefits, including improving climate resilience, supporting ecosystem services, and enriching human health and well-being.

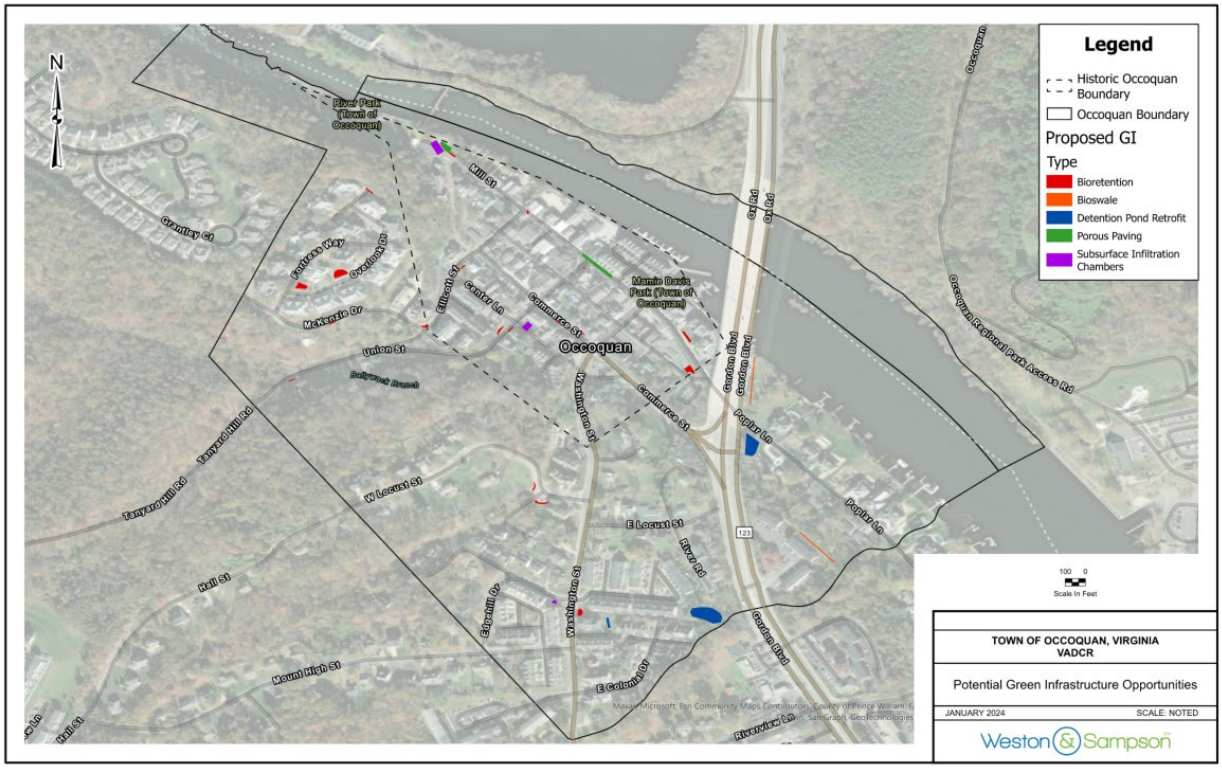

Figure 11: Proposed Green Infrastructure

The GI opportunities shown in Figure 11 were divided into the following eleven groups for further assessment:

- Northwest Section of Mill Street
- Downtown Mill Street
- Northeast Section of Mill Street
- Commerce Street
- Union Street and Center Lane Intersection
- Ellicott Street
- Overlook Drive Neighborhood
- Southwest Section of Union Street

- West Locust Street
- Occoquan Road Neighborhoods
- East of Route 123 (Gordon Boulevard)

For each of the eleven groupings of GI opportunities, the GI type, approximate footprint, and flood reduction benefits are provided in a table. The flood reduction benefit is assigned based on the average percent reduction in catchment runoff volume that the GI opportunity provides for a given storm event (baseline and 2070) using the following parameters:

- Significant: Percent Flood Reduction is greater than or equal to 50%
- Moderate: Percent Flood Reduction is less than 50% and greater than or equal to 25%
- Minimal: Percent Flood Reduction is less than 20%

4.1.1 Northwest Section of Mill Street

Extensive impervious surface around Mill Street near the River Mill Park creates a heavy influx of water runoff during rain events. This issue is intensified by a limited amount of infiltration strategies, such as street trees and green space, that allow for water to soak through to the ground beneath and stormwater drainage system.

The existing wide sidewalks, elevated parking lot space, and cul-de-sac allow for several green infrastructure solutions (Figure 11). The existing sidewalk bump-out with a raised curb could be transformed in a bioretention basin to capture runoff during a storm event and slowly infiltrate stormwater (Photo 11) to prevent water from continuing down Mill Street. The elevated parking lot area (Photo 12) allows for an opportunity to implement porous paving. Under a portion of the cul-de-sac road, a subsurface infiltration chamber could be added. NRCS soil data for this location indicated urban fill with no hydrologic soil classification available.

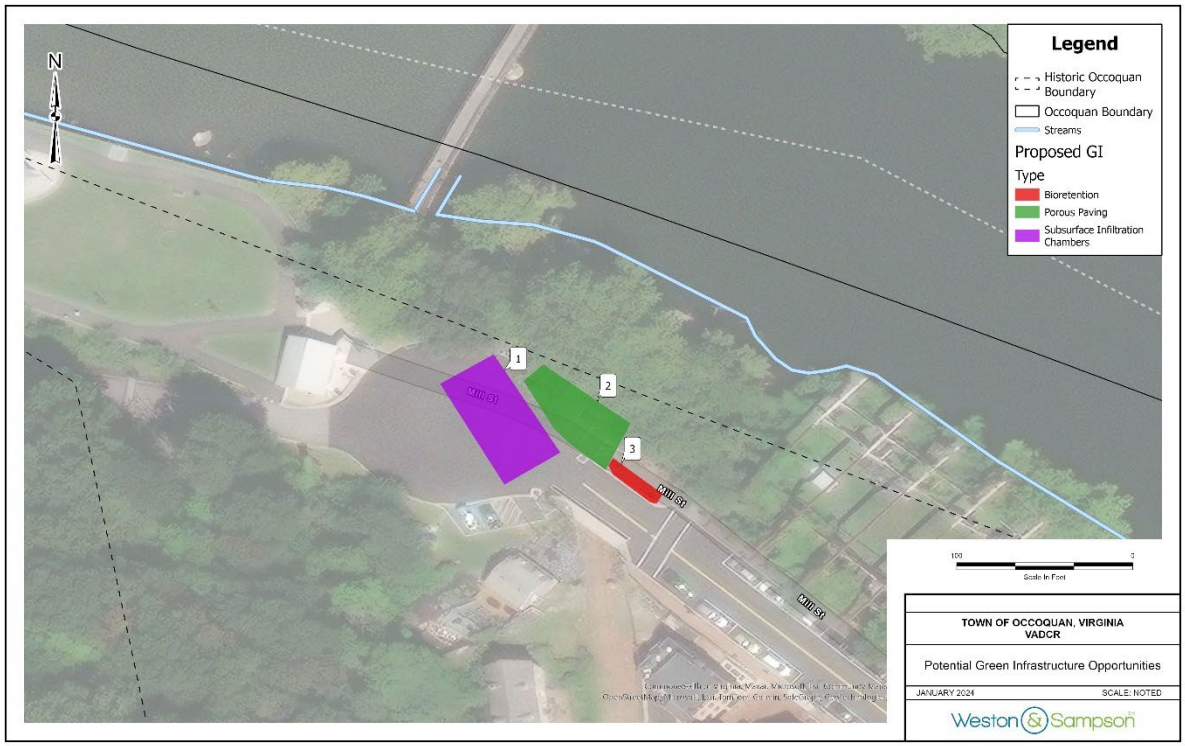

Figure 12: GI Opportunities for Northwest Mill Street

Table 4. Flood Reduction Benefits for GI Opportunities for Northwest Mill Street

ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
1	Subsurface Infiltration Chambers	1872	85%	84%	Significant	76%	75%	Significant
2	Porous Paving	1252	94%	93%	Significant	87%	85%	Significant
3	Bioretention	205	61%	57%	Significant	40%	37%	Moderate

4.1.2 Downtown Mill Street

Extensive impervious surface continues alongside Mill Street through the downtown and causes water to pool on the road. This part of Mill Street is a known flooding issue area. Flooding is intensified by the extensive impervious cover and a lack of infiltration strategies, such as street

trees and green space, that allow for water to soak through to the ground beneath and stormwater drainage system.

There are two opportunities for bioretention and one for porous paving on Mill Street (Figure 13). The porous paving under parking spaces would help reduce pooling of water along the roadway and connect to the stormwater drainage system (Photo 13). One of these opportunities for bioretention is the area of Union Street and Mill Street intersection (Photo 14) as it is adjacent to a stormwater drain and not used for parking. Another opportunity is alongside the intersection of Ellicott Street and Mill Street that has stormwater infrastructure adjacent and unused impervious area.

NRCS soil data for this location indicated urban fill with no hydrologic soil classification available.

Photo 14: Porous paving opportunity area

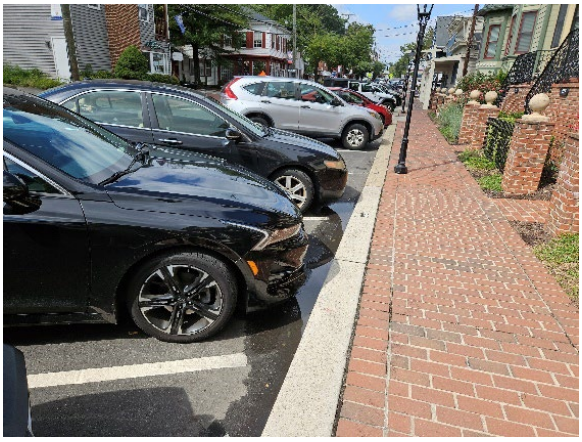

Photo 15: Bioretention opportunity area

Figure 13: GI Opportunities Along Downtown Mill Street

Table 5. GI Opportunities Along Downtown Mill Street

ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
4	Bioretention	133	87%	86%	Significant	80%	79%	Significant
5	Porous Paving	2054	43%	40%	Moderate	31%	30%	Moderate
6	Bioretention	46	9%	8%	Minimal	5%	5%	Minimal

4.1.3 Northeast Section of Mill Street

This section of Mill Street accommodates parking on both sides of the road. Similar to the other portions of this street, there are few existing infiltration strategies such as a lack of street trees. This section also has a raised sidewalk and has open green space on the shoulders of the road. To reduce the volume of runoff entering the drainage system off Mill Street, two areas for bioretention opportunities are provided (Figure 14). One opportunity is a large green space in front of Riverwalk Shops (Photo 15) where a storm drain could be placed in the middle. Another opportunity is an open grass space between Mill Street and Poplar Alley (Photo 16) to treat flow from the neighboring parking lot and road.

NRCS soil data for this location is designated as Hydrologic Soil Group C/D.

Photo 16: Bioretention opportunity area

Photo 17: Bioretention opportunity area

Figure 14: GI Opportunities Along Northeast Mill Street

Table 6. GI Opportunities Along Northeast Mill Street

ID	GI Type	Area (sf)	2-Year Design 6-Hour Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
7	Bioretention	557	0%	0%	Minimal	0%	0%	Minimal
8	Bioretention	910	36%	33%	Moderate	23%	22%	Minimal

4.1.4 Commerce Street

Commerce Street runs perpendicular to a hillside, receiving heavy sheet flow from Center Lane and impervious lots above this street on the hillside. The properties sitting above this road have minimal open green space.

Alongside Commerce Street are two opportunities for bioretention (Figure 15), specifically rain gardens, to increase rain reabsorption into the ground. The larger opportunity (Photo 17) could involve the existing grass patch and removal of parking spots. The other rain garden opportunity would utilize the existing grass patch (Photo 18).

NRCS soil data for this location indicated urban fill with no hydrologic soil classification available.

Photo 18: Bioretention opportunity area

Photo 19: Bioretention opportunity area

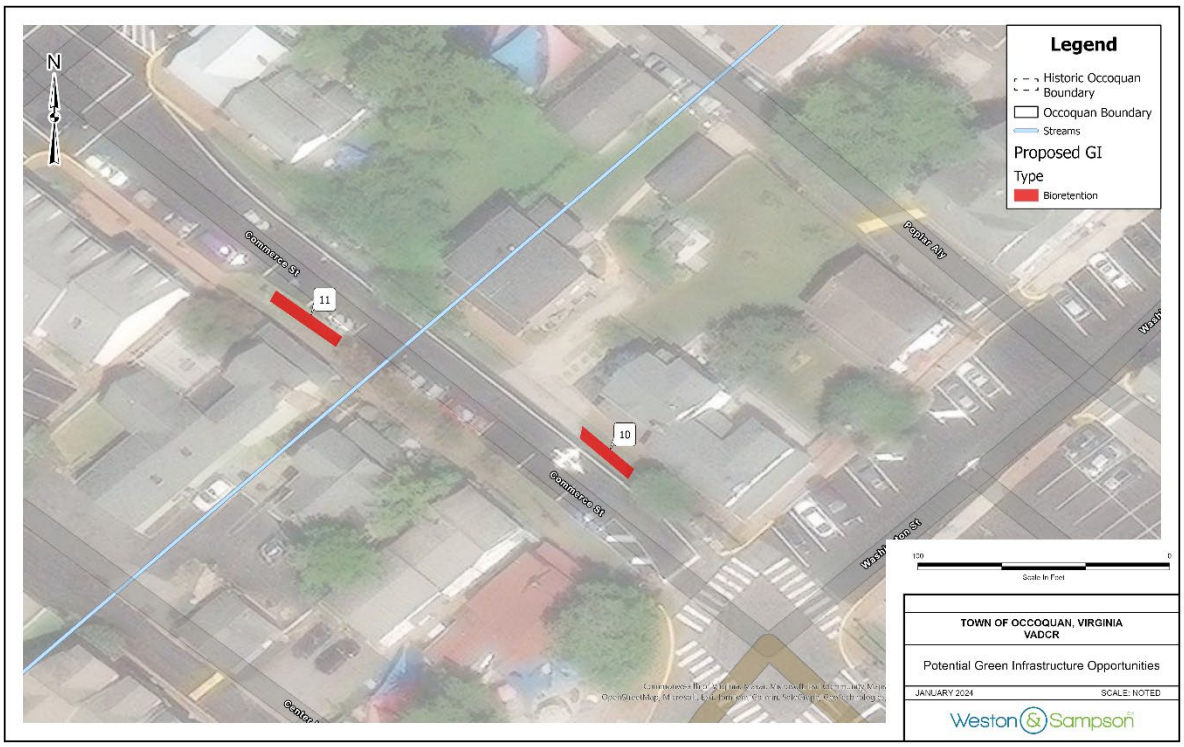

Figure 15: GI Opportunities Commerce Street

Table 7. Flood Reduction Benefits for GI Opportunities Commerce Street

ID	GI Type	Area (sf)	2-Year Design Storm Reduction in Catchment Runoff Volume (%)			10-Year Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
10	Bioretention	92	39%	38%	Moderate	36%	36%	Moderate
11	Bioretention	121	8%	7%	Minimal	5%	5%	Minimal

4.1.5 Union Street and Center Lane Intersection

Union Street is situated on a slope towards downtown Occoquan. This street intersects with Center Lane and receives flooding from both sides of Center Lane. During a flooding event, this area receives water that flows into either a curb inlet or stormwater drain grates along Union Street. A parking lot adjacent to this intersection intensifies this issue as it is almost entirely impervious and sits at a slope.

There are two bioretention opportunities alongside Union Street (Figure 16). The larger space (Photo 19) is located on a steep hillside along the road. A challenge to this opportunity is the fire hydrant located in the middle. Another bioretention opportunity is located on the opposite side of the road, but it has limited space in front of the building and between the road. There is a subsurface infiltration chambers opportunity located within the intersection of Center Lane and Union Street. It is on a hilltop and on privately owned land (Photo 20).

NRCS soil data for this location indicated urban fill with no hydrologic soil classification available.

Photo 19: Bioretention opportunity area

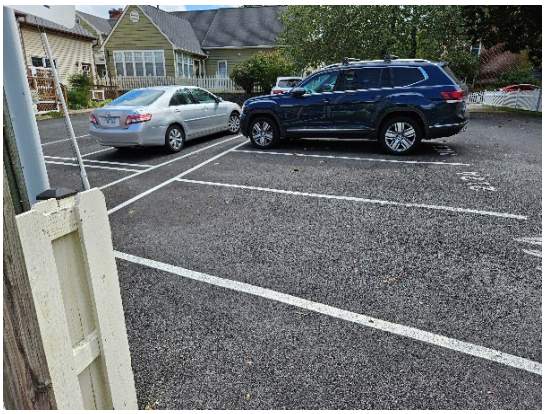

Photo 20: Infiltration chambers opportunity area

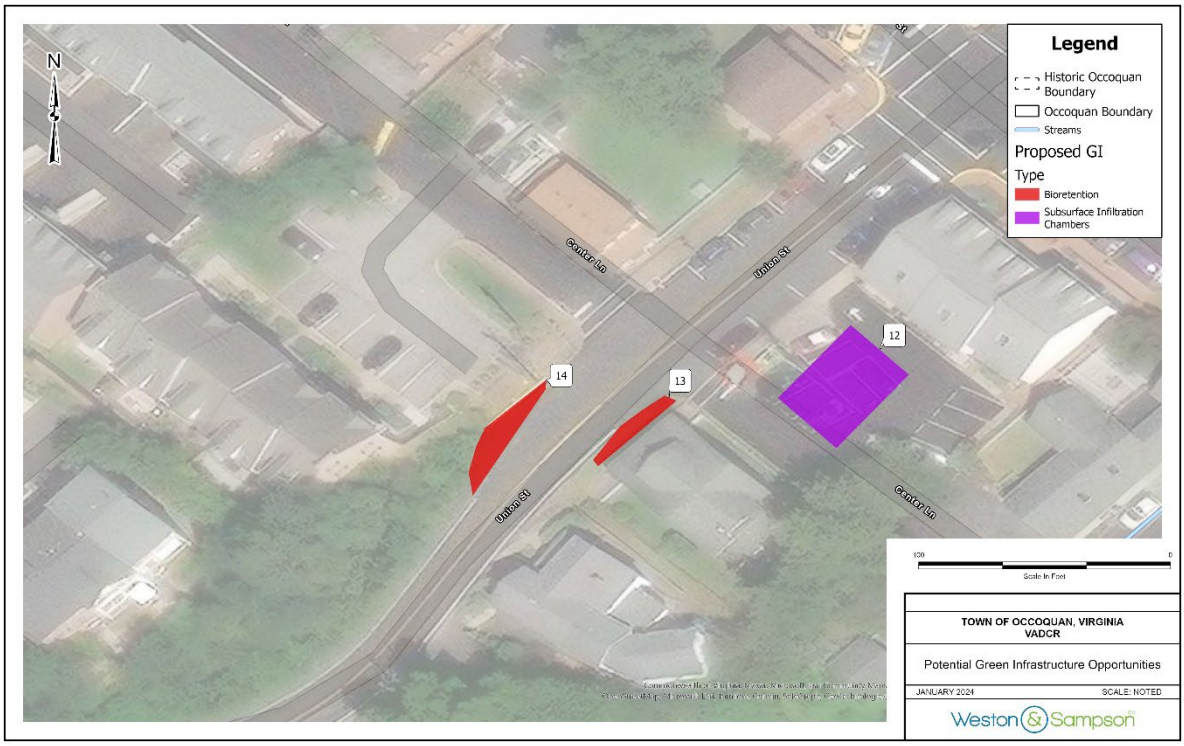

Figure 16: GI Opportunities Union Street and Center Lane Intersection

Table 8. Flood Reduction Benefits for GI Opportunities Union Street and Center Lane Intersection

ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
12	Subsurface Infiltration Chambers	971	26	23	Minimal	15	13	Minimal
13	Bioretention	164	27	25	Moderate	16	15	Minimal
14	Bioretention	299	27	25	Moderate	18	16	Minimal

4.1.6 Ellicott Street

Ellicott Street is a steep road with flooding issues from the hillside above that McKenzie Drive runs along. This street also generates flooding that flows down this steep hill toward downtown. The primary existing stormwater infrastructure in the area being curb inlets. Alongside the span of Ellicott Street are two bioretention opportunities and one bioswale opportunity to catch some of this flow (Figure 17). The first bioretention opportunity is making a bump-out located between Ellicott Street and McKenzie Drive (Photo 21). As heavy floodwaters come down McKenzie Drive, this would offer an opportunity to filter and slow some of this before it moves onto Ellicott Street. An adjustment would have to be made to the current fire hydrant. Another bioretention opportunity is located down Ellicott Street beside a bioswale opportunity (Photo 22). This area experiences flow directed here. Consideration would have to be made with the right-of-way with the stop sign and power pole adjacent.

NRCS soil data for GI opportunities 15 and 16 indicated urban fill with no hydrologic soil classification available, and GI opportunity 17 is designated as Hydrologic Soil Group A.

Photo 21: Bioretention opportunity area

Photo 22: Bioretention opportunity area

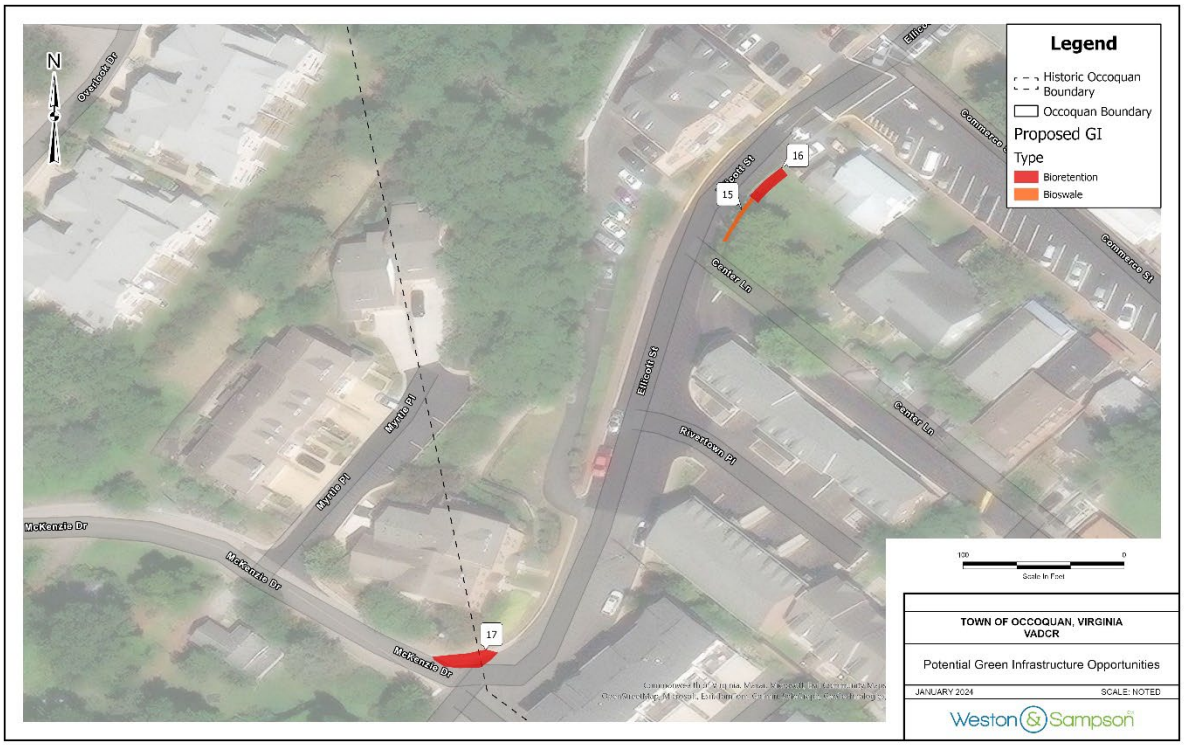

Figure 17: GI Opportunities Ellicott Street

Table 9. Flood Reduction Benefits for GI Opportunities Ellicott Street

ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
15	Bioswale	63	90%	89%	Significant	81%	79%	Significant
16	Bioretention	133	80%	76%	Significant	60%	57%	Significant
17	Bioretention	231	0%	0%	Minimal	0%	100%	Moderate

4.1.7 Overlook Drive Neighborhood

This neighborhood is located on a slope and generates runoff off Overlook Drive. The neighborhood experiences flooding from uncontrolled impervious rooftops in combination with wide impervious roads on a steep slope. McKenzie Drive is situated on a hillside and experiences flooding from the Overlook Drive neighborhood.

This residential area is a good candidate for four bioretention strategies (Figure 18). One opportunity is between the intersection of Fortress Way and Overlook Drive (Photo 13) where existing landscaping is situated. Another opportunity for bioretention to be integrated in existing landscaping is alongside Overlook Drive (Photo 14). The third opportunity is beside a parking lot at the dead end of Overlook Drive. On McKenzie Drive is an opportunity to implement bioretention strategies to reduce the amount of water moving down the hill.

NRCS soil data for this location is designated as Hydrologic Soil Group A.

Photo 23: Bioretention opportunity area

Photo 24: Bioretention opportunity area

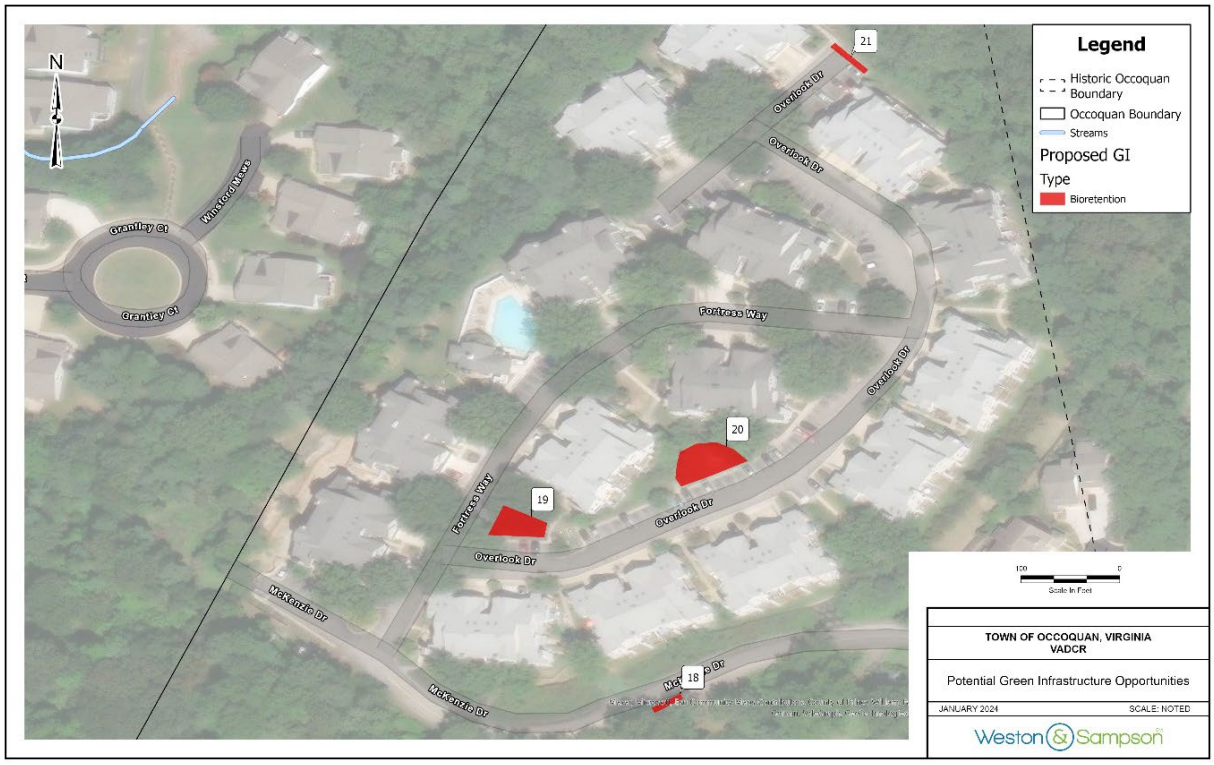

Figure 18: GI Opportunities Overlook Drive Neighborhood

Table 10. Flood Reduction Benefits for GI Opportunities Overlook Drive Neighborhood

ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
18	Bioretention	148	8%	7%	Minimal	5%	5%	Minimal
19	Bioretention	962	41%	38%	Moderate	27%	25%	Moderate
20	Bioretention	1543	70%	65%	Significant	46%	43%	Moderate
21	Bioretention	206	18%	16%	Minimal	11%	10%	Minimal

4.1.8 Southwest Section of Union Street

This section of Union Street sits in a valley, receiving water from both sections of the road. Ballywack Branch Creek passes through an existing culvert underneath Union Street at this location and flows downstream into a manmade channel. This area is a known region of flooding issues, one being near the road-stream crossing location and the other being just after the intersection with Ellicott Street and Union Street.

There is a bioretention opportunity adjacent to Union Street (Figure 19). This is not a preferred candidate as it is close to traffic and tributary. Proposed improvements to the culvert and stream bed are described in Section 4.3 Grey Infrastructure Opportunities.

NRCS soil data for this location is designated as Hydrologic Soil Group A.

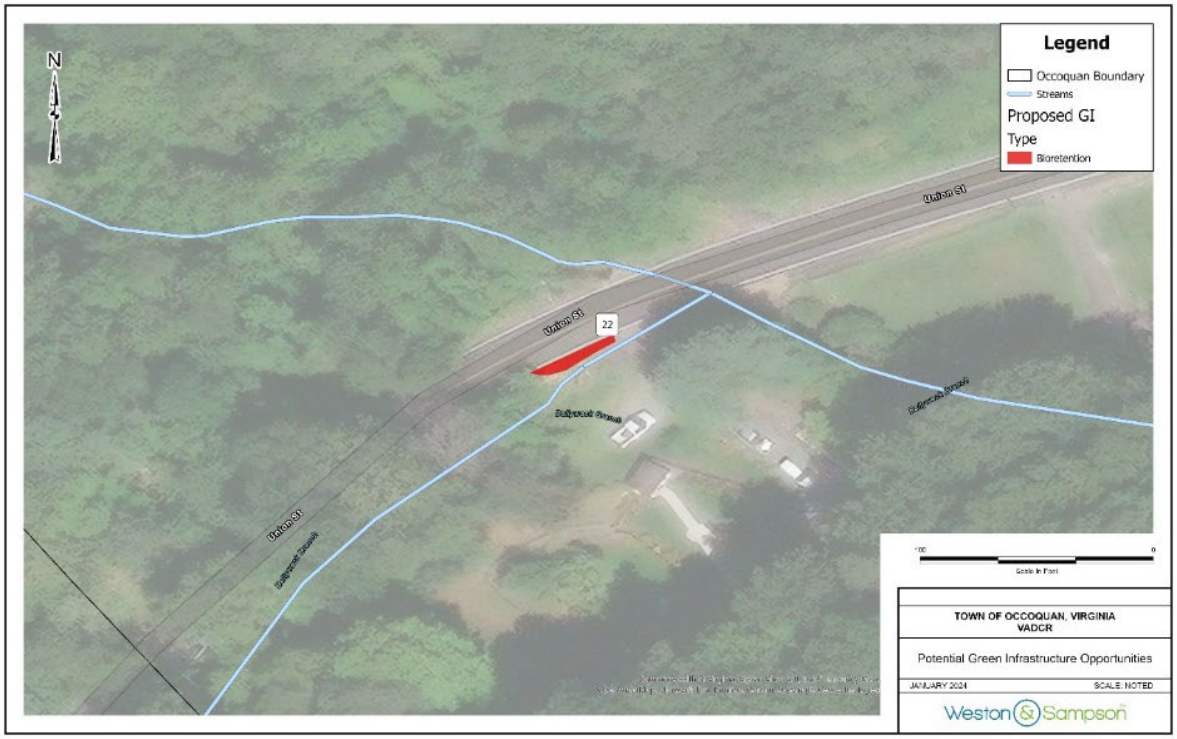

Figure 19: GI Opportunities Southwest Union Street

Table 11. Flood Reduction Benefits for GI Opportunities Southwest Section of Union St								
ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
22	Bioretention	124	0%	0%	Minimal	8%	7%	Minimal

4.1.9 West Locust Street

This section of West Locus Street is a cul-de-sac that is connected to Frayers Farm Court. This area has several existing stormwater inlets, but experiences flow from Frayers Farm Court and the steep hillslope from West Locust Street. Furnace Branch passes underneath the cul-de-sac.

Alongside the street adjacent to Frayers Farm Court are two opportunities for bioretention (Figure 20). These opportunities exist within the right-of-way (Photo 25).

NRCS soil data for this location is designated as Hydrologic Soil Group A.

Photo 25: Bioretention opportunity area

Figure 20: GI Opportunities Along West Locust Street

Table 10. Flood Reduction Benefits for GI Opportunities Along West Locust Street

ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
23	Bioretention	208	31%	30%	Moderate	21%	20%	Minimal
24	Bioretention	427	22%	21%	Minimal	15%	16%	Minimal

4.1.10 Occoquan Road Neighborhood

Several opportunities exist within a cluster of residential neighborhoods situated adjacent to Route 123 (Gordon Boulevard). The intersection of Washington Street, Occoquan Heights Court and Edgehill Drive experiences flooding as it is situated in a valley.

There are several opportunities to mitigate stormwater flooding in these residential neighborhoods through retrofitting two overgrown detention areas that were installed to collect stormwater off Occoquan Road (Figure 21). Both the smaller pond (Photo 26) and the larger

pond are overrun with invasives and could be redesigned to increase storage capacity. There is an opportunity to intercept runoff using bioretention (Photo 27) in an existing open green space adjacent to a curb inlet. There is a subsurface infiltration chamber opportunity off Edgehill Drive where an underground filter/separator system exists.

NRCS soil data for this location is designated as Hydrologic Soil Group C/D.

Photo 26: Detention pond retrofit opportunity area

Photo 27: Bioretention opportunity area

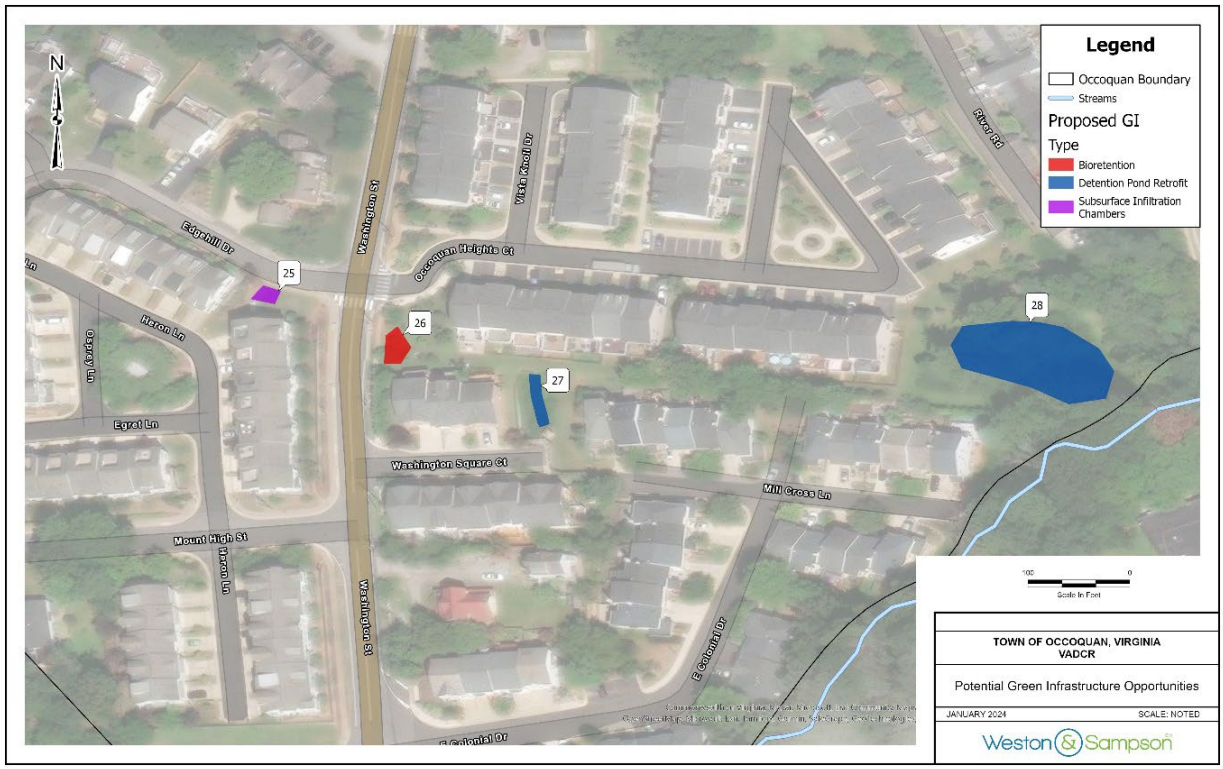

Figure 21: GI Opportunities Occoquan Road Neighborhoods

Table 13. Flood Reduction Benefits for GI Opportunities Occoquan Road Neighborhoods

ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
25	Subsurface Infiltration Chambers	253	12%	8%	Minimal	8%	5%	Minimal
26	Bioretention	530	0%	0%	Minimal	0%	0%	Minimal
27	Detention Pond Retrofit	458	Not Modeled					
28	Detention Pond Retrofit	6,847	Not Modeled					

4.1.11 East of Route 123 (Gordon Boulevard)

Underneath Route 123 is an impervious parking lot that services a kayak launch, waterfront area, and the harbor marina. This parking lot sheet flows down the lot towards the Occoquan River. There is a Virginia Department of Transportation stormwater detention area that is not being fully utilized to treat flow from Route 123 overhead.

In this area are opportunities to install two bioswales and retrofit an existing detention pond (Figure 22). Alongside the parking lot adjacent to the river, there is an opportunity to convert a rip rap lined ditch into a bioswale with natural water tolerant species (Photo 28). The other bioswale opportunity exists in behind a residential development just beside Route 123. There is also an opportunity to retrofit the current dry stormwater pond (Photo 29) for increased storage.

NRCS soil data for this location is designated as Hydrologic Soil Group B for GI opportunity 29 and Group A for GI opportunities 30 and 31.

Photo 28: Bioswale opportunity area

Photo 29: Detention pond retrofit opportunity area

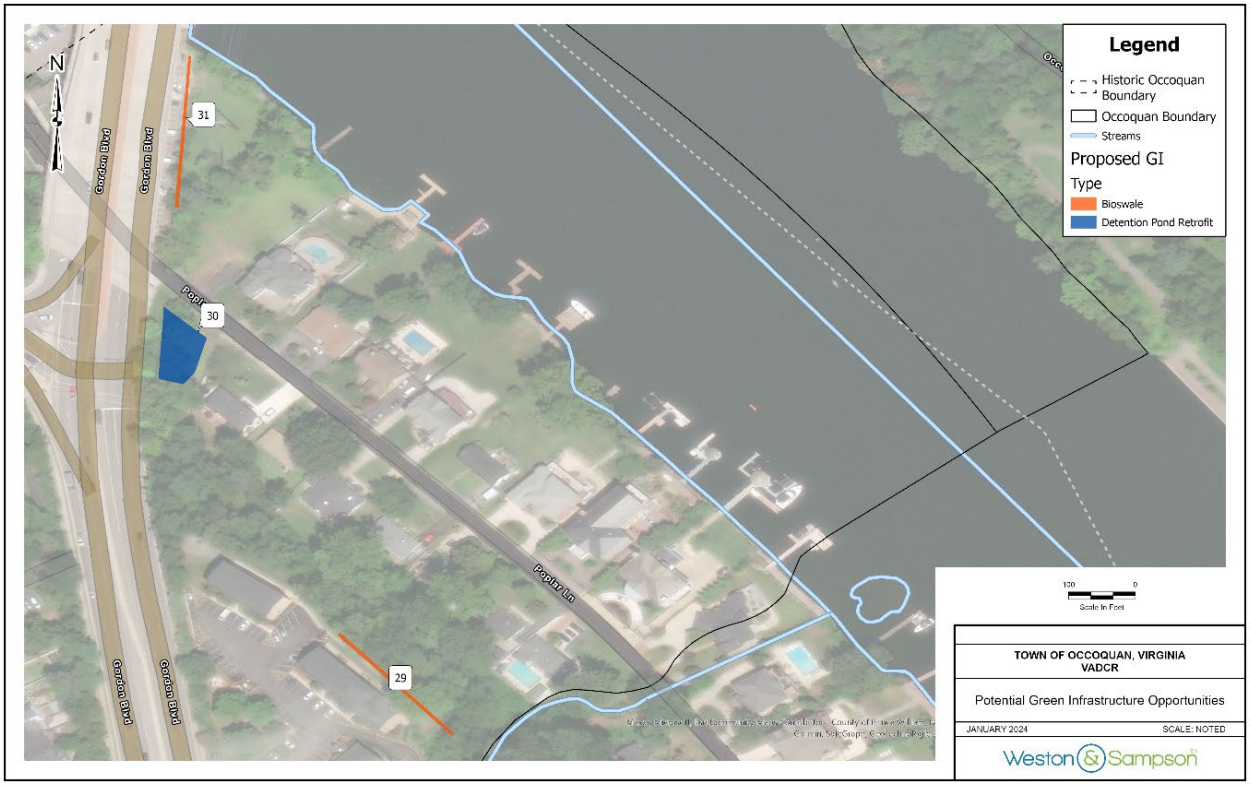

Figure 22: GI Opportunities East of Route 123

Table 14. Flood Reduction Benefits for GI Opportunities – East of Route 123

ID	GI Type	Area (sf)	2-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)			10-Year 6-Hour Design Storm Reduction in Catchment Runoff Volume (%)		
			Baseline	2070	Flood Reduction Benefits	Baseline	2070	Flood Reduction Benefits
29	Bioswale	965	54%	50%	Significant	34%	31%	Moderate
30	Detention Pond Retrofit	Not Modeled						
31	Bioswale	921	0%	0%	Minimal	0%	0%	Minimal

4.2 Prioritization of GI Opportunities

To determine which GI opportunities should be prioritized for implementation, several factors were considered including the impact of the opportunity on stormwater volume reduction, the co-benefits, and the feasibility of implementing the opportunity.

To calculate the Prioritization Score, a prioritization matrix was used. Individual scores for flood reduction benefits, co-benefits, and feasibility were determined for each proposed NBS, which were then factored into a Flood Reduction Benefit score and a Co-Benefits & Feasibility of Implementation score. Each Prioritization Score was then ranked against the other projects to identify the top opportunities that should be prioritized for implementation.

4.2.1 Assessment of Flood Reduction Benefit

The hydrologic and hydraulic (H&H) modelling results are summarized in Table 17 below. The individual projects are ordered by their potential Flood Reduction Benefit, from significant to minimal, and with their respective H&H performances for near- and long-term flood reduction. The near- and long-term events are measured as the baseline and 2070 2-year 6-hour storm event. This event was chosen to represent the effectiveness of the proposed solutions because it is helpful in understanding how GI performs under realistic shorter duration storm event scenarios. More information on the H&H modelling methodology can be found in Section 3 of this report. **Flood reduction benefits were used in a prioritization matrix to rank the GI opportunities and are defined as the efficiency of the GI to reduce flooding in the catchment area.** This is reflected by the average percent reduction of total runoff volume during the baseline and 2070 2-year 6-hour storm event.

The three proposed Detention Pond Retrofit Projects (ID 27, 28, and 30) were not modelled as proposed solutions because they were already represented as functioning storage nodes in the 1D or 2D model components. The proposed improvements for these locations would include cleaning up the existing detention ponds and restoring them to their original condition, to ensure that they are operating at maximum capacity.

Table 15. Green Infrastructure Flood Reduction Performance (2-Year, 6-Hour Storm Event)

ID	GI Type	Area (sf)	Baseline Flood Volume Reduction (%)	2070 Flood Volume Reduction (%)	Average Flood Reduction Benefits
9	Subsurface Infiltration Chambers	4599	95%	93%	Significant
2	Porous Paving	1252	94%	93%	Significant
15	Bioswale	63	90%	89%	Significant
4	Bioretention	133	87%	86%	Significant
1	Subsurface Infiltration Chambers	1872	85%	84%	Significant
16	Bioretention	133	80%	76%	Significant
20	Bioretention	1543	70%	65%	Significant

Table 15. Green Infrastructure Flood Reduction Performance (2-Year, 6-Hour Storm Event)					
ID	GI Type	Area (sf)	Baseline Flood Volume Reduction (%)	2070 Flood Volume Reduction (%)	Average Flood Reduction Benefits
3	Bioretention	205	61%	57%	Significant
29	Bioswale	965	54%	50%	Significant
5	Porous Paving	2054	43%	40%	Moderate
19	Bioretention	962	41%	38%	Moderate
10	Bioretention	92	39%	38%	Moderate
8	Bioretention	910	36%	33%	Moderate
23	Bioretention	208	31%	30%	Moderate
14	Bioretention	299	27%	25%	Moderate
13	Bioretention	164	27%	25%	Moderate
12	Subsurface Infiltration Chambers	971	26%	23%	Minimal
24	Bioretention	428	22%	21%	Minimal
21	Bioretention	206	18%	16%	Minimal
25	Subsurface Infiltration Chambers	253	12%	8%	Minimal
6	Bioretention	46	9%	8%	Minimal
11	Bioretention	121	8%	7%	Minimal
18	Bioretention	148	8%	7%	Minimal
7	Bioretention	557	0%	0%	Minimal
17	Bioretention	231	0%	0%	Minimal
22	Bioretention	124	0%	0%	Minimal
26	Bioretention	530	0%	0%	Minimal
31	Bioswale	921	0%	0%	Minimal
27*	Detention Pond Retrofit	458	-	-	
28*	Detention Pond Retrofit	6847	-	-	
30*	Detention Pond Retrofit	4218	-	-	

4.2.2 Assessment of Co-Benefits & Feasibility

In addition to the assessing effectiveness of the GI through flood reduction benefits, additional co-benefits and feasibility are considered. The following co-benefits and feasibility factors were included in the Prioritization Matrix along with flood reduction benefits. Social vulnerability was also considered by looking at the Social Vulnerability Index published by the Centers for Disease Control, however there was no spatial variation in the index rating across Occoquan, so it was not used in the prioritization process.

1. **Soil Infiltration Feasibility - Hydrologic Soils**: Feasibility of implementing the solution based

on the soil conditions at the site.

2. Ease of Implementation - Land Ownership: Ability for the town to implement the project based on land access, ownership, and development obstacles.
3. Ease of Implementation - Operations and Maintenance: Based on the level of effort, specialized knowledge, and specialized equipment required to care for the solution.
4. Pedestrian Improvements: Provides additional open space opportunities or improves walkability for pedestrians.
5. Biodiversity/Habitat: Potential ability to increase habitat or biodiversity through native plantings.

   Occoquan Preferences: Preference for opportunities based on known flooding problems, opportunities to coordinate with private landowners, and upcoming capital improvement projects as indicated by Occoquan staff members during a project meeting.

Table 16. GI Co-Benefits & Feasibility Prioritization Matrix Methodology

GI Co-Benefits and Feasibility Prioritization Matrix Methodology					
INDICATOR		Scoring			Data Reference
		3	2	1	
Feasibility	Soil Infiltration Feasibility - Hydrologic Soils	Soils Suitable (Hydrologic Soil Groups A and B)	Soils May be Suitable (Hydrologic Soil Group C)	Soils Unsuitable (Hydrologic Soil Group D or Unknown)	NRCS, Web Soil Survey Data, Accessed January 8, 2024
	Ease of Implementation - Land Ownership	General ROW	Private Ownership Within Development	Private Ownership	Parcel Data, VDOT Open Data ArcGIS Hub, February 2021,
	Ease of Implementation - Operations + Maintenance	Hand tools, low effort maintenance - Swale	Skilled maintenance crew but no specialized equipment required (weeding / plant ID) - Bioretention, Detention Basin	Specialized equipment required (i.e. vaccuum truck) - Porous Pavement, Subsurface Infiltration Chamber	Based on level of effort to maintain
	Occoquan Preferences	Town indicated strong preference and minimal obstacles for implementation	Town indicated medium preference and some obstacles for implementation	Town indicated medium preference and several obstacles for implementation	Indicated at project meeting to review GI opportunities
Co-Benefits	Pedestrian Improvements	Bioretention and Swales within ROW	Bioretention and Swales on Private Land	Subsurface Infiltration Chambers, Porous Pavement, Detention Basins	Based on improvements to walkability and access to open space
	Biodiversity/Habitat	Bioretention, Swales, Detention Basins	-	Subsurface Infiltration Chambers, Porous Pavement	Based on potential to include native plants and trees

The methodology, scoring parameters, and reference source for the co-benefits and feasibility are presented in Table 18. Although each site was evaluated along these factors, each factor was also weighted differently based on the town's understanding of which factors were more valuable in actually getting these projects constructed. The weight of each co-benefit and feasibility factor is provided in Table 19.

Table 17. List of Co-Benefit and Feasibility Weight Values	
Co-Benefit & Feasibility	**Weighted Percent**
Soil Infiltration Feasibility - Hydrologic Soils	10%
Ease of Implementation - Land Ownership	20%
Ease of Implementation - Operations + Maintenance	20%
Occoquan Preferences	30%
Pedestrian Improvements	10%
Biodiversity/Habitat	10%

4.2.3 Top Six GI Opportunities

Each GI opportunity received two scores, one relating to the suitability of the GI to achieve flood mitigation (Flood Reduction Benefit score) and the other score based on its evaluation of the co-benefit and feasibility improvements (Co-Benefits & Feasibility score). When multiplied together, this resulted in one prioritization score for each site. This method allowed the project team to rank all of the 31 sites for a site-by-site review. The following equation was used to develop the final prioritization score for each GI opportunity.

Prioritization Score = Flood Reduction Benefit * Co-Benefits & Feasibility of Implementation * 10

From these 31 GI opportunities, the six sites that had the highest prioritization score are listed below in Table 20. The top six opportunities included bioretention basins, bioswales, porous paving, and subsurface infiltration chambers.

Table 18. Top Five GI Solutions				
Project Unique ID	Location	GI Type	Area (SF)	Prioritization Score
15	Ellicott Street	Bioswale	63	1
16	Ellicott Street	Bioretention	133	2
4	Downtown Mill Street	Bioretention	133	3
2	Northwest Mill Street	Porous Paving	1252	4
20	Overlook Drive	Bioretention	1543	5
1	Northwest Mill Street	Subsurface Infiltration Chambers	1872	6

4.3 Grey Infrastructure and Stream Restoration Opportunities

In addition to considering nature-based solutions to mitigate localized flooding, improvements to the grey infrastructure system were assessed using the H&H flood model to understand where flooding may be mitigated by making changes to drainage infrastructure or conduits. This section serves to identify both site specific and generalized town-wide grey infrastructure improvement opportunities for flood mitigation.

4.3.1 Ballywhack Creek: Improvements between Union Street and Center Lane

The project team used the stormwater model to evaluate the restoration of the Ballywhack Creek channel immediately upstream of the conduit at Center Lane (Photo 30), an area which has generated extensive overland flooding in the past, potentially due to the buildup of sediment and debris during large storm events. Field observations indicate considerable buildup of sediment to the point that the channel is largely grassed and overly connected with its floodplain. Restoring this reach of the brook to a more typical channel width and depth is expected to have significant flood reduction benefits and reduce the risk of overland flood events on Center Lane, Union Street, and beyond. Model simulations indicate that in its present state, this area of Ballywhack Creek is expected to experience flooding during storms as small as the 25-year, 24-hour event under a present-day climate and as small as the 10-year event under a 2070 climate. Model simulations indicate that rehabilitating the brook in this area, restoring it to its more natural shape and function, would eliminate flooding during flood events as large as the 2070 100-year design storm.

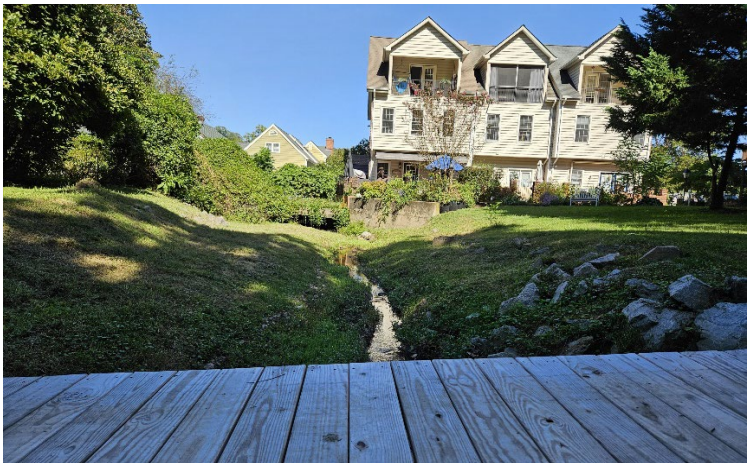

Photo 30: Ballywhack Creek upstream of Center Lane

Photo 31: Ballywhack Creek culvert at Union Street

The project team also evaluated the potential benefit of upsizing the Union Street culvert (Photo 31) and widening the Ballywhack Creek channel (Photo 32) immediately downstream of that crossing. Currently, the road-stream crossing is undersized and in poor

Photo 32. Ballywhack Creek downstream of Union Street

condition and the downstream channel has been significantly encroached upon, particularly from the north, reshaped with vertical walls on both sides for several hundred feet, and the streambed resurfaced with asphalt and/or concrete. These canal-like conditions combine to create considerable flooding in this area, particularly in the northern floodplain during extreme storm events like the present day 100-year storm. Model simulations have shown that restoring the channel to a more typical width, shape, and streambed material – effectively increasing the channel capacity – and reconnecting it to its floodplain will eliminate the extensive flooding currently indicated in this area for events as large as the 2070 100-year design storm.

4.3.2 Overlook Drive: Improved Stormwater Management

Overlook Drive is located at the top of McKenzie Drive and overlooks Ellicott Street to the southeast. The buildings along Overlook Drive capture rainfall using gutters and downspouts. The stormwater from some buildings appears to discharge unattenuated and untreated through a channel (Photo 33) and over the steep slopes into the Ellicott Street area (Photo 34), potentially exacerbating flooding. It is recommended that further investigations be completed in coordination with the building owners to re-direct downspout discharges into treatment areas such as bioretention basins and minimize the overland discharge to downstream properties and roadways. These improvements were not included in the H&H model, however the recommendations are made based on best professional judgement.

Photo 33: Roof Leader Discharge Pipe and Channel

Photo 34: Roof Leader Discharge over the edge of Overlook Drive

4.3.3 Catch Basin Installation Frequency and Type

Photo 35: Curb Inlet in Occoquan

Field investigations in Occoquan identified infrequently placed catch basins throughout much of the downtown, often relying on curb cut inlets to capture runoff in roadways (Photo 35). Stormwater may surpass these types of inlets if there is not a sufficient depression around the inlet, creating an excess volume of runoff that can contribute to flooding downstream. It is recommended that Occoquan further assess roadways upstream of and within flooding problem areas for insufficient stormwater capture and develop a plan to improve runoff interception. This will likely lead to increasing the number of catch basins along steep sloped roadways, around low-lying intersections, and on side streets and alleys that are highly impervious in the downtown area and may also include considering the use of alternative inlet structures such as double grate catch basin inlets. Additional catch basin capacity along the Mill Street corridor could also help remove water from the roadways in the event that the Occoquan River overtops its banks.

5.0 RECOMMENDATIONS AND NEXT STEPS

5.1 Additional Studies and Coordination

As stated in the Flood Model Results section (Section 3) of the report, the Occoquan River will be the main source of flooding for Historic Occoquan in the future. Weston & Sampson recommends that:

1. A more detailed assessment of potential future Occoquan River conditions be completed, in coordination with other abutting communities, to fully understand the threat and what adaptation options are available. This may include managed retreat of waterfront properties, or implementation of a flood mitigation system across multiple properties at the historic downtown.
2. The Town coordinate with other localities in the region to develop a watershed model and identify upstream projects that would help reduce downstream flooding and riverine impacts.
3. A review of the condition and operation of the flood control dam in the Ballywhack Creek headwaters be completed in coordination with county officials. The model for this project was calibrated with the dam operating as it was initially designed, so if that condition were to change, the modelling outcomes may be altered.

5.2 Deferred Maintenance

Suggested deferred maintenance from field observations includes:

- After storms, debris clean out on upstream side of culverts on Occoquan Road, Poplar Lane, Union Street and Washington Street.
- Annual catch basin inspection and cleaning.
- Invasive species control within and around Boundary Branch between Occoquan Road and Route 123.

5.3 Approaches to Flood Mitigation

For the Town of Occoquan to proceed with the top priority actions listed below in Table 21, the first step will be to budget for these improvements (including obtaining outside funding). Following securing funds, the concepts presented herein can be progressed through full design and construction.

Table 19. Top Priority Actions for Flood Mitigation

No.	Top Priority Actions	Type	Anticipated Timeline	Cost Range ($ to $$$$$)	Potential Funding Sources
1.	Mill and Ellicott Projects	Green Infrastructure	Near-term	$$	CFPF
2.	Ballywhack	Culverts/Grey Infrastructure	Long-term	$$$$	Local Stormwater

					Assistance Fund
3.	Ballywhack	Stream Bank Restoration	Mid-term	$$$	CFPF
4.	Culverts and Boundary Branch	Maintenance	Near-term	$$	Local Stormwater Assistance Fund

5.4 Next Steps

The Town hopes to advance high priority actions identified through the Resilient Stormwater Assessment and Flood Mitigation Plan project. There are several immediate next steps that the Town has already initiated or plans to in the upcoming year.

1. Community Flood Preparedness Fund Grant Application – under review by VA DCR.

The Town applied for a second phase of funding through CFPF. If awarded, The Town will design several high priority green infrastructure projects (nature-based solutions) to mitigate stormwater flooding. The implementation of nature-based solutions in flood problem areas will also contribute to improve water quality, create shading and therefore reduction of heat island, and greening of the historic downtown. The location of these green infrastructure opportunities was not determined at the time of grant submission but includes priority actions in this report.

2. Coordination with Prince William County Stormwater Management Program

Meet with Prince William County staff to discuss next steps or requirements of initiating the town into the county stormwater management program. Share findings of this plan and stormwater system mapping (GIS) with county staff.

5.5 Limitations

The climate projections and methodologies to establish projected values referenced in this report are based on published climate science data and resources available (February 2024). The projected values provided via the H&H may be used to inform planning and early design, but they do not provide guarantees for future conditions or resilience.

Actual climate conditions will vary and may be extreme than the projections provided by the H&H model and summarized in this report. Climate data is regularly evolving based on the best available science. Therefore, the recommended methodologies and/or projected values may change based on future updates.

The priority actions and maintenance considerations are preliminary and should not be used for final design without additional alternative analyses and engineering feasibility evaluations. The information and conclusions presented within this report are not intended as final opinions and should continue to be vetted with experts in the field, with updated climate projections, and with regulatory requirements.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with the generally accepted practices in this area at the time this report was prepared. No warranty, expressed or implied, is given.

TOWN OF OCCOQUAN
TOWN COUNCIL MEETING
Agenda Communication

4. Regular Business	**Meeting Date:** April 16, 2024
4A: Request to Approve Resolution of Appreciation for Marisela Rumberg	

Attachments: a. Draft Resolution

Submitted by: Adam C. Linn
Town Manager

Explanation and Summary:
This is a request to adopt a resolution of appreciation and recognition for Marisela Rumberg for her work on designing and installing a mural on the LOVEwork in River Mill Park.

Marisela completed the installation in the summer of 2021 and it was dedicated on September 3rd, 2021. The finished mural depicts was inspired by zentangle art, covering the letters L, O, V and E in black and white sets of structured patterns called tangles.

The mural is being retired as part of the Town's efforts to welcome new artists to the space to offer new takes on the LOVEwork every few years. The mural has been preserved and will be returned to the artist.

Staff Recommendation: Adopt the Resolution as presented.

Proposed/Suggested Motion:
"I move to adopt Resolution R-2024-03 recognizing Marisela Rumberg for sharing her time and talents with the Occoquan community through the design and installation of a mural on the LOVEwork at River Mill Park."

OR

Other action Council deems appropriate.

TOWN OF OCCOQUAN, VIRGINIA
RESOLUTION R-2024-03

RESOLUTION OF APPRECIATION AND RECOGNITION TO MARISELA RUMBERG FOR HER DESIGN AND INSTALLATION OF A LOVEWORK MURAL FOR THE TOWN OF OCCOQUAN

WHEREAS, in March 2020, Marisela Rumberg proposed a design for a mural on the River Mill Park LOVEwork; and

WHEREAS, from March 2020 through September 2021, Marisela Rumberg showed great enthusiasm, flexibility, and skill in working with the Town to install the mural; and

WHEREAS, on September 3rd, 2021, the Town of Occoquan dedicated the mural and held a ribbon cutting ceremony in honor of Marisela's work; and

WHEREAS, after nearly three years of installation, the Town of Occoquan has decided to retire the mural and allow for more local artists to install their works on the structure; and

WHEREAS, the completed mural was an engaging, attractive work of art that enhanced the beauty and character of Occoquan and welcomed visitors to town.

NOW, THEREFORE, BE IT RESOLVED, the Occoquan Town Council hereby expresses its profound and sincere appreciation to Marisela Rumberg for generously sharing her artistic gifts with the Occoquan community in creating and installing a wonderful piece of art that has enhanced River Mill Park for years.

Adopted by the Town Council of the Town of Occoquan, Virginia this 16th Day of April, 2024.

MOTION: **DATE: April 16, 2024**
Town Council Meeting

SECOND:

Votes
Ayes:
Nays:
Absent from Vote:
Absent from Meeting:

BY ORDER OF THE TOWN COUNCIL

Attested:

_____ _____

Earnest W. Porta, Jr., Mayor **Philip Auville, Town Clerk**

TOWN OF OCCOQUAN
TOWN COUNCIL MEETING
Agenda Communication

4. Regular Business	**Meeting Date:** April 16, 2024
4B: Request to Set FY2025 Budgets and Tax Rates for Public Advertising	

Attachments:
a. FY2025 Mamie Davis Park Fund
b. FY2025 E-Summons Fund
c. FY2025 Proposed Events Fund
d. FY2025 Proposed General Fund Budget
e. FY2025 Proposed Capital Improvement Program Budget

Submitted by: Adam C. Linn
Town Manager

Explanation and Summary:
Staff is seeking council approval on proposing FY2025 tax rates for public advertising covering the following: Real Estate Tax, Meals Tax, and Transient Tax. Staff is also seeking council approval on proposing FY2025 budgets for public advertising. This is for public advertising purposes only for public hearings and future votes.

Background
The Town began its Fiscal Year (FY) 2025 budget process in January 2024 and held three budget work sessions to discuss the proposed tax rates and budgets on March 5, March 19, and April 2, 2024. As a result of the budget work sessions, staff has prepared the proposed FY2025 tax rates for public advertising as well as the proposed FY2025 budgets.

Staff is proposing to advertise the following FY2025 Tax Rates:

	FY2025 Proposed Rate	**Change from FY2024**
Real Estate Taxes	$0.116 per $100 assessed value	None
Meals Taxes	3.50%	None
Transient Taxes	7%	None

Staff is proposing to advertise the FY2025 Fund Budgets as presented in the attachments. The FY2025 General Fund Budget was updated to include the most up to date projections for FY2024 as well as 3 changes in revenue to match the FY2024 trend. The Capital Improvement Program had one change to add $3500 to paint Town Hall.

Town Staff Recommendation: Staff recommends approval of proposed rates and budgets for public advertising.

Proposed/Suggested Motions:
"I move to advertise the FY2025 Real Estate Tax Rate at $0.116 per $100 of assessed value."

AND

"I move to advertise the FY2025 Transient Occupancy Tax Rate at 7%."

AND

"I move to advertise the FY2025 Meals Tax Rate at 3.5%."

AND

"I move to advertise the FY2025 Proposed Mamie Davis Fund budget of $256 in revenue and $0 in expenses."

AND

"I move to advertise the FY2025 Proposed e-Summons Fund budget of $15,200 in revenue and $7,200 in expenses."

AND

"I move to advertise the FY2025 Proposed Events Fund budget of $313,285 in revenue and $238,726 in expenses."

AND

"I move to advertise the FY2025 Proposed General Fund budget of $1,408,258 in revenue and $1,408,258 in expenses."

AND

"I move to advertise the FY2025 Proposed Capital Improvement Program Fund budget of $1,374,031 in revenue and $1,374,031 in expenses."

BUDGET FUND		FY 2023 Budget	FY 2024 Proposed	% to Budget
MAMIE DAVIS PARK FUND	Revenues	500	256	-48.8%
	Expenses	-	-	#DIV/0!
E-SUMMONS FUND	Revenues	11,500	15,200	32.2%
	Expenses	5,500	7,200	30.9%
EVENTS FUND	Revenues	300,625	313,285	4.2%
	Expenses	234,281	238,726	1.9%
GENERAL OPERATING FUND	Revenues	1,316,017	1,408,258	7.0%
	Expenses	1,316,017	1,408,258	7.0%
CIP FUND	Revenues	2,020,502	1,374,031	-32.0%
	Expenses	2,020,502	1,374,031	-32.0%
OVERALL		3,576,300	3,028,215	-15.33%

FY2025 PROPOSED BUDGET - MAMIE DAVIS FUND (Restricted)								
	FY2023 Adopted	FY2023 Actual	FY2024 Adopted	FY2024 Projected	FY2025 Proposed	% to Projected	% to Budget	$ to Budget
Fund Interest Revenue	$ 500	$ 256	$ 500	$ 252	$ 256	1.7%	-48.8%	(244)
Total Proposed Revenue	**$ 500**	**$ 256**	**$ 500**	**$ 252**	**$ 256**	**1.7%**	**-48.8%**	**(244)**
Capital Projects	$ 5,000	$ 5,250	$ -	$ -	$ -	0.0%	0.0%	$ -
Total Proposed Expenses	**$ 5,000**	**$ 5,250**	**$ -**	**$ -**	**$ -**	**0.0%**	**0.0%**	**$ -**
Total Fund Net	**$ (4,500)**	**$ (4,994)**	**$ 500**	**$ 252**	**$ 256**	**1.7%**	**-48.8%**	**$ (244)**

Fund Balance Estimate Mamie Davis Fund	
Fund Balance (6/30/2023)	**$ 6,498**
Capital Expense FY24	-
Revenue FY24	252
Fund Balance Estimate 6/30/2024	**$ 6,750**
Capital Expenses FY2025	-
Revenue FY25	256
Fund Balance Estimate 6/30/2024	**$ 7,006**

FY2025 PROPOSED BUDGET - e-SUMMONS FUND (Restricted)							
Revenue Sources	**FY2023 Adopted**	**FY2023 Actual**	**FY2024 Adopted**	**FY2024 Projected**	**FY2025 Proposed**	**Increase/ Decrease (%) Over Budget**	**Increase/ Decrease ($) Over Budget**
E-Summons Revenue	$ 12,000	$ 14,027	$ 11,500	$ 14,652	$ 15,250	33%	$ 3,750
Total Proposed Revenue	**$ 12,000**	**$ 14,027**	**$ 11,500**	**$ 14,652**	**$ 15,250**	**33%**	**$ 3,750**
Expenses	**FY2023 Adopted**	**FY2023 Actual**	**FY2024 Adopted**	**FY2024 Projected**	**FY2025 Proposed**	**Increase/ Decrease (%) Over Budget**	**Increase/ Decrease ($) Over Budget**
Hardware/Software Maintenance	$ 1,750	$ 793	$ 4,300	$ 4,900	$ 5,600	30%	$ 1,300
Operational Supplies	$ 1,400	$ 185	$ 1,200	$ 1,200	$ 1,600	33%	$ 400
Total Proposed Expenditures	**$ 3,150**	**$ 978**	**$ 5,500**	**$ 6,100**	**$ 7,200**	**31%**	**$ 1,700**
Total Fund Net	**$ 8,850**	**$ 13,048**	**$ 6,000**	**$ 8,552**	**$ 8,050**	**34%**	**$ 2,050**

e-Summons Fund Balance Estimate	
Fund Balance (6/30/2023)	**$ 37,354**
Expense FY24	6,100
Revenue FY24	14,652
Fund Balance Estimate 6/30/2024	**$ 45,906**
Expenses FY2025	7,200
Revenue FY2025	15,250
Fund Balance Estimate 6/30/2025	**$ 53,956**

FY2025 PROPOSED BUDGET - EVENT FUND

Account	Revenue Source	FY2023 Actual (unaudtied)	FY2024 Budget	FY2024 Projected	FY2025 Proposed	% to Projected	% to Budget	$ to Budget
Event Revenues								
47010	Sponsorships	17,658	42,500	15,515	34,000	119.1%	-20.0%	(8,500)
47020	Booth Rentals	164,250	160,375	94,250	166,000	76.1%	3.5%	5,625
47030	Shuttle Fees	60,270	60,500	28,500	60,500	112.3%	0.0%	-
47040	Parking Space Sales	9,900	8,900	5,250	10,500	100.0%	18.0%	1,600
47060	Merchandise	1,070	3,000	1,778	1,125	-36.7%	-62.5%	(1,875)
47021	Ticket Sales	9,376	11,000	14,007	18,575	32.6%	68.9%	7,575
Other Revenues								
44040	Bricks Program	1,814	1,275	1,500	1,575	5.0%	23.5%	300
41160	Convenience Fees	5,023	5,875	4,378	4,550	3.9%	-22.6%	(1,325)
44020	Events Fund Interest	99	1,200	-	-		-100.0%	(1,200)
47000	Other Revenue	12,642	6,000	10,012	16,460	64.4%	174.3%	10,460
	Total Events Fund Revenues	**282,102**	**300,625**	**175,190**	**313,285**	**78.8%**	**4.2%**	**12,660**

Account	Expenses	FY2023 Actual (unaudtied)	FY2024 Budget	FY2024 Projected	FY2025 Proposed	% to Projected	% to Budget	$ to Budget
60000	Total Personnel Services	65,311	84,531	70,995	98,371	38.6%	16.4%	13,840
60400	Total Professional Services	13,804	17,600	11,055	5,050	-54.3%	-71.3%	(12,550)
60800	Total Information Tech Services	1,230	1,200	900	390	-56.7%	-67.5%	(810)
61200	Total Material and Supplies	20,061	18,025	13,450	13,545	0.7%	-24.9%	(4,480)
62000	Total Contracts	74,692	75,125	54,769	75,100	37.1%	0.0%	(25)
63200	Total Advertising	21,372	24,875	30,494	32,500	6.6%	30.7%	7,625
64000	Vehicles and Equipment	-	-	-	-			-
66800	River Mill Park and Facility	375	600	750	850	13.3%	41.7%	250
69210	Holidayfest / Santa	6,269	2,675	17,908	1,000			
69220	Volunteer Thank You Event	1,565	1,575	1,617	1,595	-1.4%	1.3%	20
69250	River Mill Park Special Events	10,599	4,850	1,592	1,050	-34.0%	-78.4%	(3,800)
69290	Other Special Events	4,150	3,225	6,278	9,275	47.7%		6,050
	Total Events Fund Expenses	**219,428**	**234,281**	**209,808**	**238,726**	**13.8%**	**1.9%**	**4,445**
		-	-	-	-			
	Total Events Fund Net Revenue	**62,674**	**66,344**	**(34,618)**	**74,559**	**-315.4%**	**12.4%**	**8,215**

Account	FY2025 Proposed Expenditures - General Fund	FY2023 Budget	FY2023 Actual	FY2024 Budget	FY2024 Projected	FY2025 Proposed	% to Projected	% to Budget	$ to Budget
60000	Total Personnel Services	708,934	667,537	734,672	710,771	827,001	16.4%	12.6%	$ 92,329
60400	Total Professional Services	$ 169,321	$ 161,302	$ 174,325	$ 168,516	$ 175,967	4.4%	0.9%	$ 1,642
60800	Total Information Technology Services	$ 31,100	$ 35,193	$ 40,092	$ 43,938	$ 40,430	-8.0%	0.8%	$ 338
61200	Total Materials and Supplies	$ 27,230	$ 28,554	$ 31,125	$ 30,367	$ 34,850	14.8%	12.0%	$ 3,725
61600	Total Operational Services	9,000	$ 9,300	10,172	$ 8,891	$ 9,200	3.5%	-9.6%	$ (972)
62000	Total Contracts	112,382	$ 109,433	122,135	$ 119,072	$ 125,103	5.1%	2.4%	$ 2,968
62400	Total Insurance	33,690	$ 37,918	40,300	$ 39,959	$ 43,500	8.9%	7.9%	$ 3,200
62800	Total Public Information	5,020	$ 2,808	4,036	$ 3,927	$ 4,050	3.1%	0.4%	$ 14
63200	Total Advertising	2,000	$ 4,875	$ 7,640	$ 7,134	$ 6,610	-7.3%	-13.5%	$ (1,030)
63600	Total Training and Travel	18,210	$ 10,244	$ 16,510	$ 13,466	$ 17,050	26.6%	3.3%	$ 540
64000	Total Vehicles and Equipment	27,210	$ 49,375	$ 30,050	$ 55,279	$ 47,650	-13.8%	58.6%	$ 17,600
64400	Total Seasonal	10,500	$ 10,623	$ 11,700	$ 10,939	$ 13,000	18.8%	11.1%	$ 1,300
64800	Total Town Hall	11,890	$ 11,689	$ 12,624	$ 11,044	$ 11,344	2.7%	-10.1%	$ (1,280)
65200	Total Mill House Museum	6,500	$ 300	$ 6,500	$ 6,500	$ 6,500		0.0%	$ -
65600	Total 200 Mill Street	$ 500	$ -	$ -	$ -	$ -			$ -
66000	Total Police/PW Annex	5,910	$ 5,483	$ 3,190	$ 7,409	$ 3,350	-54.8%	5.0%	$ 160
66400	Total Mill Street Storage	250	$ -	-	$ -	$ -			$ -
66800	Total River Mill Park and Facility	16,200	$ 18,398	$ 19,318	$ 18,143	$ 18,154	0.1%	-6.0%	$ (1,164)
67200	Total Mamie Davis Park and Riverwalk	4,100	$ 4,049	5,850	$ 5,122	$ 5,400	5.4%	-7.7%	$ (450)
67600	Total Tanyard Hill Park	$ -	$ -	$ -	$ -	$ -			$ -
68000	Total Furnace Branch Park	$ -	$ -	$ -	$ -	$ 500			$ 500
68400	Total Streets and Sidewalks	$ 3,000	$ 2,727	2,800	$ 1,800	$ 2,500	38.9%	-10.7%	$ (300)
68800	Total Historic District	$ 24,600	$ 15,888	20,600	$ 12,678	$ 13,600	7.3%	-34.0%	$ (7,000)
69200	Special Events	-		-					$ -
68900	Total Public Art Program	$ -	$ -	$ -	$ -	$ 2,500			$ 2,500
TBD	Total Fund Transfer	-	$ -	22,379	$ -	$ -		-100.0%	$ (22,379)

TOTALS	$ 1,227,546	$ 1,185,695	$ 1,316,017	$ 1,274,955	$ 1,408,258	10.5%	7.0%	$ 92,241

Account	FY2025 Proposed Budget General Fund - Revenues	FY2023 Budget	FY2023 Actual	FY2024 Adopted	FY2024 Projected	FY2025 Proposed	% to Projected	% to Budget	$ to Budget
	Taxes								
40010	Real Estate Tax	275,492	275,340	288,769	289,560	304,351	5.1%	5.4%	15,582
40020	Meals Tax	282,499	281,566	357,641	321,351	333,812	3.9%	-6.7%	(23,828)
40030	Sales Tax	36,000	40,686	40,000	47,954	48,000	0.1%	20.0%	8,000
40040	Utility Tax	30,000	34,765	31,000	36,457	36,500	0.1%	17.7%	5,500
40050	Communications Tax	33,000	32,168	33,000	27,058	33,000	22.0%	0.0%	-
40060	Transient Occupancy Tax	14,500	36,604	21,000	40,974	46,500	13.5%	121.4%	25,500
40070	Peer-to-Peer Vehicle Tax				3,300	6,600	100.0%		6,600
	Fees								
41010	Vehicle License Fee	11,000	10,521	11,000	11,000	11,000	0.0%	0.0%	-
41020	Business Licenses	68,800	65,047	75,000	87,345	90,402	3.5%	20.5%	15,402
41025	Business License Fee		-	4,140	4,140	4,260	2.9%	2.9%	120
41030	Late Fees	2,500	2,440	1,500	2,820	1,500	-46.8%	0.0%	-
41040	Fines - Public Safety	345,000	328,796	349,830	365,622	375,000	2.6%	7.2%	25,170
41100	Administrative Fees	10,000	5,870	8,500	12,850	8,500	-33.9%	0.0%	-
41120	Service Revenue - Engineering	10,000	12,354	14,000	5,600	14,000	150.0%	0.0%	-
41130	Service Revenue - Legal	10,000	-	10,000	-	5,000	#DIV/0!	-50.0%	(5,000)
41140	Service Revenue - Other	500	741	500	620	600	-3.2%	20.0%	100
41000	Fees - Other	1,500	786	3,000	1,271	2,500	96.8%	-16.7%	(500)
	Grants								
42010	Litter Grant	1,329	3,025	1,329	2,085	1,329	-36.3%	0.0%	-
42020	Public Safety (HB599)	35,688	26,041	26,821	27,388	27,678	1.1%	3.2%	857
42021	NHSTA (DMV)	15,000	11,512	15,375	15,000	16,000	6.7%	4.1%	625
42040	PEG	-	180	-	-	-			-
	Other Grants	-	34,435	-	-	-			-
	Public Property Leases and Rentals								
43010	Town Hall Rentals	-		-		-			-
43020	River Mill Park Rentals	3,000	1,000	3,000	2,750	4,000	45.5%	33.3%	1,000
43030	Mamie Davis Park Rentals	2,000	1,100	1,500	3,000	3,000	0.0%	100.0%	1,500
	200 Mill Street Lease	7,613	7,993	7,613	7,613	7,727	1.5%	1.5%	114
	Other								
44010	General Fund Interest	900	30,133	10,200	25,094	25,000	-0.4%	145.1%	14,800
44040	Brick Program	-		300	300	300	0.0%	0.0%	-
44060	Other Revenues	1,000	73	1,000	7,369	1,700	-76.9%	70.0%	700
	Fund Transfers	30,225							-
	General Fund Revenue Total	**1,227,546**	**1,243,176**	**1,316,017**	**1,348,521**	**1,408,258**	**4.4%**	**7.0%**	**92,241**

	Net Revenue	**$ -**	**$ 57,481**	**$ -**	**$ 73,567**	**$ -**			**-**

FY2025 Proposed 5 Year Budget Capital Improvement Program (CIP)	Activity	Funding Source	FY25	FY26	FY27	FY28	FY29	Totals
Street and Parking Improvements	**Public Works**	**CIP**	**$ -**	**$ 25,000**	**$ -**	**$ -**	**$ 50,000**	**$ 75,000**
FY26 - Poplar Alley Repaving	Public Works	CIP		25,000				$ 25,000
FY29 - Road Resurfacing	Public Works	CIP					$ 50,000	$ 50,000
Sidewalk Improvements	**Public Works**	**CIP**	**$ -**	**$ -**	**$ -**	**$ 40,000**	**$ -**	**$ 40,000**
FY28 - Sidewalk Improvements	Public Works	CIP				$ 40,000		$ 40,000
Riverwalk Improvements	**Public Works**	**WC / Grant**	**$ 110,000**	**$ -**	**$ 750,000**	**$ 750,000**	**$ -**	**$ 1,610,000**
FY25-FY26 - Riverwalk Extensions	Public Works	WC / Grant	$ 110,000	$ -	$ 750,000	$ 750,000		$ 1,610,000
Building and Parks Improvements	**Public Works**	**CIP**	**$ 12,200**	**$ 18,000**	**$ 10,000**	**$ -**	**$ -**	**$ 40,200**
FY25 - Town Hall/Annex Building Painted	Public Works	CIP	$ 7,500					$ 7,500
FY25 - Annex ADA Project (1st floor reception)	Public Works	CIP	$ 1,500					$ 1,500
FY25 - Mill Street Storage - door replacement	Public Works	CIP	$ 1,500					$ 1,500
FY26 - Mill Street Storage Improvements	Public Works	Grant		$ 8,000				$ 8,000
FY25 - River Road Fence	Public Works	CIP	$ 1,700					$ 1,700
FY26 - Mill House Museum - New windows and Door	Public Works	CIP		$ 10,000				$ 10,000
FY27 - Mill House Museum - New Roof	Public Works	CIP			$ 10,000			$ 10,000
Vehicles and Equipment Improvements	**PS/PW/ADM**	**CIP / Grants**	**$ 93,300**	**$ 54,000**	**$ 41,500**	**$ 23,500**	**$ 13,500**	**$ 225,800**
FY24-FY29 - Replacement PS Vehicle - Hybrid SUV	Public Safety	599/CIP	$ 9,000	$ 9,000	$ 9,000			$ 27,000
FY24-FY29 - Replacement PS Vehicle - Hybrid SUV	Public Safety	599/CIP	$ 9,000	$ 9,000	$ 9,000			$ 27,000
FY27-FY29 - Replacement PS Vehicle - Hybrid SUV	Public Safety	599/CIP	$ -	$ -	$ 10,000	$ 10,000	$ 10,000	$ 30,000
FY25 - Trailer - Fire Suppression / Command	Public Safety	Grant	$ 15,000					$ 15,000
FY25 - Snow Plow & Spreader	Public Works	CIP	$ 7,300					$ 7,300
FY26 - Thermal Drone (UAS)	Public Safety	CIP/Grant		$ 6,000				$ 6,000
FY25-FY26 - Body Armor Replacement	Public Safety	CIP/Grant	$ 6,000	$ 1,500				$ 7,500
FY25-FY26 - Holiday Snowflakes	Public Works	CIP	$ 10,000	$ 15,000				$ 25,000
FY25-FY29 - Police Record Management System	Public Safety	CIP	$ 27,000	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 41,000
FY24-FY28 - AXON Body Worn Camera System	Public Safety	WC	$ 10,000	$ 10,000	$ 10,000	$ 10,000		$ 40,000
Stormwater Improvements	**Public Works**	**WC / CIP / Grant**	**$ 1,150,031**	**$ 120,000**	**$ -**	**$ -**	**$ -**	**$ 1,270,031**
FY26 - Stormwater - Green Solutions	Public Works	Grant						$ -
FY25 - Stormwater Implementation and Match	Public Works	Grant/WC	$ 1,150,031	$ 120,000				$ 1,270,031
								$ -
Streetscape and Infrastructure Improvements	**Public Works**	**CIP**	**$ -**	**$ -**	**$ -**	**$ 5,000**	**$ 5,000**	**$ 10,000**
FY28 - Signage and Gateway Beautification	Public Works	CIP				$ 5,000	$ 5,000	$ 10,000
Information Technology Improvements	**Administration**	**CIP / WC**	**$ 8,500**	**$ 8,500**	**$ 3,000**	**$ -**	**$ -**	**$ 20,000**
FY25-FY27 - Staff Laptop Replacement	Administration	CIP	$ 3,000	$ 3,000	$ 3,000	$ -	$ -	$ 9,000
FY25-FY26 - Timed Parking Equipment	Administration	WC	$ 5,500	$ 5,500	$ -	$ -	$ -	$ 11,000
		Total	**$ 1,374,031**	**$ 225,500**	**$ 804,500**	**$ 818,500**	**$ 68,500**	**$ 3,291,031**

Fund Source Summary	FY25	FY26	FY27	FY28	FY29	5-Year Total
CIP Funds	$ 71,500	$ 72,250	$ 150,500	$ 53,500	$ 63,500	$ 411,250
Working Capital	$ 355,506	$ 75,500	$ 40,000	$ 760,000	$ -	$ 1,231,006
599 Funding (Capital)	$ 9,000	$ 9,000	$ 14,000	$ 5,000	$ 5,000	$ 42,000
DOJ BVP Grant	$ 3,000	$ 750	$ -	$ -	$ -	$ 3,750
Other Grants	$ 935,025	$ 68,000	$ 600,000	$ -	$ -	$ 1,603,025
Total	$ 1,374,031	$ 225,500	$ 804,500	$ 818,500	$ 68,500	$ 3,291,031

Proposed Budget by Activity	FY25	FY26	FY27	FY28	FY29	5-Year Total
Administration	$ 8,500	$ 8,500	$ 3,000	$ -	$ -	$ 20,000
Public Safety	$ 76,000	$ 39,000	$ 41,500	$ 23,500	$ 13,500	$ 180,000
Public Works	$ 1,289,531	$ 178,000	$ 760,000	$ 795,000	$ 55,000	$ 3,022,531
Total	$ 1,374,031	$ 225,500	$ 804,500	$ 818,500	$ 68,500	$ 3,291,031

TOWN OF OCCOQUAN
TOWN COUNCIL MEETING
Agenda Communication

5. Discussion Items	**Meeting Date:** April 16, 2024
5A: Report on Planning Commission Strategic Planning Recommendations to Town Council	

Attachments: a. Strategic Planning Recommendations to Town Council

Submitted by: Adam C. Linn
Town Manager

Explanation and Summary:
This is a discussion item on the Planning Commission's Strategic Planning Recommendations to Town Council. See attached report.

The Planning Commission Chair will present on the report and answer any questions from the Town Council.

The report consists of six sections and includes multiple action items in each area for which the Planning Commission is requesting Town Council feedback, approval, and/or action.

Staff Request: Review and provide guidance as to how Town staff can assist in this process.

Planning Commission Strategic Planning Recommendations to Town Council

March 26, 2024

Occoquan Planning Commission
Eliot Perkins, Chair
Ralph Newell, Vice Chair
Ryan Somma, Secretary
Darryl Hawkins, Commissioner
Ann Kisling, Commissioner
Robert Love, Commissioner
Don Wood, Commissioner

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Introduction

Starting in Winter 2023, the Planning Commission, using the *Vision 2026 Comprehensive Plan* as a guide, engaged in a strategic planning effort to formulate strategic themes and corresponding goals for the Planning Commission's work over the next several years. Using those themes and goals, the Commission then worked in groups to identify and evaluate specific actions for the Town to take in order to meet the Commission's goals and build off the work of the Comprehensive Plan. To realize its goals, the Planning Commission will need the support of the Town Council and asks for its feedback, approval, and action on a number of items outlined in this report.

The following report is divided into sections based off each thematic area and corresponding goals created by the Planning Commission with a tiered list of action items for Town Council's feedback, approval, and/or action on. Action items are divided into First and Second Priority. The First Priority consists of short, near and long-term items that align with at least one theme of the Comprehensive Plan and that the Planning Commission is requesting Town Council feedback, approval, and/or action on. The Second Priority consists of longer-term items that the Commission has set aside for action at a later date but of which it wants to make the Council aware. Those First Priority items for Town Council review are contained in the green tables at the end of each section. Each table outlines the potential costs, staff time, implementation timeline, and Comprehensive Plan alignment associated with each item.

The thematic areas consist of the following:

- Leveraging the Natural Resources of the Town (Trail Town)
- Increasing Walkability, Connectivity, and Accessibility (Parking and Transportation)
- Protecting the Ecological and Public Health of the Town (Green Improvements)
- Fostering A Distinct Identity for Town (Placemaking and Beautification/Public Arts)
- Fostering Economic Development and Diversification (Business Support and Recruitment)

In the course of the strategic planning process, the Planning Commission noted a number of concepts repeated across the different work groups. The resulting action items are therefore presented in the "Cross-Cutting Recommendations" section as items to be implemented as compliments to all the other thematic areas.

Trail Town Program – Leveraging the Natural Resources of the Town

Summary:

With multiple regional and national cycling trails connecting the Town to other regional attractions; a prime location on the Occoquan River as a water trail; and a soon-to-be destination at the end of the Occoquan Greenway trail, Occoquan is a focal point for outdoor recreational traffic. This echoes Occoquan's history as a waypoint for travelers passing through over the old bridge and stopping to frequent town businesses. Occoquan is and has been a Trail Town. This recommendation includes actions to incorporate that character into the Town's programs and initiatives, promote that identity to visitors, and encourage travelers to stop in Town on their way to other destinations.

Goals:

1. Cultivate and promote Occoquan's identity as a Trail Town with historical markers, wayfinding signage, and local attractions to bring outdoors enthusiasts into Town.
2. Establish reciprocal promotion between attractions and municipalities sharing trails with Occoquan via participation in regional summits, celebrations, and trail advocacy outside of the Town's jurisdiction.
3. Increase the value and accessibility of Tanyard Hill park as a local trail destination with a volunteer maintenance plan, trail connections to the Occoquan Greenway, crosswalks, and clearly marked parking.

First Priority Action Items:

1. **Assess Community Input a Trail Town Program:** Solicit feedback from Town residents via a survey to assess community wants and needs for a trail town and use results to determine the vision and feasibility of a larger Trail Town program.
2. **Define an Occoquan Trail Town Vision:** Town Officials, Staff, and Citizens should collaborate on a shared vision of what a Trail Town program ultimately means and the "who, what, and how" of getting there.
3. **Town Council Passes a Resolution Recognizing the Community Values its Trails:** This resolution will follow the same format as previous resolutions establishing Occoquan as a Tree City USA or Bird Sanctuary.
4. **Enhance Entrance to Tanyard Hill Park:** Occoquan has a wonderful resource in this park and needs to protect and promote it. The Town should put up signage as part of entrance enhancement efforts (only item in cost estimate), a crosswalk from the parking lot due to the heavy commuter traffic, and clearly mark parking across the street from the park. Educational signage along the trail can also enhance the hiking experience.
5. **Coordinate Tanyard Hill Park Maintenance with Volunteers:** Set up a volunteer program for maintaining the trail in the park and connecting trails.
6. **Improve Trail Signage:**
    - **Post a "Trail Town" Information Sign Near the Footbridge and/or 123 Bridge:** The model for this sign would be the signs at the trails gateway into Harper's Ferry, which provides a map of the region, illustrates the many trails connecting to the town, and the attractions to which they lead.
    - **Post Signs for the Potomac National Heritage Trail:** As a signatory, Occoquan needs to honor its commitment to the PNHT memorandum of understanding by

placing signage for the trail at appropriate locations within Town. Representatives at NVRC recommend having NPS install the signs.

7. **Present a Yearly Progress Update at the NVRC Trails Summit:** The NVRC has expressed a high level of interest in following Occoquan's efforts to establish a Trail Town Program. This yearly summit provides the Town an opportunity to present an update on our progress, participate in workshops for Trails advocacy, and network with other municipalities to enhance nearby trails outside of our jurisdiction.

Second Priority Action Items:

1. **Work with Local Businesses to Promote Trail Town Status and Support Trail Users:** Encourage local businesses to take advantage of the potential business opportunities that come with the trail users who pass through Occoquan.
2. **Ensure Trail Connections Between Tanyard Hill Park and Occoquan Greenway:** A limitation for Tanyard Hill Park is that it is somewhat inaccessible on foot to Occoquan residents, who must walk outside of Town along Old Bridge Road to reach the park. Connecting the park to the Occoquan Greenway will provide an accessible route to residents. The trails could be created by professionals and maintained by volunteers.
3. **Lobby State for a Trail Town Designation:** The Town of Damascus in Shenandoah also considers itself a Trail Town servicing hikers on the Appalachian Trail. Occoquan can coordinate with this municipality to have Virginia create a Trail Town Designation.

Items for Town Council Approval/Budget Consideration:

Recommendations	Cost Estimate	Staff Effort (Low, Medium, High)	Timeline (Short, Near, and Long-term)	Comp Plan Alignment
Assess Community Input on a Trail Town Program	-	Low	Short	Circulation and Mobility
Define an Occoquan Trail Town Vision	-	Low	Short	Circulation and Mobility
Town Council Passes a Resolution Recognizing the Community Values its Trails	-	Low	Short	Circulation and Mobility
Enhance Entrance to Tanyard Hill Park	$250	Medium	Short	Circulation and Mobility
Coordinate Tanyard Hill Park Maintenance Plan with Volunteer Entities	-	Medium	Near	Circulation and Mobility
Improve Trail Signage	$3,000	Medium	Near	Circulation and Mobility
Present a Yearly Progress Update at the NVRC Trails Summit	-	Low	Near	Circulation and Mobility, Regional Coordination

Parking and Transportation – Increasing Walkability, Accessibility, and Connectivity

Summary:

With a downtown attractive to pedestrian traffic, friendly neighboring attractions and private businesses, and the commercial incentives to enhance parking and transportation within and without Town, Occoquan has many creative opportunities to improve accessibility to its attractions.

Goals:

1. Increase pedestrian safety and navigability in Town with a Town map brochure, an online interactive map, targeted traffic calming measures, and standardized signage.
2. Increase multi-modal transportation alternatives with dedicated bike lanes, an OmniRide connection, prominent bike racks, electric bike services, and a water taxi.
3. Increase parking options in Town by incentivizing private-parking owners to allow paid parking in their unused spots and seeking additional parking outside of Town.
4. Increase connections to existing and future regional developments and attractions by pursuing synergistic events with Occoquan Regional Park and the Workhouse Arts Center.

First Priority Action Items:

1. **Evaluate an Occoquan-based OmniRide Bus Stop:** The Town should research establishing an Occoquan connection for the OmniRide bus service. Occoquan is an ideal stop for OmniRide, given the number of local visitors who encounter very limited parking, particularly during weekends. In addition, the Prince William Community Energy and Sustainability Master Plan calls for upgrading public transportation infrastructure. Currently, OmniRide's Lakeridge-Woodbridge and Woodbridge-Washington DC routes completely bypass Occoquan, a fairly high-density residential area, and a concentrated shopping locale. The closest bus stop is at the 123/Old Bridge commuter lot and pedestrian options to and from the stop are very unpleasant. Additionally, the Town should research either an OmniRide bus route or shuttle service connecting Occoquan to the Woodbridge Train Station to encourage visitors from outside the area.
2. **Standardize Parking Signage:** To better advertise existing Town parking lots, the universal "P" for parking sign should replace public parking signs to conform with visitor expectations.
3. **Apply for the League of American Bicyclists "Bicycle Friendly Community" Status (deadline June 5, 2024):** This will be a draft application and will likely be rejected this year, but the exercise of filling out the application and receiving feedback will inform the Town of what specific actions it can take to attract and promote cycling in Occoquan. The application from this year can then be revised and re-submitted each year to track progress.

Second Priority Action Items:

1. **Enhance Biking Infrastructure and Awareness:** To increase driver awareness of cyclists and encourage more cycling in town, the Town should pursue the following:

- **Apply Annually for the League of American Bicyclists "Bicycle Friendly Community" Status:** Process will inform the Town of what specific actions it can take to promote cycling in Occoquan and track progress on those actions.
- **Town Bike Rack Improvements/Signage:** The Town should better advertise the bike racks with signage or move them to more prominent locations. Also, the Town should invest in bike repair stations.

2. **Enhance Pedestrian Connections to Occoquan Regional Park, Workhouse Arts Center and Other Regional Attractions and Developments:** To better connect with neighboring attractions like the Workhouse Arts Center, Occoquan Regional Park, and future Fairfax Peaks facility, the Town should engage in the following activities:
   - **Advocate for a Trail Under the 123 Bridge in Fairfax County:** A trail from Old Ox Road that goes down along the hill beside the 123 Bridge, under the bridge, and into Occoquan Regional Park will connect Occoquan to that attraction.
   - **Pursue Diverse Mobility Connections to Local Attractions:** this includes promoting local electric bike rentals, shuttle services, and active involvement and advocacy for the Potomac Commuter Fast Ferry (potomaccommuterfastferry.com) and other water taxi services.
3. **Evaluate and Advocate for Parking Outside of Town:**
   - **Evaluate Parking Opportunities on Fairfax County Side of River:** The Town should talk with Vulcan, Occoquan Regional, and other property owners about using sites, such as the service road parallel to 123, for parking.
4. **Continue Targeted Traffic-Calming Measures:** The Town should pursue targeted traffic-calming measures at the intersection of Mill and Washington streets, and Center Street in the mornings to address cut-through traffic running stop signs and endangering pedestrians. Additionally, the Town should continue to seek traffic-calming measures, such as additional crosswalks and pedestrian safety signage on Washington Street.

Items for Town Council Approval/Budget Consideration:

Recommendations	Cost Estimate	Staff Effort (Low, Medium, High)	Timeline (Short, Near, and Long-term)	Comp Plan Alignment
Evaluate an Occoquan-based OmniRide Bus Stop	TBD	High	Near	Circulation and Mobility; Regional Coordination
Standardize Parking Signage	$300	Low	Short	Circulation and Mobility
Apply for the League of American Bicyclists "Bicycle Friendly Community" Status	$50	Low	Short	Circulation and Mobility

Green Improvements – Protecting the Ecological and Public Health of the Town

Summary:

Occoquan's vision is to create, and be widely recognized as, a sustainable and vibrant green town, where eco-friendly practices harmonize with the tranquil setting of our town. We aspire to cultivate a community that values environmental stewardship, embraces renewable energy, promotes green spaces, and encourages a sense of responsibility for the well-being of our planet. Through education, innovation and collaboration with local residents, business and visitors, we aim to reimagine Occoquan as a town that thrives in balance with nature, inspiring residents to lead environmentally conscious lives for a healthier and greener future.

Goals:

1. Create and expand green spaces as a means of improving stormwater runoff as well as to improve the environmental and social health of the Town and the Occoquan River.
2. Reduce water waste and solid waste as a means of lowering costs and reducing the environmental impact of the Town.
3. Encourage carbon-reducing activities as a means of promoting energy efficiency and reducing town carbon emissions.

First Priority Action Items:

1. **Continue to implement a sustainable water quality monitoring program for the Occoquan River:** Implementing a sustainable all-volunteer, summertime water sampling program that publicizes sampling results weekly will burnish the Town's green credentials by demonstrating to river users such as boaters and fishers that the Town is monitoring the health of the river. Although the State Department of Environmental Quality (VA DEQ), Fairfax Water, and the PrinceWilliam County Soil and Conservation District tests the river for various safety parameters, the resulting data is not easily found. Volunteers can partner with the Potomac River Keepers Network to test the water weekly during the summer with results published each Friday on the internet and through a "Swim App."
2. **Protect Occoquan River from non-point source pollution and sediment through implementation of the Flood Protection Study:** Review the results of the current study and budget and implement recommended green stormwater BMPs that will reduce pollution and flood risks in the town.
3. **Use public engagement and demonstration to encourage reduction or elimination of one-time use utensils and boxes at Town eateries:** Providing encouragement and education to abandon one-time use plastic will add luster to Occoquan's well-deserved reputation as home to a lively retail and restaurant scene. The Town can provide resources like Beyond Plastics' "Hold The Plastic, Please: A Restaurant's Guide to Reducing Plastic" and one-pager on the Town's "*Doing Business in Occoquan*" webpage, sponsor informational events on reducing one-time use plastics, pass resolutions in support of reduction, and task the Planning Commission to explore ideas and network with local towns and vendors that are moving forward with non-ordinance related encouragement.
4. **Work with County to place a glass recycling bin next to the present recycling bin:** Town residents and others nearby must travel several miles to recycle glass. Locating a

glass recycling trailer would be a significant convenience for Town residents and residents of surrounding communities, burnish the Town's green credentials, and likely drive an increase of visitors to Town. A bin in Occoquan, near the current Single Stream Bin (which excludes glass) under the Route 123 Bridge, would be closer for all residents in Occoquan than any other current sites.

5. **Consult with Prince William County staff to see how Occoquan can contribute to the success of the Prince William County Community Energy and Sustainability Master Plan:** Many of the action items above are related to actions items in the County Plan. The Town should designate a lead to assess the plan and provide feedback to Town Council on how the Town can coordinate with the County on its High Priority Actions that significantly impact Occoquan (e.g. encouraging energy efficient building, improving pedestrian and bicycle infrastructure, improving public transit, and multiple climate resiliency and stormwater actions).

Second Priority Action Items:

1. **Create educational programing on best environmental practices:**
    - **Create a Plaque or Award system to recognize good environmental actors in Town:** Historic districts are special areas in town that are highly visible and subject to various architectural restrictions. Rewarding those who implement various low energy solutions on or on their structures provides incentives and is a good look for the town.
    - **Plan and promote existing and future town facility improvements as demonstrations for various green practices (solar, rain collection system, lighting, low flush toilets, etc.):** Town Hall is a highly visible building in Town and would provide a good branding opportunity if cost effective green practices could be implemented and advertised.
2. **Establish food composting site (with PWC or a private contractor) to encourage residents and nonresidents to come into Town to recycle their food scraps:** Occoquan's high density of restaurants and residents is an ideal location for a food scrap recycling program, which would benefit the environment, increase visits into Town, and burnish the Town's green credentials. The Town should explore centralized drop-off locations and curbside pickup programs for collecting composting.
3. **Continually revisit options for solar/LED bulbs for street lighting:** Experience with "green" options for lighting has been mixed; however, as technologies change and improve, there may be future possibilities for renewable energy source street lighting in Town. This is in-line with the Prince William County goals for renewable energy usage.
4. **Evaluate existing conditions and create a plan for tree management and increasing native species:** Focus on key areas with a high presence of invasive tree and plant species (e.g. Furnace Branch Park, Commerce Street shoulder) and create a plan, utilizing outside grant funding for proper tree management and the restoration of native species.

Items for Town Council Approval/Budget Consideration:

Recommendations	Cost Estimate	Staff Effort (Low, Medium, High)	Timeline (Short, Near, and Long-term)	Comp Plan Alignment
Continue to implement a sustainable water quality monitoring program for the Occoquan River	$2,500	Low	Short	Environmental Stewardship
Protect Occoquan River from non-point source pollution and sediment through implementation of the Flood Protection Study	TBD	High	Long	Environmental Stewardship
Use public engagement and demonstration to encourage reduction or elimination of one-time use utensils and boxes at Town eateries	-	Medium	Near	Environmental Stewardship
Work with County to place a glass recycling bin next to the present recycling bin	TBD	Medium	Near	Environmental Stewardship
Consult with Prince William County staff to see how Occoquan can contribute to the success of the Prince William County Community Energy and Sustainability Master Plan	-	Low	Near	Environmental Stewardship

Placemaking, Beautification, and Public Art – Fostering A Distinct Identity for Town

Summary:

Placemaking and Beautification in Occoquan would focus on creating attractive, engaging public spaces that foster social interaction and community engagement. Projects can improve the quality of life for residents by creating spaces that are welcoming and enjoyable to use. Beautifully designed public spaces can increase civic pride, promote social connections, and provide a sense of place and belonging. Such programs can additionally boost economic development by creating attractive and engaging public spaces, Occoquan can attract more visitors and businesses, which can help stimulate economic growth.

A Public Arts Program is a key ingredient in Placemaking for Occoquan. Public art adds enormous value to the cultural, aesthetic, and economic vitality of the community. It is now a well-accepted principle of urban design that public art contributes to a community's identity, fosters community pride and a sense of belonging, and enhances the quality of life for its residents and visitors. Public art also highlights what is unique about the places where people live, work, and play.

Artists can bring innovation and creative insight that can strengthen Occoquan's competitiveness within a regional marketplace and that can build and sustain a vibrant economy and community. The Public Arts Program will strive to support local artists and other creatives within the area and encourage their role as a member of the community.

Goals:

1. Increase Placemaking/Beautification efforts through budgeted projects and volunteer programming.
2. Increase public art installations in the Town to one to two installations every two years.
3. Diversify the types of public art to include both temporary and permanent installations on public and private properties
4. Commission public art that responds to community goals and priorities by incorporating participatory measures into the planning and implementation processes.

First Priority Action Items:

1. **Conduct public art surveys as needed to ensure community input, including on themes and locations:** Solicit feedback from Town residents using a survey to determine public arts preferences, placement locations, and other relevant factors.
2. **Fund and create public art program:** Leveraging budgeted funds as seed money for outside grants, create a public arts program with a work plan based off staff, community, and political bodies input that outlines the goals of the program, community preferences on art installations, future placements (private and public locations) over a number of years and other relevant information.
3. **Create a prioritized list of projects including plantings, lighting, and pocket parks:** Create an inventory of all locations in town where there are beautification challenges and opportunities, including improvements to lighting at River Mill Park, flower baskets on gaslights and the footbridge, the creation of pocket parks, and beautification of public buildings as appropriate. Develop a theme e.g. "Making Occoquan Beautiful" to

encompass many Placemaking/Beautification activities. Possibly create competition with awards and recognition for businesses, property owners of businesses, private homes/townhouses, and individuals.

4. **Increase Placemaking and Beautification Funding for Pilot Projects:** In the short term, reappropriate to or increase FY25 funding for the Historic District to support the implementation of a pilot of the project list, including flower baskets on gaslights and the footbridge. In the long term, the Town should assess the results of the pilot and consider dedicated funding for beautification efforts, utilizing all applicable grant opportunities, Public/Private partnerships, and individual donor funding options. Town may also want to contact local jurisdictions who are experienced and successful in funding such projects.
5. **Expand volunteer corps to include beautification for private and public properties:** Build off existing and future volunteer opportunity communication tools to develop most effective interaction methods. Create opportunities for beautification on both public and private properties by hosting volunteers for regular assignments, special volunteer events (like FOTO cleanups), and/or adopt a business programs.

Items for Town Council Approval/Budget Consideration:

Recommendations	Cost Estimate	Staff Effort (Low, Medium, High)	Timeline (Short, Near, and Long-term)	Comp Plan Alignment
Conduct public art surveys as needed to ensure community input, including on themes and locations	-	Low	Short	Community Character/Life
Fund and create public art program	$2,500	Medium	Short	Community Character/Life
Create a prioritized list of projects including plantings, lighting, and pocket park(s)	-	Medium	Near	Community Character/Life
Increase Placemaking and Beautification Funding for Pilot Projects	$1,200	Low	Short	Community Character/Life
Expand volunteer corps to include beautification for private and public properties	-	Medium	Near	Community Character/Life

Business Support and Recruitment - Fostering Economic Development and Diversification

Summary:

Economic development makes our community a better place to live and work by creating a more dynamic, robust, unique local business community that meets the wants and needs of residents and visitors alike. This can be accomplished by breaking down silos between the Town and local businesses in order to better understand and be able to meet the needs of local businesses; by leveraging historic assets as a means of boosting the Town's economic resources; and by recruiting businesses that further the strategic goals of the Town and meet the wants and needs of residents and visitors.

Goals:

1. Encourage and recruit businesses that meet the needs and wants of residents and visitors
2. Increase business and tax revenues by attracting more visitors
3. Increase the resilience of the local economy by encouraging the diversification of business types
4. Improve the sustainability of existing businesses by improving business support

First Priority Action Items:

1. **Encourage the preservation and commercial use of the Town's historic buildings and structures:** The town's numerous historic structures both offer opportunities for unique commercial uses and create the historic small-town charm of Occoquan that underlies its tourism-based economy. The Town should engage with property owners to identify opportunities to maintain, improve, and increase commercial uses for these historic properties.
2. **Evaluate the creation of a property owner to tenant matching system:** The Town should work to connect commercial property owners with prospective business owners interested in expanding their reach into Occoquan in order to maximize mutual benefit to the Town and both parties. The Town should explore options to create a notification system with current property owners and engage with the local business community to curate a list of prospective businesses.
3. **Initiate a listening campaign with the community to assess the Town's business needs:** Lead discussions with Visit Occoquan, business owners, and property to owners focused on the challenges to starting a business in Occoquan and the pros and cons of running one. Craft a business support plan based off those discussions.

Second Priority Action Items:

1. **Create business recruitment and support programming:** Based off the results of the listening campaign, the Town should work with relevant stakeholders, such as Visit Occoquan, to create business support programming to help address the stated needs of the business community and attract outside businesses and organizations to the Town. Programming would consist of two types of events: trainings on specific areas of need for local businesses and informational talks that market the Town (for example, topics could include: The Merits of Doing Business in Occoquan, The Founding of Occoquan in

the 18th Century, The Role of Local Native Tribes, The Civil War & Occoquan, Hurricane Agnes, etc). Both would be available to the wider community and raise awareness of Occoquan. Town should partner with the Prince William Chamber of Commerce, hospitals, universities, and experts on specific areas of need to host events like guest speakers, panel discussions, luncheons, etc. at little to no cost to the Town.

Items for Town Council Approval/Budget Consideration:

Recommendations	Cost Estimate	Staff Effort (Low, Medium, High)	Timeline (Short, Near, and Long-term)	Comp Plan Alignment
Encourage the preservation and commercial use of the Town's historic buildings and structures	-	Low	Short	Economic Vitality/ Diversity
Evaluate the creation of a property owner to tenant matching system	-	High	Long	Economic Vitality/ Diversity
Initiate a listening campaign with the community to assess the Town's business needs	-	Medium	Near	Economic Vitality/ Diversity

Cross-Cutting Recommendations

Summary:

In the course of the strategic planning process a number of concepts repeated across the different work groups. Below are those action items relating to regional coordination and marketing.

First Priority Action Items:

1. **Expand marketing efforts to include promoting the Town in the strategic planning areas:** Assign a lead to create and publish media via multiple mediums promoting the Towns revitalization efforts (highlighting ease of doing business, tourism, and events), green practices (building improvements, EV charging, tree city, etc.), trails and trail town status, public art and beautification. Possibly include the creation of an interactive map and /or "adventure map" of town trails and attractions. Assess the creation and inclusion of volunteer brand ambassadors into existing volunteer and marketing efforts.
2. **Re-engage with existing NOVA Arts and Cultural District stakeholders and other regional partners:** Meet with NOVA Arts and Cultural District counterparts in order to create a clear understanding of individual and group goals. Make sure that existing founding documents provide a clear and accurate reflection of those shared goals. Create a Plan of Action and hold regularly scheduled meetings that allow for short term progress and medium/long term successful collaboration. Focus particular attention on coordinating public arts programming, events, parking, and regional trail connections.

Items for Town Council Approval/Budget Consideration:

Recommendations	Cost Estimate	Staff Effort (Low, Medium, High)	Timeline (Short, Near, and Long-term)	Comp Plan Alignment
Expand marketing efforts to include promoting the Town in the strategic planning areas	TBD	High	Near	-
Re-engage with existing NOVA Arts and Cultural District stakeholders and other regional partners	-	High	Long	Regional Coordination

TOWN OF OCCOQUAN
TOWN COUNCIL MEETING
Agenda Communication

5. Discussion Items	**Meeting Date:** April 16, 2024
5B: Report on Riverwalk Expansion from Riverwalk Expansion Special Committee	

Attachments: a. Riverwalk Expansion Report – To Be Provided

Submitted by: Adam C. Linn
Town Manager

Explanation and Summary:
This is a discussion item on the Riverwalk Expansion Special Committee Report to Town Council. Report to be provided.

The report outlines the Committee's plan for implementing the Riverwalk Vision Plan and expanding the existing Riverwalk, including the sections and features of the expanded Riverwalk, the potential costs, and the steps necessary to submit a competitive grant application.

Background
On November 8, 2023, Town Council authorized the Mayor to appoint and chair a Riverwalk Expansion Special Committee to plan the expansion of the Town's Riverwalk. The Committee was also charged with completing a report on the matter by May 21, 2024.

Mayor Porta appointed Vice Mayor Loges, Councilmember Fithian, Councilmember Freeborne Brinton, Councilmember Daubresse, Councilmember Perkins, Town Manager Adam Linn, Town Resident and Planning Commissioner Bob Love, and Town resident Nick Roper, to the Committee. It met six (6) times to discuss and draft its report from Winter 2023 to Spring 2024.

Staff Request: Review and provide guidance as to how Town staff can assist in this process.