

A G E N D A
JAMES CITY COUNTY BOARD OF SUPERVISORS
WORK SESSION
County Government Center Board Room
101 Mounts Bay Road, Williamsburg, VA 23185
June 23, 2015
4:00 PM

A. CALL TO ORDER

B. ROLL CALL

C. BOARD DISCUSSIONS

1. Davenport Presentation
2. Chesapeake Bay TMDL Action Plan Preliminary Findings
3. Jamestown Marina Discussion

D. CLOSED SESSION

E. ADJOURNMENT

1. Adjourn until Regular Meeting

ITEM SUMMARY

DATE: 6/23/2015
TO: The Board of Supervisors
FROM: Teresa J. Fellows, Secretary to the Board
SUBJECT: Davenport Presentation

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Fellows, Teresa	Approved	6/16/2015 - 4:49 PM

ITEM SUMMARY

DATE: 6/4/2015

TO: Board of Supervisors

FROM: Frances C. Geissler

SUBJECT: Chesapeake Bay TMDL Action Plan Preliminary Findings

James City County's Municipal Separate Storm Sewer System (MS4) Permit, Number VAR040037, requires the County to prepare a Chesapeake Bay TMDL Action Plan no later than June 30, 2015 and submit the plan to the Virginia Department of Environmental Quality no later than September 30, 2015.

The Action Plan must provide a review of the County's current MS4 program and demonstrate the County's ability to meet the required pollution reductions by June 30, 2018. As such, the Plan should identify the portion of the County regulated under the permit and describe the means and methods the County will use to accomplish the reductions. The Permit also requires the County to solicit public input on the proposed plan prior to submission.

Mr. Bruce W. Schwenneker, PhD., an Associate with Whitman, Requardt & Associates, LLP., will present an overview of the Action Plan development process and the findings to date. His presentation is provided for your review.

ATTACHMENTS:

	Description	Type
☐	Memorandum	Cover Memo
☐	Presentation	Presentation

REVIEWERS:

Department	Reviewer	Action	Date
Stormwater	Geissler, Fran	Approved	6/4/2015 - 8:50 AM
General Services	Boone, Grace	Approved	6/16/2015 - 2:57 PM
Publication Management	Colonna, Tina	Approved	6/16/2015 - 3:14 PM
Board Secretary	Fellows, Teresa	Approved	6/16/2015 - 3:15 PM
Board Secretary	Kinsman, Adam	Approved	6/16/2015 - 3:16 PM
Board Secretary	Fellows, Teresa	Approved	6/16/2015 - 3:16 PM

MEMORANDUM

DATE: June 23, 2015
TO: The Board of Supervisors
FROM: Frances C. Geissler, Director of Stormwater
SUBJECT: Chesapeake Bay Total Maximum Daily Load Action Plan Preliminary Results

James City County's Municipal Separate Storm Sewer System (MS4) Permit, No. VAR040037, requires the County to prepare a Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan no later than June 30, 2015 and submit the plan to the Virginia Department of Environmental Quality no later than September 30, 2015.

The Action Plan must provide a review of the County's current MS4 program and demonstrate the County's ability to meet the required pollution reductions by June 30, 2018. As such, the Plan should identify the portion of the County regulated under the permit and describe the means and methods the County will use to accomplish the reductions. The Permit also requires the County to solicit public input on the proposed plan prior to submission.

Mr. Bruce W. Schwenneker, PhD, an Associate with Whitman, Requardt & Associates, LLP, will present an overview of the Action Plan development process and the findings to date. His presentation is provided for your review.

FCG/nb
CB-TMDLActionPlan-mem

Attachment

James City County Board of Supervisors Presentation Chesapeake Bay TMDL Action Plan

June 23, 2015



Abbreviations

- BMP – Best Management Practice: also known as stormwater management facility
- EPA – U.S. Environmental Protection Agency
- Lbs – Pounds or when used as a loading or removal rate- pounds/year
- MS4 – Municipal Separate Storm Sewer System
- N – Nitrogen: fertilizer and pollutant of concern
- P – Phosphorus: fertilizer and pollutant of concern
- TMDL - Total Maximum Daily Load: a pollution diet for a stream or waterway
- TSS – Total Suspended Solids: sediment and pollutant of concern
- VDEQ - VA Department of Environmental Quality
- WIP – Watershed Implementation Plan: plan developed by the Commonwealth of Virginia to meet the Chesapeake Bay TMDL (pollution diet)
- WLA - The portion of a receiving waters' pollutant loading that is allocated to existing or future point sources, such as an MS4.

Background

- The Chesapeake Bay Program has been evolving for over 30 years since the early 1980s
- With each version of the Chesapeake Bay watershed model, requirements for local governments become more defined and targeted
- The increasing requirements can be seen in the differences among the County's 2003, 2008 and 2013 MS4 Permits
- The current (2013) permit has specific requirements to restore the Chesapeake Bay



Chesapeake Bay Program



Chesapeake Bay Agreement 12/15/1987



Chesapeake Bay Preservation Act – 1988



County Local Ordinance - August 1990



Chesapeake Bay 2000 Agreement



After 25 Years – EPA Determined More Work Needed



Chesapeake Bay TMDL – December 2010



Overall Pollution Diet Established



Additional Removal Required

25% N | 24% P | 20% SS

Virginia Chesapeake Bay Actions



- Watershed Implementation Plan (WIP) I – 2010
- WIP II completed in 2012
- Commonwealth committed to reductions
- MS4s assigned waste load allocation

Committed Reductions

<u>Pollutant</u>	<u>Impervious Land</u>	<u>Pervious Land</u>
Nitrogen	9%	6%
Phosphorus	16%	7.25%
Suspended Sediment	20%	8.75%

Virginia Chesapeake Bay Actions

WIPs I and II Require Pollutant Reductions for MS4s



- Assumed reductions based on Urbanized Area defined by the Bureau of Census
- Phased approach to reductions
 - 5% First Permit Cycle (2013 -2018)
 - 35% Second Cycle (2019 -2023)
 - 60% Third Cycle (2024 -2028)

Expected Pollutant Reductions From JCC Urbanized Area Based on WIP II Plan

Pollutant	Expected Removal (lbs/year)			
	Current 1 st Permit Cycle 2018	Projected 2nd Permit Cycle 2023	Projected 3rd Permit Cycle 2028	Projected Total
Total Nitrogen (TN)	519	3,633	6,228	10,380
Total Phosphorus (TP)	81	567	972	1,620
Total Suspended Solids (TSS)	39,309	275,163	471,708	786,180

Virginia General Permit VAR04 (9VAC25-890-40)

General Permit for Discharges of Stormwater from Small Municipal Storm Sewer Systems (MS4s) – effective date – July 1, 2013

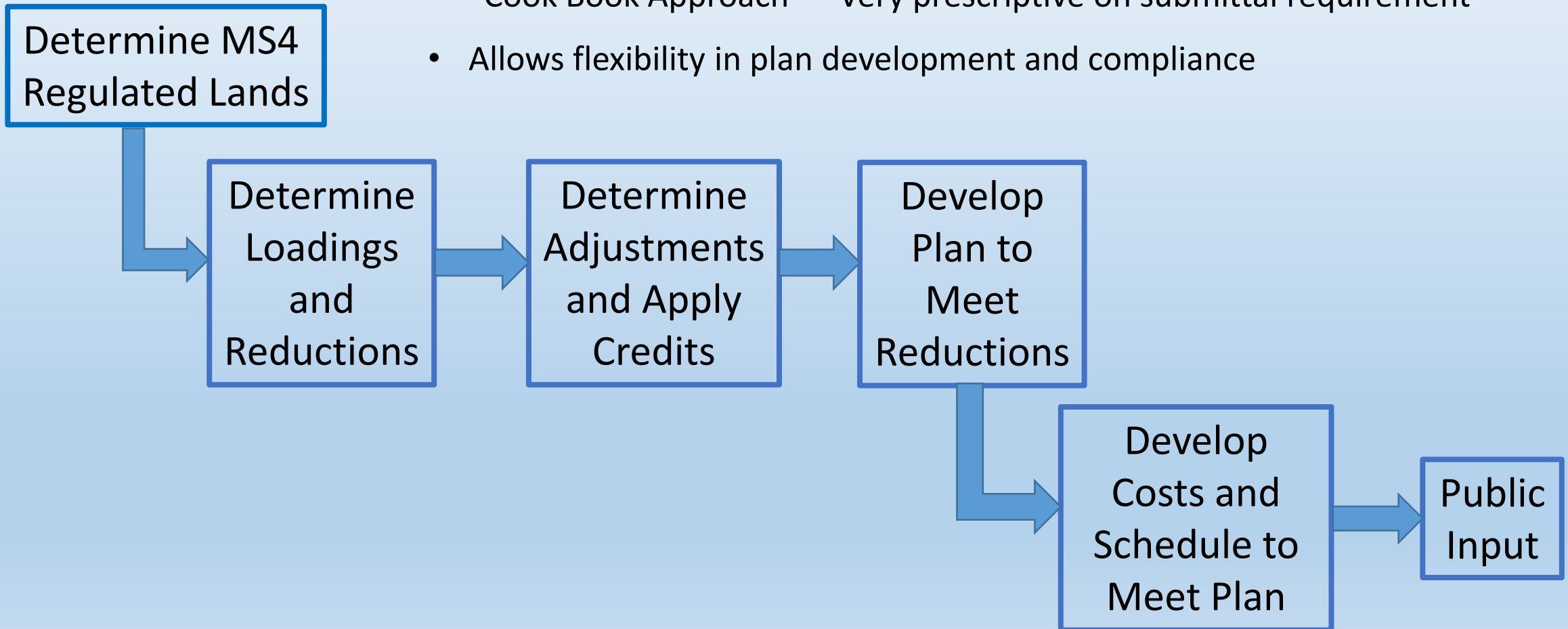
- Develop a Chesapeake Bay TMDL Action Plan by June 30, 2015 in accordance with VDEQ guidelines
- Reduce pollutants coming from the County as specified in WIP I and WIP II (5% of the Total reduction needed)
- Implement action plan for current permit cycle by June 30, 2018



VDEQ Guidance

Guidance Memo No. 14-2012 – August 2014

- “Cook Book Approach” – Very prescriptive on submittal requirement
- Allows flexibility in plan development and compliance



Developing the Action Plan

MS4 Regulated Area

- “ A conveyance or system of conveyances designed or used for conveying stormwater.
- Owned or operated by city, town, county... with erosion and sediment control and stormwater authority”



MS4 Regulated Area

Regulated Area –

Inside the Urbanized Area

- County owned BMPs
- County owned properties w/ outfalls
- County stormwater easements and Drainage areas to those easements

Eliminated from Loading Calculations

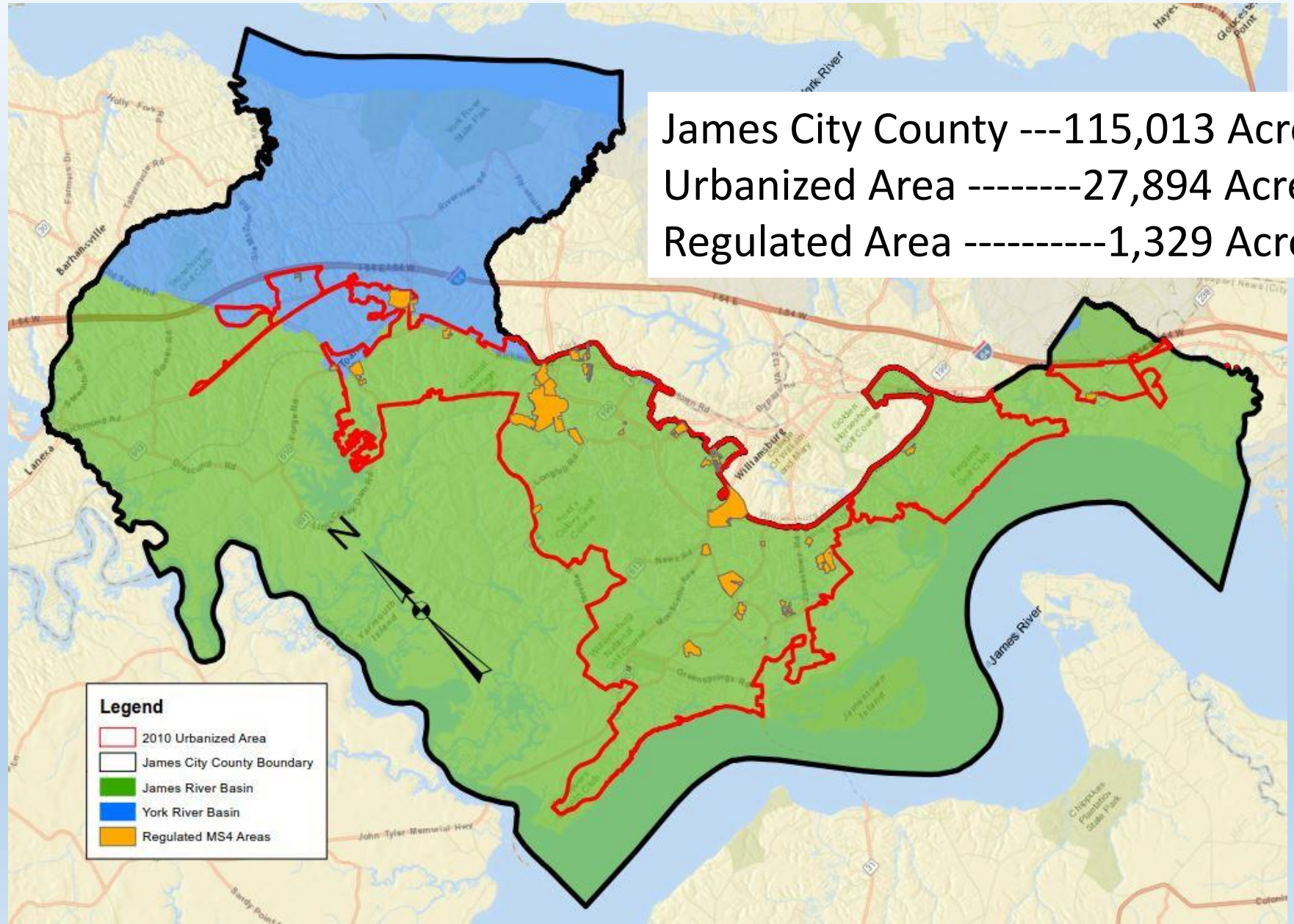
- Forested lands
- Wetlands and open water
- Individual permitted facilities



JCCs Urbanized and Proposed Regulated Areas

Regulated area is much smaller than WIP I and II estimate- Only 5% of Urbanized Area

Proposed Regulated Area must be approved by VDEQ



Proposed Regulated Area Summary



Land Use Category	Acreage
Wetland	31
Open Water	27
Forested	175
Industrial Permitted Lands	0
Pervious	785
Impervious	311
Total Area	1329

Includes VDOT roadways and right of way -18.7 acres are in York River Basin

Required Pollutant Removal Based on Proposed Regulated Area

Pollutant	Required Removal (lbs/year)			
	Current 1 st Permit Cycle 2018	Projected 2nd Permit Cycle 2023	Projected 3rd Permit Cycle 2028	Projected Total
Total Nitrogen (TN)	28	196	336	560
Total Phosphorus (TP)	4.7	32.9	56.4	94
Total Suspended Solids (TSS)	2,418	16,926	29,016	48,360

Comparing Pollutant Reductions

Pollutant	2028 Proposed REGULATED Area Projected Total Required Reduction (lbs)	2028 URBANIZED Area WIP I and II Assumed Total Required Reduction (lbs)
Nitrogen	560	10,380
Phosphorus	94	1620
Total Suspended Soils	48,360	786,180

Comparing Urbanized and Proposed Regulated Areas

- Pollutant reductions are based on land area – The more land, the more reductions needed.
- Regulated Land area determines the required pollutant reductions needed from an MS4
- JCCs proposed Regulated Areas are < 5% of the area from WIP I and II and therefore pollutant reductions will be a fraction of what was anticipated.
- Proposed Regulated Area is subject to VDEQ review and approval – expected December 2015.

Developing the Action Plan

Adjustments to Required Removals

Credits-

- New sources constructed 7/1/09 to 6/20/2014 beyond required capacity – None available
- BMPs constructed after 7/1/2009 –credit for stricter development standards - One time opportunity available due to County-wide resource management area.
- Sources constructed 2006 to 2009 not previously reported- One time opportunity available to County for agreeing to report historic BMPs – Results in 153 lbs of P removal credit

Debits-

- Additional removal required for grandfathered projects – None required due to comprehensive County policy



Developing the Action Plan

Load Reduction Strategies

- BMP review – Existing BMP's and opportunities for retrofits and conversions;
- Focus on County owned parcels;
- Other TMDL watersheds;
- Land use conversions and nutrient management planning
- Future approved BMPs (stream channel stabilization)



Potential Projects

Structural BMP's

- Stream restoration projects
- Fire station reconstruction
- School retrofits
- Rain gardens

Land Use Conversion

- Agricultural land conversions to forest

Nutrient Management

- Turf Love program



6/23/2015



Projects



Projects will remove at least 332 lbs/year of P
Projects meet either a County maintenance
need or quality-of-life issue in a neighborhood

6/23/2015

Projects
Brookhaven Stream Restoration
Clara Byrd Baker Elementary School Upgrades
Essex Court Stream Restoration
Ironbound Square Regional BMP
James River Elementary School Upgrades
James Terrace Water Quality Upgrades
Jamestown Road Stream Restoration
Jolly Pond Convenience Center BMP Upgrade
Oakland Estates Stream Restoration
Scotts Pond Stream Restoration
Southpoint Outfall Repair
Whistle Walk Stream Restoration
Winston Terrace Stream Restoration
Williamsburg Regional Library Upgrades
Yarmouth Tributary Stream Restoration

Developing the Action Plan

Results – Identified Pollutant Reductions

Pollutant	2006 - 2009	Stricter Development (< 1 acre disturbed)	Rain Gardens	Turf Love*	Current Projects*	Total Identified
N	632	104	19	TBD	735	1,490
P	153	13	3	TBD	332	501
SS	62,514	4,086	1,002	TBD	2,276	69,876

** Analysis not completed*

Required Reductions from Urbanized Area

Pollutant	Total Urbanized Area (acres)	2028 Urbanized Area Total Reduction Required (lbs)	Total of Identified Projects	% of Requirement Fulfilled
Nitrogen	27,894	10,380	1,490	14
Phosphorus	27,894	1,620	501	31
Total Suspended Solids	27,894	786,180	69,876	9

Required Reductions from Proposed Regulated Area

Pollutant	Total MS4 Regulated Area (acres)	2028 Proposed Regulated Area Total Reduction Required (lbs)	Total of Identified Projects	% of Requirement Fulfilled
Nitrogen	1,329	560	1,490	266
Phosphorus	1,329	94	501	533
Total Suspended Solids	1,329	48,360	69,876	144

Proposed Plan Summary

Good News –

- The 2006 – 2009 BMPs generated a very large amount of pollutant reductions for which the County had no previous credit.
- Plan utilizes capital projects selected in response to a County need or a quality-of-life need in a neighborhood.
- Based on Urbanized Area from the WIPs I and II, the plan accomplishes enough reductions to give a “head start” to the the next permit cycle.
- Based on proposed Regulated Area, the plan provides the County with a number of opportunities including setting aside as reserve, or banking, pollution credits
 - future needs as the County grows
 - negotiate with other MS4s, such as VDOT
 - insure the County against adverse regulatory decisions – State or Federal

Proposed Plan Summary

Anticipated Regulatory Decisions/Actions

- VDEQ will review and allow, deny, or modify each aspect of the plan
 - 2006 –2009 BMPs
 - Comprehensive development standards
 - MS4-regulated area
 - Specific BMP types
- New data may generate additional requirements
 - Updated Chesapeake Bay watershed model
 - Completed James River Chlorophyll-a study
- VDOT agreement and coordination may generate additional requirements
- Expansion of Urbanized Area
- Redefinition of Regulated Area

Conclusion – Preliminary Results

- The County's current suite of programs, BMPs and stormwater capital projects are likely to meet the 2018 permit requirements for 5% reductions regardless of VDEQ assumptions
- The proposed plan is the result of the County's comprehensive development and capital improvement programs. JCC continues to be a leader in stormwater management.
- The ability to reserve, or bank, pollution reductions will provide insurance against the large pollution reductions the VDEQ and EPA are expecting from the County and against future requirements.

Next Steps and Schedule

- Public Input:
Soliciting comments from the public on the proposed plan through July 17, advertised on website and social media
- Refining and Finalizing Plan for VDEQ:
Analysis will continue through July and into early August, allowing time to address and incorporate public comment
- Final Plan:
September 8, 2015 Board consideration
- Submission to VDEQ:
September 30, 2015 with FY15 Annual MS4 Report

Questions and Answers

ITEM SUMMARY

DATE: 6/23/2015
TO: The Board of Supervisors
FROM: John Carnifax, Director, Parks and Recreation
SUBJECT: Jamestown Marina Discussion

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Fellows, Teresa	Approved	6/16/2015 - 8:58 AM

ITEM SUMMARY

DATE: 6/23/2015
TO: The Board of Supervisors
FROM: Teresa J. Fellows, Secretary to the Board
SUBJECT: Adjournment

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Fellows, Teresa	Approved	6/16/2015 - 8:59 AM