



**City of Harrisonburg Stormwater Advisory Committee**

***Agenda: Meeting No. 04***

**May 7, 2014 5:00 – 7:00 p.m.**

<b>5:00 – 7:00</b>	<b>1. Members to meet at Harrisonburg Public Works, 320 East Mosby Road to board city bus for a field trip to visit different stormwater management practices.</b>
	<b>Next Meeting June 4, 2014 at 5pm.</b>

Included in this agenda packet are:

- April Meeting Minutes
- Updated “City of Harrisonburg Stormwater Program Costs”
- Comparison of Stormwater Utility vs. Property Tax/ General Fund



## City of Harrisonburg Stormwater Advisory Committee

***Minutes: Meeting No. 03***

**April 2, 2013 5:00 – 7:00 p.m.**

**Members in attendance:** Dale Chestnut, Kathy Holm, Jeff Kelble, William Latham, Daniel Michael, Ted Byrd, and J.M. Snell and Eldon Kurtz.

**Staff/Other in attendance:** Thanh Dang, Carolyn Howard, Harsit Patel, Tom Hartman, Dan Rublee and Jennifer Nunez.

### **Welcome and Introductions**

The SWAC meeting was promptly called to order by Vice Chair Kathy Holm.

### **Review and Adopt Minutes**

It was stated that the February SWAC minutes required one amendment before adoption. The drainage issue at the Truck Stop was brought up by Daniel Michael.

Bill Latham offered a motion to adopt the minutes. Daniel Michael seconded and the motion passed.

### **Public Comment**

Dan Rublee brought to the Committee's attention that in the upcoming weeks Community Development would be providing City Council with a Stormwater Management Ordinance for Development Projects. This is mandated by the new Construction General Permit and has overlapping elements into the city's MS4 Permit.

### **Preliminary Current Stormwater Program**

The SWAC previously requested that the Public Works staff share the Current Operating Budget for stormwater management, and forecast what is needed in the future to meet stormwater requirements. Staff provided handouts that showed different Level of Services (LOS) on a scale of 1 to 5 for three stormwater program components: (1) operations & maintenance, (2) capital improvement projects, and (3) VSMP and MS4 compliance, and a spreadsheet called "City of Harrisonburg Stormwater Management Costs" (See Attachment A).

The Public Works staff discussed current LOS for each program component (See Attachment A). The city will need to ramp that up to be compliant with MS4 program and VSMP work. To date, there have been no pollutant reducing projects put on the ground in the current fiscal year.

Personnel time for the investigation of illicit discharge and detection is also included.

Construction site stormwater runoff control and post-construction stormwater management includes administrative time for plan review and construction inspections. So far this year the

staff has not started a program for post-BMP inspection. Annual inspections will be done on City owned stormwater management facilities. Staff will also develop a program for privately owned BMP inspection once every 5 years. Staff feels that the LOS for capital improvement projects is a 1, because we are only in the planning stage and have not put projects on the ground. For VSMP and MS4 compliance we fall around 2.75 for the reason that we are still in the development stage of our program. Staff suggests a future level of service of 3 for all program components to meet minimal permit compliance.

Through future fiscal years, costs will increase as we build our programs. Ted brought up discussion which led to a statement from Tom confirming that staff projected \$1.14 million in “new money” is needed for FY2014/2015 compared to FY2013/2014. These figures do not reflect administrative costs and program development for an enterprise fund, if the SWAC chooses to go that route.

Dan asked about revenue from VSMP stormwater fees collected for site plan review for new development and redevelopment, roughly \$20,000, to which Thanh replied that was not reflected at this time. Tom added that a portion of that fee would go to DEQ.

Following a question about the SB 423 extension bill, Carolyn clarified that this pertained only to new MS4 localities (such as Staunton, Waynesboro, and Augusta) and gave them a 6 month extension to adopt a VSMP program.

Ted hypothesized lower levels of service for purpose of discussion. Staff recommended it would not be prudent to be non-compliant speculating that there were potential criminal penalties involved, not just monetary. Jeff added that DEQ, in his experience, may put a locality in a consent special order if the groundwork is being laid for non-compliance.

Ted raised a concern about public perception, to which Tom mentioned a line item under Capital Improvement Projects for credits or (possible) grant programs for implementation of BMP's. Kathy then mentioned the importance of small projects and how they affect public perception.

Thanh called for the SWAC to remember the environmental stewardship responsibility, and potential negative impacts to tourism and economic development if there was no water quality protection. Eldon added that when considering development on EMU's campus, they consider cost effectiveness as well as the intangibles like the stewardship component. What message are we sending to our students and how are we serving the community as it relates to stormwater management. Can we do something that also creates a nice feature such as a park?

Dan mentioned the level of service 3 was based on the entire 5 years, and did not need to be met until the end of the first 5 year permit cycle. Tom added the level of service for capital

improvement projects was to prioritize and set a moderate budget to achieve those goals. Ted stated that the numbers projected a need for \$5 million within the first 5 years, with an additional \$35 million estimated to meet the TMDL requirements by the end of the 15 year period. Dan asked do we then implement a higher fee now to compensate or a phased system over 10 years or so. JM then asked if a 100% reduction meant that every drop of water leaving the municipality will be “pure”. Tom responded by stating that the 100% reduction represented our “required nutrient diet”. Subsequently, there was a general consensus that we should meet minimal compliance.

Concerns were raised about low income households seeing a sizable increase in utility fees. The communities that chose to levy fees on real-estate have used a percentage based approach or special assessment tax. With a real-estate tax, a locality could not implement a credit system (reduced fee for adding BMPs to a property). Thanh recommended a stormwater utility fee based on impervious surface area. Dan mentioned that with smaller projects within a credit system, maintenance agreements would need to be upheld which made large scale capital improvement projects more attractive. It may be more efficient for the City to maintain capital projects rather than credit multiple privately owned projects. A private-public cost sharing rebate was another option discussed when future projects are identified.

### **Chesapeake Bay TMDL Pollution Reductions**

Carolyn gave a presentation that defined the term TMDL (Total Maximum Daily Load) and specifically background on the Chesapeake Bay TMDL (See Attachment B). The WIP (Watershed Implementation Plan) in Virginia takes our portion of the overall pollution diet and spreads out over the tributaries in the state. The MS4 permit incorporates the requirements of the pollution diet for the City of Harrisonburg. The WIP includes urban stormwater, Ag, Forest, and wastewater. The Virginia WIP has a diet of 9% Nitrogen reduction, 16% phosphorus and 20% sediment. After calculating the pervious and impervious areas within the City, as required by the MS4 permit, an Action Plan is due by June 30, 2015. Based on the calculations, research will need to be done to identify possible BMP project areas. Then a plan and schedule for implementation based will be created.

### **General Questions / Discussion**

There was general discussion about the possible credits the City may receive for BMP’s already in place such as street sweeping and leaf collection. At this time guidance for those credits has not been finalized. It was discussed that the City could look at what we are already doing, and see how it fits within the mandate. General fund revenues are already providing some of the funding required to meet the MS4 regulation goals. Our current level of service was generated internally to gauge where we currently stand.

## Next Steps / Assignments

**Reminder – Field Trip in May** - Meet at Harrisonburg Public Works at 5pm. Transportation will be provided and will return at 7pm.

Hosting a rain barrel workshop April 15 and 17

April 12<sup>th</sup> is Blacks Run Cleanup Day

DRAFT

Level of Service	Operations & Maintenance	Capital Improvement Projects	VSMP and MS4 Compliance
5	Fully Preventative / 100% Routine	Prioritized / Fully Funded	Exemplary Permit Compliance
4	Fully Preventative / 100% Routine	Prioritized / Fully Funded	Pro-Active Permit Compliance
3	Mixture of Inspection and Routine Based	Prioritized, Complaint, Inspection-Based / Moderate Budget	Minimal Permit Compliance
2	Response Only	Critical Needs Only / Minimal Budget	Below Minimum Permit Compliance
1	Non-Responsive	No Planning / No Budget	Non-Compliant

### Extent of Service (EOS)

- Where are the boundaries of your service?
- Document policies
  - Capital Improvement Projects
  - Maintenance
  - Intergovernmental agreements

City of Harrisonburg Stormwater Program Costs

Program Components	Current Dept. Responsible	Current Costs / FY 13/14	Current LOS	Staff Recommended Future LOS	Estimated Costs					Notes / Information Requested
					FY 2014 /2015	FY 2015 /2016	FY 2016 /2017	FY 2017 /2018	FY 2018 /2019	
Misc. Administrative	Sub-total	\$50,000	N/A	N/A	\$177,000	\$122,000	\$123,000	\$125,000	\$127,000	Includes training and travel expenses, asset management software and support, grant application & administration support, membership to Virginia Municipal Stormwater Management Association (VAMSA). Future enterprise fund administration expenses (if recommended and approved) are not included in these costs, but could be added. Note: approx \$50K higher cost in FY14/15 due to implementation and set up of new asset management software.
Operations and Maintenance	Sub-total	\$380,000	2.50	3.00	\$691,000	\$718,000	\$779,000	\$846,000	\$920,000	Includes storm sewer maintenance, street sweeper maintenance, stream/ channel maintenance, and BMP maintenance equipment and personnel. Household hazardous wastes collection, yard debris & fall leaf collection, and new/ replacement equipment purchases. Includes increase for cost of living and fuel adjustments, and increase number of BMPs overtime.
Capital Improvement Projects	Sub-total	\$114,000	1.00	3.00	\$710,000	\$1,059,000	\$1,409,000	\$1,988,000	\$2,567,000	These capital improvement projects go above and beyond what is required for minimum compliance with Virginia Stormwater Management program. These capital improvement projects are to meet Chesapeake Bay TMDL requirements of MS4 permit, which for 2013-2018 is 5% pollutant reduction, next 5 years is 35% and then 60%. See also Chesapeake Bay TMDL Action Plan. They included projects on city owned properties, and partnerships with private property owners to cost-share on projects. Would best tie in with stormwater utility program. Last 3 years of first permit cycle builds up to prepare for second permit cycle projects.
VSMP and MS4 Compliance	Sub-total	\$499,000	2.75	3.00	\$603,000	\$325,000	\$317,000	\$325,000	\$335,000	Includes annual DEQ MS4 permit fee, public education & outreach, public involvement & participation, illicit discharge detection & elimination, construction site stormwater runoff control (E&S), post-construction stormwater management, pollution prevention/ good housekeeping for municipal operations, task orders (FY14-15) with Draper Aden to support compliance work including mapping, SWAC facilitation, stormwater utility feasibility study, and TMDL Action Plans.
<b>Overall Total Costs:</b>		<b>\$1,043,000</b>	<b>2.08</b>	<b>3.00</b>	<b>\$2,181,000</b>	<b>\$2,224,000</b>	<b>\$2,628,000</b>	<b>\$3,284,000</b>	<b>\$3,949,000</b>	

# City of Harrisonburg's Stormwater Program

## Chesapeake Bay TMDL and The City of Harrisonburg's Requirements for Pollutant Reduction



April 2, 2014

# Total Maximum Daily Loads

## ❖ **TMDL** = Total Maximum Daily Loads

- Maximum “load” of pollutant a stream can assimilate
- Allocation of specific pollutants deemed acceptable
- Applies to all surface water bodies not just Chesapeake Bay



# Chesapeake Bay TMDL

❖ Issued by EPA on December 29, 2010

- 64,000 sq. mi. area
- 25% reduction in **nitrogen**
- 24% reduction in **phosphorus**
- 20% reduction in **sediment**



❖ Combination of 92 TMDLs over 6 states and DC - dissolved oxygen, water clarity, underwater Bay grasses, and chlorophyll a



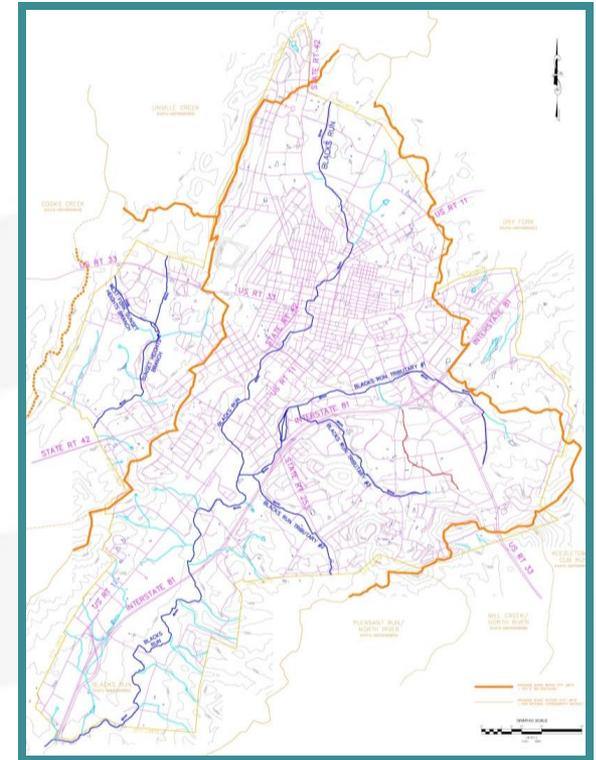
# Chesapeake Bay TMDL Virginia's Watershed Implementation Plans

- ❖ Phase 1 Watershed Implementation Plan (WIP) - Nov 2010
- ❖ Phase 2 WIP – March 2012
- ❖ Sectors Included
  - Wastewater
  - Agriculture
  - Urban/Suburban Stormwater



# Chesapeake Bay TMDL City of Harrisonburg's WLA

- ❖ Waste Load Allocation (WLA)
  - Based on Ches. Bay Program Watershed Model Phase 5.3.2
    - 9% reduction in **nitrogen**
    - 16% reduction in **phosphorus**
    - 20% reduction in **sediment**
- ❖ Tributary to Potomac River Basin



# Chesapeake Bay TMDL City of Harrisonburg's WLA

## ❖ Special Condition of the MS4 General Permit

- 1<sup>st</sup> Permit Cycle (2013 – 2018)
  - ✓ **5%** Reduction
- 2<sup>nd</sup> Permit Cycle (2018 – 2023)
  - ✓ **Additional 35%** Reduction (40% total)
- 3<sup>rd</sup> Permit Cycle (2023 – 2028)
  - ✓ **Additional 60%** Reduction (100% total)



# Chesapeake Bay TMDL City of Harrisonburg's WLA

- ❖ Phosphorous Existing Source Loads (2009)
  - = Total Impervious Area x 1.62 (lbs/acre)
  - = Total Pervious Area x 0.41 (lbs/acre)
- Rough “First Pass” Estimate of Source Loads

Subsource	Pollutant	Total Existing (Est.) Acres Served by MS4 (06/30/09)	2009 EOS Loading Rate	Estimated Total POC Load Based on 2009 Progress Run
Regulated Urban Impervious	Phosphorous	2553	1.62	4,135
Regulated Urban Pervious		7658	0.41	3,140



# Chesapeake Bay TMDL City of Harrisonburg's WLA

- ❖ 1<sup>st</sup> Permit Cycle Phosphorous Reductions
  - = Total Impervious Area x 0.01 (lbs/acre)
  - = Total Pervious Area x 0.002 (lbs/acre)
- Rough “First Pass” Estimate of Reductions

Subsource	Pollutant	Total Existing (Est.) Acres Served by MS4 (06/30/09)	Est. Required Reduction in Loading Rate (lbs / acre)	Total Est. Reduction Required (lbs)
Regulated Urban Impervious	Phosphorous	2553	0.01	26
Regulated Urban Pervious		7658	0.00	8



# Chesapeake Bay TMDL City of Harrisonburg's WLA

- ❖ Final Permit Cycle Phosphorous Reductions
  - = Total Impervious Area x 0.20 (lbs/acre)
  - = Total Pervious Area x 0.02 (lbs/acre)
- Rough “First Pass” Estimate of Total Reductions

Subsource	Pollutant	Total Existing Acres Served by MS4 (06/30/09)	Required Reduction in Loading Rate (lbs / acre)	Total Reduction Required (lbs)
Regulated Urban Impervious	Phosphorous	2553	0.20	511
Regulated Urban Pervious		7658	0.02	153



# Chesapeake Bay TMDL City of Harrisonburg's WLA

Total POC Estimated Reductions Required During 1st Permit Cycle				
Subsource	Pollutant	Total Existing (Est.) Acres Served by MS4 (06/30/09)	Est. Required Reduction in Loading Rate (lbs / acre)	Total Est. Reduction Required (lbs)
Regulated Urban Impervious	Nitrogen	2553	0.08	204
Regulated Urban Pervious		7658	0.03	230
Regulated Urban Impervious	Phosphorous	2553	0.01	26
Regulated Urban Pervious		7658	0.001	8
Regulated Urban Impervious	Total Suspended Solids	2553	11.71	29,893
Regulated Urban Pervious		7658	0.77	5,897



# Chesapeake Bay TMDL The Process

- ❖ Develop An **Action Plan**
  - Calculate impervious and pervious areas



# Chesapeake Bay TMDL

## The Process

### ❖ Develop An **Action Plan**

- Calculate increased POC loads
- Research, evaluate, recommend BMPs
  - ✓ Existing Conditions = June 30, 2009
  - ✓ New Sources Between July 1, 2009 and June 30, 2014
  - ✓ Grandfathered Projects Constructed After July 1, 2014
  - ✓ Future, Qualified Grandfathered Projects



# Chesapeake Bay TMDL The Process

- ❖ Estimate Implementation Program Cost
- ❖ Spring 2015: Submit DRAFT Plan for Public Comment
- ❖ June 2015: Submit Final Plan to DEQ



# Questions & Answers



END OF APRIL MEETING MINUTES

City of Harrisonburg Stormwater Program Costs

Program Components	Current LOS	Current Costs / FY 13/14	Future LOS	First 5 Year MS4 Permit Cycle					First year of Second 5 year MS4 Permit	Notes / Information Requested
				Estimated Costs						
				FY 2014 /2015	FY 2015 /2016	FY 2016 /2017	FY 2017 /2018	FY 2018 /2019		
Misc. Administrative	N/A	\$50,000	N/A	\$126,000	\$81,000	\$82,000	\$84,000	\$86,000	Includes training and travel expenses, asset management software and support, grant application & administration support, membership to Virginia Municipal Stormwater Management Association (VAMSA). Future enterprise fund administration expenses (if recommended and approved) are not included in these costs, but could be added. Note: approx \$50K higher cost in FY14/15 due to implementation and set up of new asset management software.	
Operations and Maintenance	2.50	\$380,000	3.00	\$691,000	\$718,000	\$779,000	\$846,000	\$920,000	Includes storm sewer maintenance, street sweeper maintenance, stream/ channel maintenance, and BMP maintenance equipment and personnel. Household hazardous wastes collection, yard debris & fall leaf collection, and new/ replacement equipment purchases. Includes increase for cost of living and fuel adjustments, and increase number of BMPs overtime.	
Capital Improvement Projects	1.00	\$15,000	3.00	\$175,000	\$582,000	\$1,220,000	\$2,031,000	\$2,612,000	These capital improvement projects go above and beyond what is required for minimum compliance with Virginia Stormwater Management program. These capital improvement projects are to meet Chesapeake Bay TMDL requirements of MS4 permit; which for 2013-2018 is 5% pollutant reduction; next 5 years is 35% and then 60%. See also Chesapeake Bay TMDL Action Plan. They included projects on city owned properties, and partnerships with private property owners to cost-share on projects. Would best tie in with stormwater utility program. Last 3 years of first permit cycle builds up to prepare for second permit cycle projects.	
VSMP and MS4 Compliance	2.75	\$408,000	3.00	\$400,000	\$288,000	\$278,000	\$286,000	\$294,000	Includes annual DEQ MS4 permit fee, public education & outreach, public involvement & participation, illicit discharge detection & elimination, construction site stormwater runoff control (E&S), post-construction stormwater management, pollution prevention/ good housekeeping for municipal operations, task orders (FY14-15) with Draper Aden to support compliance work including mapping, SWAC facilitation, stormwater utility feasibility study, and TMDL Action Plans.	
<b>Overall Total Costs</b>	<b>2.08</b>	<b>\$853,000</b>	<b>3.00</b>	<b>\$1,392,000</b>	<b>\$1,669,000</b>	<b>\$2,359,000</b>	<b>\$3,247,000</b>	<b>\$3,912,000</b>		

*Comparison of Stormwater Utility vs. Property Tax/ General Fund*

<b>Stormwater Utility</b>	<b>Property Tax/ General Fund</b>
Fee based on concept that every property contributes to stormwater runoff and should support operation, maintenance, and rehabilitation of stormwater drainage systems in the city.	Tax based on value of real property and goes into the city's general fund.
Dedicated funding source to support stormwater drainage systems in the city; utility fees collected cannot be reallocated to other non-stormwater uses	Not dedicated funding source; taxes can be reallocated to other uses such as transportation, schools, emergency services, etc.
More equitable – property owners are charged a fee based on their contribution to stormwater runoff	Not equitable – property taxes are based on the assessed property value; does not necessarily correlate to the amount of runoff a parcel of land contributes to the overall stormwater problem.
Charged to all properties. Tax-exempt properties that generate runoff must contribute to stormwater utility, just like taxed properties.	Tax-exempt properties (such as churches and nonprofits) do not pay real estate tax. Could possibly develop a separate billing system for tax exempt properties.
Credit system/ Opportunity to reduce utility fee – private property owners can make stormwater improvements on their properties to receive a reduced utility fee. This can help the city with meeting TMDL pollution diets.	No credit system/ No opportunity to reduce utility fee
Fee implementation cost – getting onto bill, collection system, etc.	Minimal fee implementation cost

Last updated: 5/1/2014