

Stormwater Master Plan – Response to Public Comments Document

This document includes a summary of the comments that were received from the public on the Preliminary Draft of the Stormwater Master Plan (December, 2013).

Following each comment, a response is given as to how the comment was addressed in the revised Stormwater Master Plan or an explanation as to why no changes were made.

Urban Forestry Commission

Minor edits:

Page 12, second bullet under table 1: change “is” to “are”

Page 16, 3rd line under System Description: change “City of Alexandria” to “Cities of Alexandria and Falls Church”

Page 28, line 5: change the question mark to a period

Page 28, 2nd paragraph under Stream Assessment, line 4: change “on other” to “other”

Page 40, 3rd line under Why Stormwater Facilities Are Important: change “cause” to “causes”

Page 43, 2nd paragraph under Watershed Retrofits, line 3: change “attached” to “attached to”

Page 44, 5th line under Watershed Retrofit Assessment: change “establishes” to “establish”

Page 52: correct the unusual spacing of the last paragraph and bullets

Page 57, 4th paragraph, line 8: change “is” to “are”

Page 67: This list is missing TP, TSS and TN from chapter 8 (which I don’t think were ever defined in

the text, though readers can probably figure out what they stand for). It’s also missing PC3WMM.

Finally, DEQ and DCR should be properly alphabetized.

Page 68, line 1: change “is” to “are”

Response: These changes will be made.

General Comments:

At its meeting of December 19, 2013, the Urban Forestry Commission (UFC) was briefed on the draft Stormwater Master Plan Update. The draft Update does an excellent job of laying out the need for Arlington to take action to reduce and slow stormwater runoff, both to meet federal and state mandates and to realize the environmental benefits from curbing excessive runoff. The draft Update outlines a number of valuable partial solutions to the problem.

Our primary concern with the draft Update is its failure to mention the roles that the urban forest can play in reducing problems from stormwater. Trees reduce runoff in two ways. Their roots absorb stormwater before it can flow into streams and the storm sewer system. In

addition, their leaves intercept rain before it can reach impervious surfaces; this intercepted water can be absorbed, can evaporate back into the atmosphere or, at a minimum, can be slowed so that the surge of stormwater from a rainstorm is less extreme.

The UFC urges that the role of trees be explicitly recognized in the report. This could be done by expanding Strategy 3, which focuses on restoring stream corridors, to include vegetative solutions to reducing stormwater runoff and actions to reduce the amount of impervious surfaces in Arlington.

The omission of the role of trees in the draft Update may be due to fears that federal and state regulators would not accept tree planting and maintenance as quantifiable measures that would be recognized as helping Arlington's attempts to meet new stormwater mandates. To address such concerns, we urge the staff working on stormwater issues to consult with the County's urban foresters. Recent advances in the use of mapping software may allow County staff to estimate, for representative sections of the County, the amount of impervious surface that is covered by tree limbs, along with estimates of how much that coverage could be increased through tree planting and tree maintenance initiatives. Urban forestry staff could also point stormwater staff to reference works on the amount of stormwater intercepted and absorbed by trees.

While trees take time to mature, an active tree planting and maintenance program initiated in the next few years could yield tangible benefits by the third five-year cycle in the Stormwater Master Plan, which is the period when federal and state requirements will be hardest to meet. The low cost of tree plantings – as demonstrated by the County's existing Tree Canopy Fund and tree distribution programs – makes a tree planting program an attractive supplement to the engineering solutions contained in the draft Update. As the Update acknowledges, these engineering solutions can be very expensive. We urge the County to explore the environmental and fiscal benefits of an expanded tree-planting and tree-maintenance program.

Response: DES staff met with the County's urban foresters from the Department of Parks and Recreation and discussed the addition of language highlighting the importance of trees. This language will be inserted into the plan along with a map of tree canopy changes from 2008-2011.

Long Range Planning Committee

- 1) Master plans are typically policy documents and the SWMP does not appear to focus on policy issues
- 2) .

Response: The content of a Master Plan can vary from general policy guidance to more detailed technical assessment and implementation strategy. The Stormwater Master Plan is unique in that it is driven by regulatory requirements, and therefore it goes beyond general policy guidelines to focus on the implementation strategy necessary to meet regulatory pollution reduction targets.

- 3) The SWMP does not appear to set any aspirational goals for the stormwater program - beyond the regulatory mandates presented in the Plan.
- 4)

Response: The Stormwater Master Plan includes four key goals that guide the County's stormwater management program:

Goal 1—Reduce the potential for stormwater threats to public health, safety, and property

Goal 2—Reduce the impacts of existing urban development and redevelopment on Arlington streams, the Potomac River and the Chesapeake Bay

Goal 3—Comply with state and federal regulations for stormwater, water quality and floodplain management

Goal 4—Comply with County ordinances for stormwater detention, Chesapeake Bay preservation, erosion and sediment control, and floodplain management

The stormwater regulations that are driving the County's program are new, continually evolving, and significantly more stringent than any previous regulations. Staff have developed a strategy to achieve the pollution reduction targets established by the new regulations, but it will be a challenge to achieve these goals.

- 3) How does the SWMP address the impact of stormwater runoff from single family home redevelopment?

Response: From an overall community sustainability perspective, the issue of single family home redevelopment and lot coverage deserves a more comprehensive look given that it represents half of the County's overall land use. Recent analysis has shown that single family home development is responsible for 60% of the increase in impervious cover in the County since 2009. However, the issues raised by single family home redevelopment go beyond just stormwater runoff to include tree preservation, lot coverage, building code requirements for lot grading, basement excavation depths relative to groundwater levels, sump pump discharges, energy use, and affordable housing. Staff will add analysis and information regarding the single family home redevelopment issue to the Stormwater Master Plan to highlight this issue as an emerging issue for discussion.

Karen Kumm (member, Planning Commission)

Thank you for a good presentation last night. As you can see, many Planning Commissioners support your efforts including me.

I probably don't express this support enough because I tend to focus on the improvements that I feel are needed to the Plan.

I hope that you will continue to find ways to integrate native trees into SWM stream restoration, bio-retention areas and other projects. Please look at the MD Environmental

Stormwater Design Manual Volume I & II, Appendix A for examples on how MD integrates trees. The Manual's illustrations show trees on the higher ground of bio retention areas, thus leaving the low laying areas where soil medium may need to be replaced someday. Finally, it would be helpful to add text under your Strategy 4 - Improve existing stormwater management facilities and construct new facilities, to include trees as stormwater receptors after the reference to Green Streets. Something like:

- Continue to develop design, construction, and maintenance standards for County stormwater management facilities, including green streets and increased tree plantings.

I appreciate your efforts. Thank you for working with Urban Forestry on further integration of tree planting as part of the SWM solutions.

Response: Staff have added some language highlighting the role of trees in stormwater management to several sections of the Stormwater Master Plan.

ENVIRONMENT AND ENERGY CONSERVATION COMMISSION
c/o Department of Environmental Services
2100 Clarendon Blvd., Suite 705
Arlington, VA 22201
February 20, 2014

Arlington County DES Staff
2100 Clarendon Blvd., Suite 500
Arlington, VA 22201

Re: Comments on Draft Stormwater Master Plan Update

Dear Arlington County Staff,

The Environment and Energy Conservation Commission (E2C2) received a presentation on the draft Stormwater Master Plan Update (December 3, 2013) at our meeting on December 16, 2013. We appreciate the opportunity to review this document, and after discussion at our January 27, 2014 meeting we have the following comments and concerns.

1. General Comments:
 - a. E2C2 applauds the scope and reach of this report, and the attempt by the County to merge both water quality and water quantity (flooding) improvements into a comprehensive Stormwater Master Plan Update. The draft document provides a wealth of analyses and recommendations that can provide a roadmap for the County to guide stormwater management activities into the future. **Response: No response needed.**
 - b. While we understand how these reports can be compiled from documents and memos prepared over the course of the project, and appreciate the efficiencies

gained by this process, the Master Plan Update when read as a whole document lacks consistency of theme and message. This document needs a thorough review and technical editing to make sure the important conclusions and recommendations do not get lost in an incomprehensible document. **Response: The document has had several editorial reviews, including a review by a technical editor. There will be additional editorial reviews including a second review by the technical editor for the revised document.**

- c. What are the measures of success that will be used to evaluate this proposed plan? Some discussion on how effectiveness will be documented should be included. **Response: The plan includes regulatory targets and proposed projects that will be indicators of success.**
 - d. There is no discussion anywhere in the draft document about tree canopy and its benefits at runoff and pollutant reduction. We agree with the recommendations provided by the Urban Forestry Commission in its letter to Jay Fiset dated January 6, 2014. **Response: Addressed in previous comments.**
2. Chapter 3 Regulatory:
- a. It is noted that entities other than the county are responsible for managing storm water discharges from their property, even though their discharges enter the County's storm sewer system. E2C2 would like to see coordination between the County and these other entities, such as VDOT, the federal government, National Airport, Arlington Public Schools, and the Park Service. Inadequate stormwater quantity controls could exacerbate flooding or other impacts to sensitive areas (e.g., the magnolia bog adjacent to Claremont Elementary School); and insufficient pollutant reductions from these properties could undermine pollutant reductions achieved by the County. **Response: Many of these agencies have their own MS4 stormwater permit, and therefore have direct responsibility for stormwater management on their property. In addition, the County does coordinate with these agencies on projects and activities that cross MS4 areas.**
 - b. The "Planning level analysis" seems more appropriate in Section 8 (Funding Issues) than in this section. It also contradicts the analysis presented in Section 8. **Response: The discussion of the Chesapeake Bay TMDL and the Planning Level Analysis to achieve those pollution reduction goals is presented in chapter 3 because it is a significant regulatory requirement and is driving the organization of the overall program.**
3. Chapter 4 System Assessment:
- a. The prioritization scheme for capital improvement projects (presented in Section 4) needs to be more transparent. While the plan currently explains in general

terms how the projects are categorized, there may be local concerns about why certain projects in their neighborhoods are not high priority. For example, all the high priority projects are located in North Arlington, which may be justified, but a more systematic approach to prioritization should be developed, or if already developed, be better explained in the plan. **Response: The plan includes the general factors used to prioritize the capital improvement projects, such as land ownership, if capacity was need for the June, 2006 storm, location in the watershed, and length of pipe needing upgrade. The watersheds selected for the initial studies were the areas that had the most significant flooding in June, 2006 as well. Additional information about the scoring methodology will be provided in the Appendix.**

- b. Should prioritization take into account potential damage from overtopping stormwater facilities? **Response: The projects that are currently categorized as high priority experienced overtopping during the June, 2006 storm of record.**
- c. Is the County considering condemnation as an option? **Response: Generally the County strives to work with property owners to negotiate easements where necessary. However, condemnation of property is an option to acquire necessary property and it is included in Strategies 1 and 3 in Chapter 2.**
- d. How were the stormwater retrofits recommended in Chapter 5 incorporated into the assessment of flooding and stormwater capacity? Will the County evaluate the potential reductions in capacity improvements required resulting from these retrofit facilities? **Response: Stormwater retrofits were not included in the assessment of flooding and stormwater capacity for two reasons. First, the implementation rate of stormwater retrofits is not fast enough to have a meaningful impact on stormwater capacity in the short term; and second, stormwater retrofits are designed to collect and filter the first ½ to 1 inch of rainfall, before the peak of the storm, and therefore they have a small impact on large rainfall events.**
- e. The discussion and presentation of potential costs for capacity improvement projects lacks detail. E2C2 disagrees with the County that “Without detailed design for each project, project costs cannot be quantified accurately (pg. 24). We believe that estimated probable costs of construction for recommended capacity improvement projects can be developed without detailed design. More discussion is also required on unit cost assumptions as well as what (if any) contingencies are included for those projects where costs are provided. **Response: The County does have general cost estimates for each capacity improvement project. However, it is difficult to develop detailed cost**

estimates without more detailed engineering design that takes into account alternate layout options for the pipe, utility conflicts, and other factors.

- f. Costs presented on Table 3 (pg. 26) do not match the costs presented on Table 8 in Chapter 8. **Response: This inconsistency will be corrected.**
 - g. The Stream Assessment and Water Quality Monitoring sections need better discussion on the long term trends observed from the monitoring. **Response: The monitoring programs have been in operation for 5-10 years, so we are only beginning to be able to see any long term trends. In addition, the stream monitoring methods used by the volunteers were updated in 2012 to better allow for long term trend monitoring.**
4. Chapter 5 Stormwater Management Facilities:
 5. This chapter should highlight that more resources (either County staff or contractors) that will be necessary to track and inspect the increased number of stormwater management facilities. **Response: It is noted that additional resources will be necessary in the Conclusions and Future Goals section of Chapter 5, and again in the Conclusions section of the document (Chapter 9).**
 6. The County should look for creative ways to integrate its recommended watershed retrofit projects into the planning and design of other capital projects around the County. When the County is planning a capital project, such as a new school, transportation or utility improvement project, the County should review proposed retrofit projects and seek opportunities to integrate them into the planning in order to conserve resources and minimize the effects of construction in the community. **Response: This is a good suggestion and we are moving in this direction. It is important to keep in mind that any new development project, such as a new school, will have to meet stormwater management requirements as part of the development project. Stormwater staff are coordinating with capital projects staff in other departments and divisions to include retrofits with transportation and neighborhood conservation projects when possible.**
 7. Chapter 6 Outreach and Civic Engagement:
 - a. The County should consider expanding the Regional Stormwater Education Campaign to the school system (perhaps a collaborative partnership with the schools and County). **Response: We have provided APS with information about the regional education campaign and they attended the recent campaign meeting in January, 2014.**
 - b. The County should consider using focus groups and surveys to find out what environmental issues to focus on in the future (e.g., should there be more of a focus on climate change, restoration activities, etc. as topics of consideration and discussion)? **Response: Many DES programs and projects are based on**

regulatory requirements, County requirements or County commitments and goals, and the program focus cannot be changed as a result of public opinion. However, given E2C2's role as an environmental group representing the public, this is a task that E2C2 could undertake if interested.

- c. StormwaterWise Landscapes Program: E2C2 feels the County should:
 - i. Consider increasing the incentives to residents for actions they take to reduce pollution (e.g., do they have permeable pavement, terracing, and other landscape features that reduce runoff?). **Response: As of the 2013 program year, we increased the incentives for the program practices.**
 - ii. Assess through resident surveys what the current level of satisfaction is among residents with the incentives. Do private property owners believe the incentives need to be revised or are the current incentive mechanisms fine as is? **Response: As part of the StormwaterWise Landscapes program, we conduct participant surveys and use the feedback received to improve the program.**
 - iii. Consider providing continued education to landowners, residents, etc. about cost-effective measures they can take to reduce non-point source pollution in the Chesapeake Bay watershed. **Response: The County does provide this type of education through individual site visits, educational articles in County publications (such as *The Citizen*), information on the County web site, and workshops on topics such as Green Gardening, Rain Gardens, Rain Barrels, and the Green Home and Garden Tour. The County also participates in the regional education campaign Only Rain Down the Drain that has used radio and TV advertising to educate the public about reducing pollution.**
- d. Trash Free Potomac Watershed Campaign: The County should assess the effectiveness of this campaign with surveys (what works well and where can it be improved). **Response: Alice Ferguson Foundation, the organization leading this campaign, did some litter surveys in specific areas before and after the campaign signage was displayed. This survey research documented the effectiveness of the campaign signage. The County has displayed the signs at County schools, parks and community centers and on the County ART buses.**
- e. Civic Engagement: The County should consider using more social media to involve citizens with Arlington's environmental education campaigns. Social media can be used to highlight upcoming events of interest to the community (e.g. clean-up of the Potomac River watershed, etc). **Response: The County and DES have a Facebook and Twitter account and use them regularly to highlight projects, events, and other topics of interest.**

8. Chapter 7 Emerging Issues:
 - a. This section lacks concrete recommendations and should be enhanced. For example, studies are cited that indicate how storm frequencies are predicted increase (e.g., 100-year storm today could be a 50-year storm in 2050); yet no recommendations were made for how to account for this in the recommended projects. **Response: The emerging issues section highlights topics that have recently been recognized as an issue of concern. In some cases, concrete recommendations for addressing the issues have not been developed or are still under discussion. With regard to the question of storm frequencies, that issue is not accounted for with the recommended projects because it is a minor factor compared with other variables affecting the projects.**
 - b. E2C2 questions whether monitoring storm sewers and streams is an “emerging issue.” This is a current best practice that should continue to be incorporated to help assess the effectiveness of the recommended plan. **Response: The commenter may be confusing stream monitoring for water quality with stream flow monitoring. The County has several water quality monitoring programs, using volunteers, contractors, and in-stream monitoring equipment. The emerging issue that was included related to stream monitoring refers to the discussion of creating a better stream flow monitoring network. It is an emerging issue for the County as we currently do not have a widespread stream flow monitoring network.**
9. Chapter 8 Funding Issues:
 - a. The discussion on funding needs work in order to be of value to the decision makers and stakeholders. While this section does a good job of stating the funding challenges, it does little to propose new or modified approaches. **Response: At this time, the County does not need a new funding approach since the Stormwater Fund was created in 2008. The County conducted a Stormwater Funding study prior to the creation of the Stormwater Fund, and does not have plans to conduct another study in the near future.**
 - b. This section states that the TMDL compliance strategy will likely require a rate increase. By how much? **Response: The size of the rate increase is unknown at this time.**
 - c. This section does not answer this important question: is the current stormwater funding strategy (sanitary district fee assessed based on property values) the most efficient and effective way to fund the County’s new MS4 permit, Chesapeake Bay TMDL requirements, and all of the required capacity improvements (not only from this draft Update but from the remainder of the modeling of the system that is yet to be completed)? **Response: The**

Stormwater Master Plan is not an analysis of stormwater funding mechanisms. The County undertook a Stormwater Funding study in 2004 and worked with a citizen advisory group at that time to consider the funding question. The current funding strategy was decided upon following the completion of the study and implemented.

- d. As noted previously, the “Planning level analysis” presented on pp. 11-12 in Chapter 3 seems like it would fit better here. It answers many of the previous questions; however it does not include the increased cost to the County for the capacity improvement projects. **Response: Comment addressed previously.**

E2C2 appreciates your consideration of these comments, and is willing to discuss them further if you have any questions or concerns. We recognize the importance of a comprehensive stormwater management plan that will ensure compliance with regulatory and Chesapeake Bay requirements, improve water quality in local receiving waters and the Chesapeake Bay, and protect the public from chronic flooding and property damage. We support the County in its efforts to outline such a plan in this draft Stormwater Master Plan Update, and hope these comments will help County staff refine the draft document.

Sincerely,

Scott Dicke
Chair, E2C2

Arlington County Comprehensive Planning

1. Cover
 - a. Suggest that the document not be called “Update” but rather just “Plan”.
Response: Change made.
 - b. There is a template for covers of components of the Comprehensive Plan, see attached. **Response: Change made.**
2. “Acknowledgements” (is misspelled) also consistency with other Comprehensive Plan Documents – not sure about staff contributors and consultants being mentioned?
Response: Will correct and check other master plans for including staff and consultants.
- Table of Contents – Acknowledgements not typically part of Contents **Response: change made.**
3. Executive Summary – page vi – 5th bullet – Chesapeake Bay Preservation Ordinance – suggest clarification of difference between the ordinance and the plan **Response: change made.**
4. Executive Summary – page vi – last paragraph – “very expensive and time intensive.” What does this mean? **Response: Will clarify.**
5. Page vii – last paragraph - WPCP – water pollution control plant - The County will work regionally (maybe with the appropriate local authorities) to protect **Response: Will add.**
6. Page 1 – “Purpose” – first paragraph – “Established in 1960, the purpose of the Comprehensive Plan is to guide the coordinated and harmonious development of Arlington

County through the provision of high standards of public services and facilities.” **Response: Will add.**

7. Page 2 – first paragraph – Watershed Management Plan – What is the relationship of this plan to the Stormwater Master Plan? **Response: The Watershed Management Plan includes the ecology and water quality programs which have been incorporated into this version of this updated version Stormwater Master Plan.**
8. Page 2 – second paragraph – not clear on this relationship. **Response: The information will be clarified.**
9. page 5 – Goal 4 – Do these encompass Goal 3 **Response: Goal 4 includes the local ordinances that are enacted in part to comply with the regulations mentioned in Goal 3.**
10. Page 5 – Strategy 2 – bullet 3 – “Acquire easements for existing stormwater infrastructure as capital projects proceed and other opportunities become available” – Can you clarify this statement? It seems to imply that we don’t have ANY easements, which is not actually the case, correct? **Response: The statement was clarified.**
11. Page 7 – last bullet – “Inform and engage the community about the potential impacts of climate change on the County’s stormwater infrastructure” – Move to strategy 7? **Response: This statement was moved.**
12. Page 9 – paragraphs 4 and 5 – “More stringent...pollution reduction credits.” – Is this an expanding discussion on New Regulatory Requirements? If so, should it be moved to that section? **Response: This information on Chesapeake Bay Preservation Ordinance and the new State Stormwater Management regulations are included here because this section includes an overview of all local ordinances.**
13. Page 15 – Conclusions – first paragraph – and if we fall short of this goal because of feasibility and time constraints, that Arlington can demonstrate a defensible and credible level of effort. – Do we need to say this? Kind of setting us up for not meeting criteria, if we don’t then we will have good reasons. **Response: Revision made.**

General:

For the community participation slide in the PPT, they should specify which “Commissions” they attended and which commissions provide the primary review/input. **Response: The specific commissions visited are listed on the Stormwater Master Plan web site.**

Current/Comp planning should be made aware of the watershed map/project along Glebe Road and the hurricane map. **Response: Staff will coordinate to ensure this is done.**

Need a clear explanation of the relationship of the ordinance to the plan and what elements of the ordinance are simply mandated by the Commonwealth/Federal Government v. in which areas the County can have input.

Response: The new stormwater ordinance that will be considered by the County Board in May, 2014 has been developed in response to updated State stormwater regulations. The stormwater ordinance includes requirements for development projects, such as stormwater treatment requirements and pollution prevention requirements during construction. The Stormwater Master Plan is a guidance document for the stormwater program as a whole, and is not directly related to the stormwater ordinance.

Individual Comments:

Are you able to tell me if there are plans to address the flood zoning of the Long Branch Creek neighborhood due to its proximity to Four Mile Run (that runs through Troy Park) at this below meeting? I don't see it on the web page agenda and was wondering if it has ever come up as a consideration. If not, please let me know how I can raise it as a concern.

Tina

Response: Yes, a flood control project is included in the Master Plan that would reduce the number of properties in this neighborhood that would be required to buy flood insurance.

Name : Andrea Reese

Subject : WEBSITE COMMENT: Stormwater Master Plan comments -- ATTN: awinquist

Comments : The Northern Virginia Conservation Trust urges Arlington County to consider the preservation of natural stream corridors and undeveloped land as part of its stormwater management strategy.

Response: Many of the County's stream corridors are already preserved as part of existing County parks. In addition, the County does acquire developed and undeveloped land adjacent to parks as opportunities arise.