

From Mary Blakeslee

Apartment B242  
3680 38<sup>th</sup> Street, NW  
Washington, DC 20016  
November 6, 2012

District Department of the Environment  
Stormwater Management Division  
1200 First Street, N.E., 5th Floor  
Washington, DC 20002

Re: DDOE NPR: Stormwater Management, Soil Erosion  
and Sediment Control and  
Stormwater Management Guidebook – August 2012

Dear Friends:

I appreciate the District Department of the Environment (DDOE) taking comment on its Notice of Proposed Rulemaking: Stormwater (SW) Management, Soil Erosion, and Sediment Control, published on August 10, 2012 and the Stormwater Management Guidebook – August 2012. I believe that the proposed regulations and guidebook create an understandable framework for property owners to incorporate control of stormwater, soil erosion, and sediment in planning and implementing construction projects. They also appear to further DDOE's efforts to establish programs for reducing stormwater runoff into the Potomac and Anacostia Rivers, their tributaries, and other impacted waters. The comments below and enclosures communicate concerns and suggestions for addressing those concerns with the intent to clarify or strengthen both documents.

### **Comments on the Proposed Rule**

1. The proposed rule does not indicate how it would be applied to the voluntary installation of stormwater best management practices (SW BMPs) by private property owners with acreage to do so. It also does not indicate whether or not private property owners voluntarily installing a SW BMP under the provisions of this rule would also qualify to receive a stormwater fee discount under the Stormwater Fee Discount Program Rule being developed by DDOE<sup>1</sup>. These documents leave the impression that private property owners would have to satisfy two different sets of permitting, construction, inspection, and compliance requirements.
2. The terms and definitions to identify and describe a BMP qualifying for the stormwater retention credits under this rule are different than the ones used to

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<sup>1</sup> See Enclosure A for separate comments on the second NPR: Stormwater Fee Discount Program, submitted on October 31, 2012.

qualify for a stormwater fee discount. In addition the SW Management Guidebook introduces a third term and definition to indicate a qualifying BMP. (See Enclosure B-- Comparison of Terms and Definitions That Describe Qualifying SW BMPs.) As a result, it is unclear what BMPs qualify in either program.

*Suggested approach* for addressing both comments -- DDOE should coordinate the revision of both rules to:

1. Include a description of the relationship between the two programs.
2. Indicate that a single set of requirements will apply to both programs.
3. Delineate those requirements in both rules.
4. Adopt identical terms and definitions for a BMP that qualifies for both programs. This could be done by using and defining the term "Acceptable Urban BMP" in the terms section of the both rules then referencing BMPs identified in the final version of DDOE's Stormwater Management Guidebook or both.

### **Comments on the Stormwater Management Guidebook**

*General Comments* – The document is well written and very thorough but is too technical for private property owners such as churches, condominiums, cooperatives, and private schools to understand and use. For example:

Chapter 5 – Administration of Stormwater Rules provides extensive discussion of how the stormwater regulations apply and will be administered at regulated sites and sites voluntarily installing BMPs that could qualify for Stormwater Retention Credits. While I assume that developers and the regulated community understand the requirements and implications of the requirements described in this chapter, the words as written are bewildering and overwhelming to a non-technical audience, like a large property owner who may be thinking about voluntarily installing a SW BMP. The property owner would have to hire an engineer to decide if pursuing voluntary installation of a SW BMP makes sense. This approach inhibits voluntary installation of SW BMPs.

If it is DDOE's intent to promote the adoption of voluntary BMPs by property owners with available land to do so (and I believe that it should be), then DDOE must develop a Guide or modify this one in a manner that helps these property owners understand what to do, how to do it, and what is in it for them without having to hire a professional engineer.

*Comments on Chapter 3* – Stormwater Best Management Practices (BMP). See Enclosure C.

*Comments on Chapter 7* – Generation, Certification, Trading, and Retirement of Stormwater Retention Credits. See Enclosure D.

*Comments on Appendix S* – Stormwater Fee Discount Program. This appendix should be revised to reflect the content of the final Stormwater Discount Fee Rule.

I believe that the changes suggested above and in the enclosures are essential to create clarity, consistency, and certainty that private property owners with acreage available for voluntarily SW BMPs will understand what these programs are and facilitate the implementation of desirable SW management practices.

Sincerely,

*Mary E. Blakeslee*

Mary E. Blakeslee

Enclosures

cc: Walter Smith, DC Appleseed Center for Law and Justice  
Rebecca Hammer, NRDC  
Mary Cheh, Ward 3 Councilmember  
George Hawkins, DC-Water

ENCLOSURE A  
Apartment B242  
3680 38<sup>th</sup> Street, NW  
Washington, DC 20016  
October 31, 2012

District Department of the Environment  
Stormwater Management Division  
1200 First Street, N.E., 5th Floor  
Washington, DC 20002

Attention: Stormwater Fee Discount, Notice ID: 3683689

Dear Friends:

I appreciate the District Department of the Environment (DDOE) taking comment on its revised Notice of Proposed Rulemaking: Stormwater Fee Discount Program. I believe that this revised proposal creates a more understandable framework for property owners to use in deciding whether or not to voluntarily install a stormwater Best Management Practice (SW BMP). It also furthers DDOE's efforts to establish programs for reducing stormwater runoff into the Potomac and Anacostia Rivers, their tributaries, and other impacted waters.

However, the rule as proposed inhibits voluntary installation of SW BMPs by private property owners with significant equivalent residential unit (ERU) assessments and substantial acreage for the following reasons:

1. Investments by these private property owners in SW BMPs have the potential to reduce and retain substantial stormwater runoff. They can be costly and must be justified as being cost-effective in financial terms. They cannot, unlike the government, be justified on the human health and environmental benefits alone. The SW fee per ERU collected by DDOE is small in comparison to the one DC Water collects. A reduction in the DDOE fee is not sufficient to allow property owners to make a cost-effectiveness case for investing in a SW BMP.
2. If DC Water were to adopt the program described in this proposed regulation, it would likely create the financial trade-off to make such investments. However, there are no signs that DC Water will adopt such a program since it is investing its fees in infrastructure. This means if property owners install a SW BMP to reduce and retain stormwater on their property, they will continue to pay the escalating DC Water Fee/ERU on top of a capital investment, on-going maintenance costs, and increased regulatory burden for little savings in DDOE SW fees.

There is some potential for providing an investment incentive for these owners – the DDOE is trying to create a Stormwater Retention Credits market for investing in SW BMPs through the Stormwater Management, and Soil Erosion and Sediment Control regulations (proposed in the DC Register on August 10, 2012). This approach, if adopted in the final regulation, would allow these owners to qualify and potentially sell Stormwater Retention Credits to developers who cannot meet their SW recovery and retention requirements on the development site. If the price

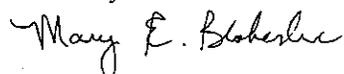
per credit is sufficient, it could help the seller of the credit defray capital costs and justify the investment in financial terms. This means, at a minimum, that the Stormwater Fee Discount final rule and the final Stormwater Management, and Soil Erosion and Sediment Control rule must be consistent (where appropriate) and linked. I recommend that DDOE incorporate the following changes the final rule for it to be an effective tool for promoting the voluntary installation of SW BMPs by private property owners:

1. Define the terms "eligible BMP" (used six times in this proposal) and "approved BMP" (used once). This could be done by referencing BMPs identified in the final version of DDOE's Stormwater Management Guidebook or in the terms section of the final rule or both.
2. Identify the "Department guidelines" to be used in determining the eligibility of a BMP for a discount referred to in Section 558.9 (e) (2). The current language just means more regulatory burden due to the planning and inspection requirements outlined in the proposed rule. This should include language about a single plan approval and inspection system for both programs where appropriate.
3. Describe if and how the installation of a BMP under the Stormwater Fee Discount Program can qualify for Stormwater Retention Credits under the proposed Stormwater Management, Soil Erosion, and Sediment Control regulations published on August 10, 2012.
4. Describe if and how the Stormwater Management Guidebook (when final) will be used in the Stormwater Fee Discount Program.
5. Use the same terms and definitions, as appropriate, in all stormwater management regulatory documents.

I believe that the changes described above are essential to create clarity, consistency, and certainty among stormwater management programs particularly for property owners with significant equivalent residential unit (ERU) assessments and substantial acreage that could be used to voluntarily install SW BMPs. They must have certainty that that they can qualify for discounts under these proposed regulations as well as qualify for the stormwater retention credits under the proposed Stormwater Management, and Soil Erosion and Sediment Control regulations.

Thank you for providing the opportunity to comment on this important proposed regulation.

Sincerely,



Mary E. Blakeslee

cc: Walter Smith, DC Appleseed Center for Law and Justice  
Rebecca Hammer, NRDC  
Mary Cheh, Ward 3 Councilmember  
George Hawkins, DC-Water

**Enclosure B: Comparison of Terms and Definitions That Describe Qualifying SW BMPs**

SWM Proposed Rule	BMP Guide	SW Fee Discount Rule
<p><b>Discussion of Key Changes</b>            These amendments use the catch-all term "Best Management Practice" (BMP) to refer to all of the various practices and strategies for stormwater management described in these amendments and the Stormwater Management Guidebook (SWMG). This includes retention, detention, and treatment BMPs as well as nonstructural BMPs involving land use, development, or management strategies to minimize the impact of stormwater runoff.</p> <p><b>Terms &amp; Definitions</b>  <b>599.1 Best Management Practice (BMP) - Structural or nonstructural practice that minimizes the impact of stormwater runoff on receiving waterbodies and other environmental resources, especially by reducing runoff volume and the pollutant loads carried in that runoff.</b></p>	<p><b>2.7 Acceptable Urban BMP Options</b>            This section sets forth thirteen acceptable groups of BMPs that can be used to meet the Stormwater Retention Volume (SWRV), and/or peak flow (Qp2, Qp15, Qf) criteria.            The dozens of different BMP designs currently used in the District are assigned into thirteen general categories for stormwater quality control:            BMP Group 1 Green Roofs            BMP Group 2 Rainwater Harvesting            BMP Group 3 Impervious Surface Disconnection            BMP Group 4 Permeable Pavement Systems            BMP Group 5 Bioretention            BMP Group 6 Filtering Systems            BMP Group 7 Infiltration            BMP Group 8 Open Channel Systems            BMP Group 9 Ponds            BMP Group 10 Wetlands            BMP Group 11 Storage Practices            BMP Group 12 Proprietary Practices            BMP Group 13 Tree Planting and Preservation</p>	<p><b>599 Best Management Practice (BMP) - Structural or nonstructural practice that minimizes the impact of stormwater runoff on receiving waterbodies and other environmental resources, especially by reducing runoff volume and the pollutant loads carried in that runoff.</b></p>
	2.0 Acceptable BMP options	Eligible BMP (6 times on pages 4, 5, 8, 12, )
	2.7 Acceptable Urban BMP	
	7.1 Eligible BMP	

## Enclosure C – Comments on Chapter 3 – Best Management Practices (BMP)

### Pages 113 to 118 – 3.5.5. Bioretention Landscaping Criteria

The criteria as described are not sufficient to ensure healthy plants or a functioning BMP. Specifically, they:

1. The “list of minimum elements” described in the criteria omits elements generally included in the plant lists provided by landscape professionals (paragraph two). As described, the “list of minimum element” can result in improper plant selections for the site and create maintenance issues in the future.
2. Require planting plans to be prepared by landscape architects or horticulturalists. A landscape architect requires positive education requirements and in most cases a state license but a horticulturalist does not have to have a formal education or in many cases a state license. The term professional horticulturist defined as someone with recognized education requirements (e.g., a bachelor’s or master’s degree in horticulture) should be used.
3. The list of native plants should be examples and not inadvertently become the official list of plants. Many other native plants (including natives of some of those identified in these two lists) would provide the same functionality as those listed in a bio-retention BMP and would be more appropriate for use in an urban landscape setting.
4. Understate the maintenance requirements to ensure healthy plants and a functioning bioretention BMP. Maintenance of plants in a bio-retention setting is no different than in any garden bed. To say otherwise is misleading. All garden beds require more than annual maintenance to:
  - a. Minimize the growth and spread of weeds since their seeds remain in the soil and birds and wind continually transport them.
  - b. Remove dead plant materials and litter.
  - c. Identify and treat plants that are diseased.
  - d. Provide appropriate supportive measures in case of extreme weather (e.g., tropical storms or blizzards).

The frequency of maintenance depends on the installed plants and the location of the BMP. In addition garden beds with trees and shrubs also require pruning. The frequency of pruning depends on the tree and shrub species installed.

Suggest the following changes:

*Revise first sentence of second* paragraph as follows to reflect elements generally included in the plant lists provided by landscape professionals:

Minimum plan elements should include the proposed bioretention template to be used, delineation of planting areas, the planting plan, and list of plants that identifies the:

1. Common and botanical names of each plant
2. Plant form (grass, fern, perennial, shrub, tree)
3. Mature size of the plant (height and width)
4. Plant size at installation (e.g., 1 quart)
5. Number of plants to be installed
6. Shade and Sun requirements
7. Wetland indicator
8. Inundation tolerance
9. Maintenance requirements post planting and throughout its life
10. Notes (e.g., susceptibility to deer damage)
11. Status in relation to NPS and mid-Atlantic lists of invasive plants

**Revise the last sentence of the second paragraph** to change “landscape architect” to “landscape professional” since professional landscape designers are just as likely to be knowledgeable about how to tailor plants to site-specific conditions. Suggest that the sentence be revised as follows<sup>1</sup>:

“It is highly recommended that the planting plan be prepared by a knowledgeable landscape professional (e.g., landscape designer, landscape architect, horticulturist) in order to tailor the planting plan to the site- specific conditions.”

**Revise third paragraph** to indicate that plants identified in Tables 3.5.2 and 3.5.3 are examples. Suggest that the sentence be revised as follows:

“Native plant species are preferred over non-native species, but some ornamental species may be used for landscaping effect if they are not aggressive or invasive. Examples of some native species that work well in bioretention areas and are commercially available can be found in Tables 3.5.2 and 3.5.3 and at the links provided below.”

**Revise fourth paragraph** to provide a more comprehensive description of maintenance requirements. Suggest that the paragraph be revised as follows:

“Maintenance of plantings is critical to the continued health of plants in the bioretention area. All plants require maintenance – the degree of maintenance required is a key factor in determining planting choices for urban bioretention areas. Plant selections should be based on the type and frequency of required maintenance. See example comparison of turf and ornamental grasses below: “

Turf Grass	Ornamental Grasses
Weekly mowing during growing season. Periodic weeding and trash removal during growing season.	Periodic weeding and trash removal during growing season.
Weekly or more frequent watering to keep grass alive during periods of heat and drought.	Weekly watering of 1inch during first two years (if natural rain fall doesn't provide) and minimal or no watering in subsequent years.
Annual pre-emergent weed control. Periodic weeding and trash removal. The precise frequency would be determined in consultation with landscape professional.	Periodic weeding and trash removal. The precise frequency would be determined in consultation with landscape professional.
Annual fertilizing based on soil tests	Top dressing with compost as soil tests indicate

**Revise the headings to Tables 3.5.2 and 3.5.3.** as follows:

Table 3.5.2. Examples of Herbaceous plants appropriate for bioretention areas in the District.

Table 3.5.3. Examples of Woody plants appropriate for bioretention areas in the District.

**Revise fifth paragraph** to include information about re-use of existing soils that contain weed seeds around the bioretention area to minimize the introduction of weeds to the engineered soils. In addition, the order of the bulleted information is confusing.

<sup>1</sup> Yellow highlight indicates new language from this point forward.

Suggest the following revisions to this section:

“Planting recommendations for bioretention facilities are as follows:

- For planting areas beyond those using engineered soils, replace existing soils with new top soil amended with humus compost material to reduce the introduction of weeds and promote health plant growth.
  - The new topsoil should not contain excessive amounts of vegetative matter, stones, rocks, gravel, sticks, herbicides, weed seeds or other objectionable matter.
  - The humus compost material must meet the “*Compost Specifications*” found in Appendix F of these guidelines.
- The primary objective of the planting plan is to cover as much of the surface areas of the filter bed as quickly as possible.
  - Herbaceous or ground cover layers are as or more important than more widely spaced trees and shrubs.
  - Native plant species should be specified over non-native species.
  - Plants should be selected based on a specified zone of hydric tolerance and must be capable of surviving both wet and dry conditions.
    - “Wet footed” species should be planted near the center, whereas upland species do better planted near the edge.
    - Woody vegetation should not be located at points of inflow; trees should not be planted directly above underdrains. They should be located closer to the perimeter.
    - Shrubs and herbaceous vegetation should generally be planted in clusters and at higher densities (i.e. 10 feet on-center and 1 to 1.5 feet on-center, respectively).
    - If trees are part of the planting plan, a tree density of approximately one tree per 250 square feet (i.e. 15 feet on-center) is recommended.”

#### Pages 118 to 120 – 3.5.6. Bioretention Construction Sequence

The steps identified in this sequence omits an important one – the installation of mulch. Also the watering requirements for post planting are not accurate. *Suggest the following language* to address the omission and appropriate watering regime:

“Step 11. Install the plant materials as shown in the landscaping plan, place mulch around plants and water for 20-30 minutes until the ground is moist 12 inches below the mulch surface. (Use either a moisture meter or dig a small hole to the 12 inch depth to determine when soil is moist.) If trees or large shrubs are planted in the area, then install and fill an ooze tube for each plant once mulch is in place.”

#### Pages 120 to 122 – 3.5.7. Bioretention Maintenance Criteria

These criteria should apply to all properties installing bioretention BMPs since the guidelines do not include specific maintenance criteria for commercial or governmental properties. In addition, maintenance of turf and garden beds during the first two years is critical to their survival and the recommended tasks in table 3.5.4 are not sufficient to ensure healthy plant growth. *Suggest the following changes:*

- I am not sure what the term CDA means so please spell it out once.
- *First paragraph* – “When bioretention practices are applied on commercial, governmental, and private residential lots, owners or their representatives will need to (1) be educated about their routine maintenance needs, (2) understand the long-term maintenance plan, and (3) be subject to a maintenance covenant or agreement, as described below.

- *Second paragraph* – “Maintenance of bioretention areas should be integrated into routine grounds maintenance tasks. If grounds management and maintenance contractors will be expected to perform maintenance, their contracts should contain specifics on unique management and maintenance requirements of bioretention areas, such as maintaining elevation differences needed for ponding, proper mulching, sediment and trash removal, using composted humus instead of synthetic fertilizers and using Integrated Pest Management (IPM) practices instead of solely applying synthetic pesticide products.”
- *Third paragraph* – “Maintenance tasks and frequency will vary depending on the size and location of the bioretention, the landscaping template chosen, and the type of surface cover in the practice. A generalized summary of common maintenance tasks and their frequency is provided in Table 3.5.4. (A revised version of this table is at the end of this document.)
- *Fifth paragraph* – The language is confusing – not sure what the recommendation for a “spring maintenance inspection at each bioretention area” applies to. Does it apply to the filter bed or the entire bioretention BMP? I assumed that it applies to the entire BMP and added it into the list of tasks.

**Table 3.5.4. Recommended maintenance tasks for bioretention practices.**

**Maintenance Tasks and Frequency**

**First 12 Months post construction**

- The bioretention BMP and CDA should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization.
- Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- The bioretention BMP and CDA should be monitored bi-weekly or more frequently based on weather conditions to:
  - Observe plant health and growth.
  - Remove weed and trash as necessary to promote healthy growth of new plants.
  - Remove and replace dead plants. Up to 10% of the plant stock may die off in the first year, so construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction.
- Monitor rainfall in the bioretention area. The area should be watered when the weekly rainfall is less than 1 inch per seven day period during the growing season (usually but not always April-October).
- Mow grass filter strips and bioretention with turf cover as conditions require
- Check curb cuts and inlets for accumulated grit, leaves, and debris that may block inflow.
- Conduct a spring maintenance inspection
- Remove and replace mulch in the spring

**Months 13 to 24 post construction**

- The bioretention BMP and CDA should be inspected after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization.
- Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- The bioretention BMP and CDA should be monitored bi-weekly or more frequently based on weather conditions to:
  - Observe plant health and growth.
  - Remove weed and trash as necessary to promote healthy growth of new plants.
  - Remove and replace dead plants.
- Monitor rainfall in the bioretention area. The area should be watered when the weekly rainfall is less than 1 inch per seven day period during the growing season (usually but not always April-October).
- Mow grass filter strips and bioretention with turf cover as conditions require
- Check curb cuts and inlets for accumulated grit, leaves, and debris that may block inflow
- Conduct a spring maintenance inspection
- Remove and replace mulch in the spring

Month 25 and Beyond – Periodic Requirements based on Weather and Plant Materials

- Remove weeds (including invasive plant materials)
- Remove any dead or diseased plants
- Water plants during periods of prolonged drought

Month 25 and Beyond – Annual Requirements

- Conduct a spring maintenance inspection
- Remove and replace mulch each spring
- Prune trees and shrubs to maintain form and health
- Remove sediment in pre-treatment cells and inflow points
- Add reinforcement planting to maintain desired vegetation density
- Stabilize the contributing drainage area to prevent erosion

**Enclosure D- Comments on**  
**Chapter 7 – Generation, Certification, Trading, and Retirement of Stormwater Retention Credits**

**7.1 Eligibility Requirements**

“The Department will certify Stormwater Retention Credits (SRCs) for **eligible** stormwater Best Management Practices (BMPs) and land cover changes in the District of Columbia. To be eligible, the retention capacity in a BMP or land cover change must do the following:

- Achieve retention volume in excess of regulatory requirements or existing retention, but less than the SRC ceiling;
- Be designed and installed in accordance with a DDOE-approved Stormwater Management Plan (SWMP) and the Stormwater Management Guidebook;
- Pass a post-construction inspection and ongoing maintenance inspections;
- Provide a maintenance contract or maintenance agreement(s) for ongoing maintenance;”

Suggest the following changes:

1. Please describe how the term **eligible** relates to **Acceptable** BMP options (2.0) and **Acceptable** Urban BMP Options (2.7). It is the first time it is used in the entire document.
2. Please add “of 1.7 inches per storm” at the end of the *first bullet* to identify what the ceiling is.

**7.1.1 Eligibility Requirements: Retention Volume**

*First paragraph* – “To be eligible, retention capacity must achieve retention in excess of stormwater management regulatory requirements or, for unregulated sites, in excess of existing retention.”

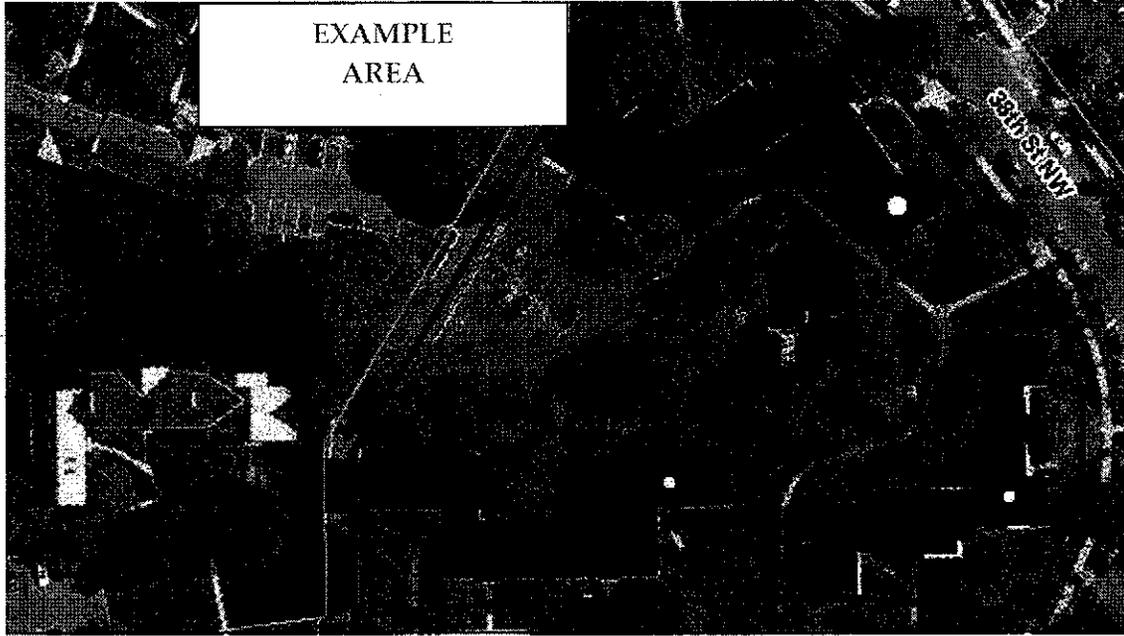
Suggest the following change: Please add “of 1.2 inches (or 0.8 inches for a substantial improvement project)” after the words “...regulatory requirements”

*Fourth paragraph* – For sites that are unregulated or that would only trigger the regulations because of the voluntary installation of retention capacity, eligible retention volume is the volume achieved in excess of existing on-site retention, as shown in Figure 7.1.

Suggest you add an example that illustrates this point as you have in the previous paragraph.

**7.8 Stormwater Retention Credit Calculation Scenarios**

The scenarios are very good for understanding parking lots but you should also provide a scenario that describes converting 4,400 square feet of impervious sidewalk to 4,400 square feet of pervious sidewalk as shown in the example area on the next page.



1 ERU 

0  240 Feet

	Building =	24,344 sq. ft.		Stairs =	0 sq. ft.
	Road/Drive/Parking Lot =	13,348 sq. ft.		Swimming Pool =	0 sq. ft.
	Sidewalk =	4,412 sq. ft.		Outdoor Rec Facility =	0 sq. ft.