



**MCPB**  
**Item # 10**  
**9/15/11**

**MEMORANDUM**

**DATE:** September 7, 2011

**TO:** Montgomery County Planning Board

**VIA:** Mary Dolan, Acting Chief *MD*  
Functional Planning and Policy Division

**FROM:** Mark Symborski, Planner Coordinator, (301) 495-4636 *MAS*  
Functional Planning and Policy Division

**SUBJECT:** Roundtable Discussion: The Role of Imperviousness in Watershed Health

---

**RECOMMENDATION:** Information and Discussion

**Reason for this Memo**

Staff continues to receive requests to allow certain stormwater management BMPs, including engineered surfaces, to offset impervious surface limits established by the County Council in specific sensitive watersheds. For example, property owners and their representatives have requested staff credit permeable pavement systems against established impervious limitations. The purpose of this memo is to explain the Planning Board's policy from November 20, 2008 (reconfirmed on March 23, 2010), and to provide additional information on the benefits of limiting imperviousness to ensure watershed health.

**Earlier Planning Board Briefings on the County's Impervious Area Policy**

**In the fall of 2008 the Planning Board was briefed** on issues related to permeable pavement and imperviousness. As a result of those briefings, it was the **consensus that:**

- **the County's practice of encouraging and crediting the use of enhanced stormwater management BMPs, such as permeable pavements and green roofs, against stormwater management requirements, should be continued, but that**
- **extra or enhanced stormwater management BMPs should not be granted credit against imperviousness limits** because the additional infiltration, storage, and limited treatment afforded by such systems is insufficient to counterbalance the additional negative environmental impacts that are associated with increased development footprint.

This recommendation was supported by DPS staff and the expert testimony of Dr. Stuart Schwartz of the University of Maryland's Center for Urban Environmental Research and Education. **The Planning Board fully supported the staff recommendation and reconfirmed it at a second briefing in spring 2010.**

**A summary of the rationale and facts supporting this recommendation is attached.**

### **Conclusion**

Staff recommends that the current practice of not permitting extra or improved stormwater management BMPs, such as permeable pavement systems and green roofs, to offset specific imperviousness limits be continued. Stormwater BMPs will help infiltrate runoff and provide some limited treatment. But BMPs cannot compensate for the many other environmental functions and benefits, provided by natural areas, which are significantly reduced or lost with increased development footprint. The purpose of imperviousness limits is to maximize all of these functions and benefits to protect watershed health.

The Board should continue to encourage permeable pavement and green roofs as stormwater management BMPs anywhere in the County where pavement or building area is necessary. Negative impacts of planned development on water quantity and quality can and must be minimized by Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP), but exchanging more or improved BMPs for expanded development footprint will only lead to a net increase in environmental degradation in sensitive watersheds. It is therefore not consistent with the purpose of imperviousness caps, Smart Growth, or ESD to the MEP.

## ATTACHMENT

### **Summary Rationale for Defining and Limiting Impervious Area As a Basic Watershed Protection Technique**

1. **Areas developed with pervious pavement systems or green roofs become permanent parts of the stormwater management system. Depending on the system, they can provide a certain amount of infiltration, storage, and limited treatment.** Because of this the County encourages their use and credits them against stormwater management requirements in all locations.
2. **However, credit is not given for ground covered by pervious pavement systems or green roofs in excess of an imperviousness cap because their use results in the permanent loss of other environmental functions** due to the removal of the upper soil profile, loss of natural vegetation, and compaction—**functions that imperviousness caps are intended to safeguard for watershed protection.** Some important features and functions significantly reduced or lost include:
  - Treatment and pollutant uptake by natural vegetation and soils;
  - Return of water to the atmosphere by evapotranspiration;
  - Sequestration of carbon by vegetative growth;
  - Release of oxygen into the atmosphere;
  - Infiltration of rainwater to naturally recharge aquifers;
  - Moderation of air and water temperatures; and
  - Preservation of habitat and food sources for plant and animals.
3. **Maryland DNR originally approved use of pervious systems as a credit towards impervious area limits in the Chesapeake Bay Critical Area, but reversed this position** after experience showed overall cumulative environmental impacts that were unacceptable. This experience should provide practical guidance towards continuing to provide maximum protection in the Council’s designated areas with imperviousness limits.
4. **The County Council has designated specific areas for special efforts to protect the environmentally sensitive features.** These efforts include numeric impervious limitations, additional stormwater management, and enhanced forest conservation practices. The designated areas include: the Upper Paint Branch, Upper Rock Creek, and part of the Clarksburg Special Protection Areas (SPA’s), the Patuxent Primary Management Area (PMA), and certain properties within the Germantown Master Plan.
5. **Environmental Site Design, required by State law, gives first priority to minimizing the development footprint and associated impervious area and maximizing vegetated area.** After this has occurred, small-scale stormwater management practices and permeable pavement systems are used to minimize environmental impacts due to runoff.
6. **All County agencies involved with water quality (DPS, DEP and MNCPPC) concur with the definition of “impervious area”** adopted by the County Council in recent revisions to Chapter 19.

**Impervious Area:** *Any surface that prevents or significantly impedes the infiltration of water into the underlying soil, including structures, buildings, patios, decks, sidewalks, compacted gravel, pavement, asphalt, concrete, stone, brick, tile, swimming pools, and artificial turf. Impervious surface also includes all areas used by or for motor vehicles or heavy commercial equipment, regardless of surface type or material, including roads, driveways, and parking areas.*