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ZAC
Zoning Advisory Committee

July 12, 2005

Zoning Commission
441 4th Street, N W
Suite 210-South
Washington, D C 20001

[redacted] 04-34
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Re Z C Case No 04-34 (Pervious Materials)

Dear Commissioners

Supplementing the Zoning Advisory Committee (ZAC) Memorandum of May 12, 2005, and Statement submitted at the June 16 public hearing, this letter addresses three points as to the text of the regulations

1 Grass and other "all-weather" surfaces At the public hearing, the Office of Planning (OP) raised the question whether "paved and maintained with an all-weather surface" could prohibit use of grass for parking surfaces in every circumstance

a To clarify the amendatory language submitted by OP's Supplemental Report dated May 31, 2005, the ZAC suggests that Sections 2117 10 and 2303 1(a) be amended further in two ways

- to substitute "surfaced" for "paved" and
- to refer to "porous or pervious concrete," "porous asphalt," and "grass" as examples of "all-weather" surfaces, as follows

Section 2117 ACCESS, MAINTENANCE, AND OPERATION, subsection 2117.10
All open parking spaces, including access aisles, driveways, and ramp areas shall be surfaced and maintained with an all-weather surface. "All-weather surface" comprehends, among other things, surfacing techniques that use porous (or pervious) concrete, porous asphalt, and/or grass

Section 2303 PARKING LOTS, subsection 2303.1
(a) All areas devoted to driveways, access lanes, and parking areas shall be surfaced and maintained with an all-weather surface "All-weather surface" comprehends, among other things, surfacing techniques that use porous (or pervious) concrete, porous asphalt, and/or grass

b As a matter of policy, the ZAC recommends that the zoning regulations allow land owners, architects, engineers, and contractors to consider grass surfaces of various types for parking applications to which they may be appropriate

- Although one would not expect selection of grass cover for parking facilities generally, public utilities and others in D C should be free to make that selection
- Appendix A to the Statement submitted on June 16 by the ZAC listed some grass-surface applications We have since learned of a GeoBlock application for an access drive at the White House installed some years ago, of a GrassTrac application about to be installed for parking police cars in Dover, Delaware, at the Delaware Safety Authority, and of a Verizon plan for GrassTrac parking in Pennsylvania
- The attached photo shows how a GrassTrac underpinning is installed ATTACHMENT I

c We have also learned more about porous concrete and porous asphalt, two distinct options

ZONING COMMISSION
District of Columbia
CASE NO.04-34
EXHIBIT NO.26

- See "Porous Asphalt Pavement With Recharge Beds 20 Years & Still Working" (Stormwater, May/June 2003) www forester net/sw_0305_porous html -- page 1 of 14 attached with Fig 1 showing porous parking spaces and impervious drive lane ATTACHMENT II
- Regarding porous (or pervious) concrete, see www pervious info and www nrmca com [porous concrete link]

2 Gravel Although OP's Supplemental Report mildly questioned appropriateness of gravel, OP did not suggest any actual prohibition but merely asserted, instead, that one cannot durably *stripe* parking lanes (where required by zoning regulations[1]) on gravel. Even if no one can devise a means of striping gravel, hybrid arrangements should be allowed to resolve the matter.

a For example, hybrid facilities might provide sufficient striping on a porous concrete portion of a parking lot and use gravel surfacing for the rest (including access lanes or areas between facing parked cars) The U S Navy Yard has installed a variety of hybrid parking arrangements, including both crushed stone and flat surfaces.

b The original ZAC petition, filed November 22, 2004, suggested that the zoning regulations make explicit reference to hybrid arrangements, such as porous paving plus rain gardens

> "Although not mandated, appropriate use of pervious materials for [open parking spaces AND/OR parking lots] is allowed and encouraged as part of low-impact design techniques which may also include rain gardens and other measures not inconsistent with Department of Health stormwater management regulations "

The ZC may wish to examine its initial rejection of that proposal (at OP's recommendation)

3 PUD amenities provision Whether the Zoning Commission adopts the amenities standard recommended by the ZAC recommendation or the variant in OP's Supplemental Report (which would cut out one word -- "significantly" -- from the ZAC's May 12 comment), the procedures of §§ 2406 and 2407 3 need review and refinement to assure

- a reference to the Department of Health Environmental Health Administration
- with clear directions as to what facts and analyses OP and the Zoning Commission are seeking

Otherwise, DOH/EHA may comment merely on whether Applicant satisfies *matter of right* requirements – not whether Applicant proffers something extra, something [significantly] over and above matter of right The Office of the Attorney General should be asked to draft the necessary provisions

Faithfully,

David J Bardin, Chair
ZAC Green Subcommittee

[1] OP's Supplemental Report refers to § 2115, which refers, in turn, to § 2117 3 The latter says that required parking spaces shall be "clearly striped and lined" according to dimensions specified in § 2115, but neither demands painting complete *rectangles* (which is not a general practice) In accordance with OP's Setdown and Final Report of March 3, 2005, the Notice of Proposed Rulemaking would change the second sentence of § 2117 3 to read "Durable materials that are all-weather shall be used " That OP Report rejected as "repetitive" and "not necessary" a recommendation by the ZAC to clarify that the referenced durable materials are "Durable striping materials" If one could "durably" mark stripes on crushed stone such striping would satisfy § 2117 3

ATTACHMENT I

Photograph supplied by ACF Environmental, Inc. of Richmond, VA.
Showing Underpinning Step in Installation of GrassTrac



ATTACHMENT II

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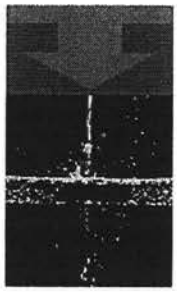
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FEATURES



Porous Asphalt Pavement With Recharge Beds: 20 Years & Still Working

With the right soil conditions and careful design, installations retain their ability to infiltrate.

By Michele C. Adams

Is it possible to have a stormwater best management practice (BMP) that reduces impervious areas, recharges groundwater, improves water quality, eliminates the need for detention basins, and provides a useful purpose besides stormwater management? This seems like a lot to expect from any stormwater measure, but porous asphalt pavement on top of recharge beds has a proven track record.

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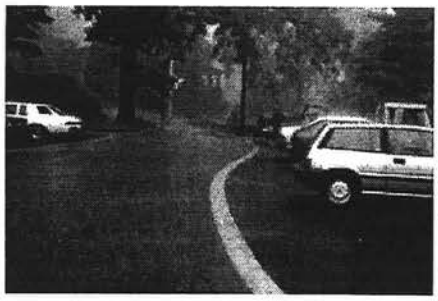


Figure 1. Rainfall runs off traditional impervious asphalt (center drive) but drains through porous asphalt parking spaces.

First developed in the 1970s at the Franklin Institute in Philadelphia, PA, porous asphalt pavement consists of standard bituminous asphalt in which the aggregate fines (particles smaller than 600 µm, or the No. 30 sieve) have been screened and reduced, allowing water to pass through the asphalt