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Township of Plumstead

APPENDIX M
PERVIOUS HARDSCAPING SYSTEM DESIGN &
IMPERVIOUS SURFACE AREA CREDIT CRITERIA

Applicants for Erosion and Sedimentation Control and Grading Permit, Subdivision, and Land Development may request approval of an impervious surface area credit for construction of pervious hardscaping systems provided they comply with the design guidelines herein and approval is received from Plumstead Township.

An impervious surface credit shall only be considered by the Township for driveways, parking areas, and other hardscaping surfaces that are constructed at a slope greater than 1%, but less than 5%.

Numbers shown in the following table are the percentage of hardscaping surface area (proposed) that must be considered "IMPERVIOUS" based on factors such as paver block open void area and the material installed in the voids/openings of these surfaces.

TABLE 1.0
HARDSCAPING SURFACE AREA THAT MUST BE CONSIDERED IMPERVIOUS SURFACE:

FILL MATERIAL IN PAVER BLOCK VOIDS	HARDSCAPING MATERIAL				
	PAVER/ BLOCK	→	→	CLEAN STONE OR STRUCTURAL "GEOWEB"(1)	
	SURFACE OPEN AREA PERCENTAGE (%)				
	50-59.99	60-69.99	70-79.99	80-89.99	90-100
SOIL/GRASS	67%	60%	54%	48%	NOT PERMITTED
CLEAN STONE (no fines) or other CLEAN, NON-ERODIBLE FILL	52%	43%	33%	24%	14%

TABLE FOOTNOTE:

- (1) Driveways and parking areas must either be bituminous paving, stone (residential driveways, only), or some other combination of load bearing paver block backfilled with stone or soil. Geoweb, alone, with earth backfill may not be used for driveways and parking areas; therefore, is not eligible for an impervious surface area credit.

NOTES:

1. An impervious surface area credit, if approved by the Township, will only be valid if a proper sub-base is used and when filter fabric is installed to separate all soil/stone interfaces and clean stone/sand leveling bed surfaces, as more particularly shown on the attached conceptual installation detail.
2. Pervious hardscaping systems with less than 50% open surface void percentage is not eligible for an impervious surface credit and the entire surface of such hardscaping will be considered 100% impervious for the purpose of calculating on-site impervious

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surface area and stormwater runoff. However, such systems may be considered a "Best Management Practice" if constructed in compliance with the criteria herein.

3. The hardscaping surface area which is intended and approved for impervious credit must be fully protected (by super silt fence) during the entire construction process to prevent compaction of the underlying soils by construction equipment and vehicles. A note must be added to the plan indicating this requirement.
4. The sequence of construction must specify the area of pervious hardscaping may only be constructed upon stabilization of the remainder of the site to prevent sediment from contaminating the surface.
5. General design and construction of these surfaces must conform to the attached construction detail and installation and maintenance procedures for the designated pervious hardscaping system must be identified on the plan.
6. Each request for impervious credit must include the manufacturer, style/product number, surface open area percentage (as identified by the manufacturer), and product data sheets. This information must also be shown on the plan including a notation that hardscaping system may only be modified with the written approval of the Township. No other "paver" block or stone may be substituted for that approved.
7. If the impervious surface credit is approved by the Township, the resulting ("net") total of impervious surface area from the "paver" must be included in the impervious surface tabulation which must also identify the total area of "paver" block and percentage of hardscaping area that must be considered impervious (refer Table 1.0). The calculation of impervious surface area (refer sample herein) must be shown on the plan.
8. All applications for impervious surface area credit shall be reviewed by the Township Engineer for completeness and technical content to satisfy the above requirements and any other applicable ordinance requirements. Design and installation must be permanent and will be evaluated based on criteria herein, feasibility, effectiveness, and longevity. The Township retains the right to require infiltration testing at pervious paver locations, as well as the right to deny any application due to unforeseen circumstances unique to the site or application. Finally, construction of the pervious hardscaping system must be inspected by the Township Engineer with advance notice of 48-hours to schedule required inspections.

CALCULATION OF HARDSCAPING SURFACE THAT MUST BE CONSIDERED IMPERVIOUS SURFACE AREA:

Proposed Pervious Hardscaping Surface Area = PHSA

Percentage of (Hardscaping) surface that must be considered Impervious (from Table 1.0)= PI

Total Area of Hardscaping Surface that must be considered Impervious = TI

$TI = PHSA \times (PI \div 100)$

SAMPLE CALCULATIONS:

1. If 1,250 SF of lot area is covered with "Hastings Checkerblock" (70% open area) with voids backfilled with clean stone, the quantity of hardscaping area that must be considered impervious surface area is:

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$1,250 \text{ SF} \times (33\% \div 100)$ (from **Table 1.0**) = 413 SF = TI; therefore the “impervious surface credit” would be: $1,250 \text{ SF} - 413 \text{ SF} = 837 \text{ SF}$

2. If 1,436 SF of lot area is covered with “Presto Geoweb” and backfilled with clean stone, the quantity of hardscaping area that must be considered impervious surface is:

$1,436 \text{ SF} \times (14\% \div 100)$ (from **Table 1.0**) = 201 SF; therefore the “impervious surface credit” would be: $1,436 \text{ SF} - 201 \text{ SF} = 1,235 \text{ SF}$