

**ZONING COMMISSION FOR THE DISTRICT OF COLUMBIA
NOTICE OF PUBLIC HEARING**

**TIME AND PLACE: Monday, November 5, 2012, @ 6:30 p.m.
 Jerrily R. Kress Memorial Hearing Room
 441 4th Street, N.W., Suite 220-S
 Washington, D.C. 20001**

FOR THE PURPOSE OF CONSIDERING THE FOLLOWING:

Case No. 12-10 (Text Amendment: New Chapter 34, Green Area Ratio; §§ 412 Pervious Surface Minimum Requirements for R-1 through R-4 Zones, and 2115.19 Landscape Standards for Parking Lots)

THIS CASE IS OF INTEREST TO ALL ANCs

The Office of Planning (“OP”), in a report dated July 20, 2012, petitioned the Zoning Commission for the District of Columbia (“Zoning Commission” or “Commission”) for text amendments to add a new Chapter 34, Green Area Ratio; add a new § 412, Pervious Surface Minimum Requirements for R-1 through R-4 zones, and add a new § 2111, Surface Parking Lots Landscaping Standards.

At its regular public meeting held July 30, 2012, the Zoning Commission set down this case for a public hearing. The OP report served as the pre-hearing submittal for the case.

The proposed Green Area Ratio (“GAR”) chapter provides rules for a city-wide requirement for green site design that will vary by zones, except for the R-1 through R-4 zones. Chapter 34 includes explanation of the system, methods of calculation, terms of measurement, and requirements for review.

To address the R-1 through R-4 zone issue, a pervious surface requirement is proposed. This requirement will work in concert with the lot occupancy limitations to ensure not only consistent density characteristics within a zone district, but introduce an environmental standard to ensure that property is not 100% paved.

A landscape standard is proposed for surface parking lots by the addition of a new § 2111.

The proposed amendments to the Zoning Regulations, Title 11 DCMR, are as follows.

A new Chapter 34, GREEN AREA RATIO, to be included within Title 11 DCMR:

- 3400 INTRODUCTION TO GREEN AREA RATIO
- 3401 APPLICABILITY OF GREEN AREA RATIO STANDARDS
- 3402 CALCULATION OF GREEN AREA RATIO
- 3403 LANDSCAPE ELEMENT CONDITIONS FOR GREEN AREA RATIO
- 3404 SUBMITTAL REQUIREMENTS FOR GREEN AREA RATIO

3405 SPECIAL EXCEPTIONS FOR GREEN AREA RATIO
3406 MAINTENANCE REQUIREMENTS FOR GREEN AREA RATIO

CHAPTER 34 GREEN AREA RATIO

3400 INTRODUCTION TO GREEN AREA RATIO

3400.1 Green Area Ratio (GAR) is the ratio of the weighted value of landscape elements to land area. The GAR score relates to an increase in the quantity and quality of environmental performance of the urban landscape.

3400.2 Green Area Ratio sets integrated environmental requirements for landscape elements and site design that contribute to the reduction of stormwater runoff, the improvement of air quality, and the mitigation of the urban heat island effect.

3400.3 The purposes of the GAR regulations are to:

- (a) Implement a value-based system of requirements for environmental site design that provides flexibility in meeting environmental performance standards; and
- (b) Promote attractive and environmentally functional landscapes.

3400.4 The purpose of this chapter is to:

- (a) Provide general guidance about the regulation of GAR requirements;
- (b) Define the applicability of GAR;
- (c) Set forth the formula for calculating the GAR and define its component parts;
- (d) Identify those landscape elements that are included in the GAR, explain how their area is measured, and set forth eligibility conditions;
- (e) Establish multipliers for each eligible landscape element;
- (f) Indicate what plans and certifications must accompany an application submitted to demonstrate proof of GAR compliance; and
- (g) Establish maintenance requirements for the landscape elements that are provided as part of a property's GAR requirement.

3401 APPLICABILITY OF GREEN AREA RATIO STANDARDS

3401.1 Pursuant to the conditions and requirements of this chapter, properties in zones listed in the following table shall provide a GAR as specified in the following table:

ZONE DISTRICT	GREEN AREA RATIO
R-5-A and R-5-B	0.40
R-5-C, R-5-D and R-5-E C-1, C-2-A, C-2-B and C-2-C W-1, W-2, W-3 SP-1, SP-2	0.30
C-3-A, C-3-B	0.25
C-3-C, C-4, C-5, CR and any property within the DDD overlay	0.20
CM-1, CM-2, CM-3 and M, <ul style="list-style-type: none"> • all structures except one story warehouses • one story warehouses 	0.30 0.10

3401.2 The GAR standards set forth in § 3401.1 shall apply to all new buildings requiring a certificate of occupancy and to all existing buildings requiring a certificate of occupancy where any additions, alterations, or repairs within any twelve (12) month period exceed one hundred percent (100%) of the assessed value of the building as set forth in the records of the Office of Tax and Revenue as of the date of the building permit application.

3401.3 A historic resource and any additions thereto are exempt from the requirement of this chapter as a result of a change of use or an increase of intensity of use, except that this chapter shall be applicable when any addition results in an increase in the gross floor area of the historic resource by 50% or more. For the purposes of this chapter a “historical resource” is a building or structure listed in the District of Columbia Inventory of Historic Sites or a building or structure certified in writing by the State Historic Preservation Officer as contributing to the character of the historic district in which it is located.

3401.4 The cost basis for additions, alterations or repairs to an existing building shall be the amount indicated by the applicant on the application for a building permit.

3402 CALCULATION OF GREEN AREA RATIO

3402.1 The GAR shall be calculated using the following formula:

$$\text{GAR} = \frac{(\text{area of landscape element 1} \times \text{multiplier}) + (\text{area of landscape element 2} \times \text{multiplier}) + \dots}{\text{Lot Area}}$$

3402.2 For the purposes of the above formula and the remainder of this chapter:

- (a) The term “landscape element” refers to one of the elements listed in the table in § 3402.9, and will be hereafter referred to as “landscape element” or “element;”
- (b) The term “multiplier” refers the number listed the Table in § 3402.9 that corresponds to a “landscape element”; and
- (c) The “area of landscape element” shall be the square feet of a landscape element, unless the element is a tree or large shrub, in which case “area of landscape element” refers to the element’s equivalent square footage as indicated in § 3402.7.

3402.3 The process for calculating a property’s GAR under the formula is as follows:

- (a) The area of each landscape element is multiplied by its corresponding multiplier;
- (b) The resulting numbers for all landscape elements are added together;
- (c) The resulting point total is then divided by the total land area of the lot; and
- (d) The product of the equation equals the property’s GAR.

3402.4 The total points for all permeable paving and enhanced tree growth credits may not count for more than one-third (1/3) of the GAR score for a lot.

3402.5 If multiple landscape elements occupy the same area, for example groundcover under a tree, the full square footage or equivalent square footage of each element may be counted.

3402.6 A landscape element must meet the eligibility conditions of § 3403.

3402.7 Equivalent square feet of tree and large shrubs are identified in the table below.

GREEN AREA RATIO LANDSCAPE ELEMENTS	EQUIVALENT SQUARE FOOTAGE
Plants at least 2 feet tall at maturity	9 s.f. per plant
Tree canopy for trees 2.5 inches to 6 inches in diameter	50 s.f. per tree
Tree canopy for trees 6 inches to 12 inches in diameter	250 s.f. per tree
Tree canopy for trees 12 inches to 18 inches in diameter	600 s.f. per tree
Tree canopy for trees 18 inches to 24 inches in diameter	1300 s.f. per tree
Tree canopy for trees larger than 24 inches in diameter	2000 s.f. per tree

3402.8 Landscape elements of the GAR shall be measured in the following ways:

- (a) All trees shall be measured for diameter at a height four feet, six inches (4 ft. 6 in.) above grade when planted and the square footage equivalent based on diameter shall be as established in the table in § 3402.7;
- (b) For vegetated walls, use the vertical square footage of the portion of the wall covered by vegetation; and
- (c) For all other elements other than trees, large shrubs, perennials, and vegetated walls, square footage is determined by the area of a horizontal plane that is over the element.

3402.9 Eligible landscape elements are identified in the table below:

GREEN AREA RATIO LANDSCAPE ELEMENTS	MULTIPLIER
Landsaped area (select one of the following for each area)	
Landsaped areas with a soil depth of less than 24 inches	0.3
Landsaped areas with a soil depth of 24 inches or more	0.6
Bioretention facilities	0.4
Plantings	
Ground covers, or other plants less than 2 feet tall at maturity	0.2
Plants at least 2 feet tall at maturity	0.3

GREEN AREA RATIO LANDSCAPE ELEMENTS	MULTIPLIER
Tree canopy for all trees 2.5 inches to 6 inches in diameter	0.5
Tree canopy for new trees 6 inches in diameter or larger	0.6
Tree canopy for preservation of existing trees 6 inches to 24 inches in diameter	0.7
Tree canopy for preservation of existing trees 24 inches diameter or larger	0.8
Vegetated wall, plantings on a vertical surface	0.6
Vegetated roofs	
Extensive vegetated roof over at least 2 inches but less than 8 inches of growth medium	0.6
Intensive vegetated roof over at least 8 inches of growth medium	0.8
Permeable paving	
Permeable paving over at least 6 inches and less than 2 feet of soil or gravel	0.4
Permeable paving over at least 2 feet of soil or gravel	0.5
Other	
Enhanced tree growth systems	0.4
Renewable energy generation (area of)	0.5
Water features (using at least 50% recycled water)	0.2
Bonuses	
Native plant species listed in §3403.9	0.1
Landscaping in food cultivation	0.1
Harvested stormwater irrigation	0.1

3403 LANDSCAPE ELEMENT CONDITIONS FOR GREEN AREA RATIO

- 3403.1 No landscape element may be counted towards a property’s GAR unless it meets the applicable conditions stated in this section.
- 3403.2 Plantings over the specified soil depths shall meet the required conditions listed in the Table of Landscape Elements and Multipliers in § 3402.9.
- 3403.3 Bioretention facilities shall be landscaped areas that receive rainwater from surrounding areas and use plants and soils to slow, filter, and infiltrate stormwater runoff. *Bioretention facilities* include but are not limited to rain or rainwater gardens, bioretention planters, Baysavers, or linear cells or swales. These do not include structures made of cement or concrete alone.

3403.4 Trees shall meet the following conditions:

- (a) All trees shall be at least two and one-half inches (2.5 in.) in diameter measured at a height four feet, six inches (4 ft. 6 in.) above grade when planted and shall be replaced if damaged or killed by any cause; and
- (b) All trees shall meet the American Standard for Nursery stock, as set forth by the American Nursery and Landscape Association.

3403.5 Vegetated walls shall meet the following conditions:

- (a) The maximum calculated vertical dimension shall not exceed thirty feet (30 ft.) unless the vegetated wall features a built-in growth medium;
- (b) The area calculated for the vegetated wall features shall be fully covered within a period of two (2) to five (5) years from planning;
- (c) The area calculated is the ground coverage area, not the total plant growth area;
- (d) The walls shall be at least five feet (5 ft.) from a side or rear lot line; and
- (e) Where stormwater harvesting for irrigation is proposed, vegetated walls shall contain a connection to the proposed irrigation system.

3403.6 Vegetated roofs shall meet the following conditions:

- (a) Designs for vegetated roofs must include plans to provide supplemental water;
- (b) Where stormwater harvesting for irrigation is proposed, vegetated roofs shall contain a connection to the proposed irrigation system; and
- (c) The vegetation on a vegetated roof is not additionally eligible for groundcover value towards GAR requirements.

3403.7 Water features shall meet the following conditions:

- (a) Water features must use harvested rainwater for at least fifty percent (50%) of the annual flow; and
- (b) The water features must be under water for at least six (6) months out of twelve (12).

- 3403.8 Enhanced tree growth systems shall meet the following conditions:
- (a) Be at least twenty-four inches (24 in.) deep, under pavement, and adjacent to planting areas; and
 - (b) Be composed of soils that are not considered contaminated or compacted according to federal SUPERFUND [add citation] legislation.

- 3403.9 Native plant species shall meet the following conditions:
- (a) The plants are listed in the U.S. Fish and Wildlife Service's Native Plants for Wildlife Conservation Landscaping: Chesapeake Bay Watershed guide; or
 - (b) The applicant provides two (2) references in current publications showing that the plant is native to the region; and
 - (c) The plant is not listed on the U.S. Fish and Wildlife Service's list of Plant Invaders of Mid-Atlantic Natural Areas.

- 3403.10 Food cultivation shall meet the following conditions:
- (a) All food cultivation areas must be easily accessible to at least one occupant of the building;
 - (b) All food cultivation areas must have a source of water that can reach all portions of the food cultivation area; and
 - (c) The cultivation of animals for food is not eligible for GAR credits.

- 3403.11 Harvesting stormwater for irrigation shall meet the following conditions:
- (a) If the irrigation type is spray, applicants shall follow treatment standards set forth in the current District Department of Environment's Stormwater Management Guidebook; and
 - (b) If the irrigation type is drip, no additional treatment of stormwater is required.

3404 SUBMITTAL REQUIREMENTS FOR GREEN AREA RATIO

- 3404.1 This section lists the submittal requirements for demonstrating compliance with a GAR requirement.

- 3404.2 For the purposes of this section, the term Certified Landscape Expert means a person who is a:
- (a) State of Virginia certified landscape architect;
 - (b) State of Maryland certified landscape architect;
 - (c) International Society of Arboriculture Certified Arborist;
 - (d) Maryland's certified Professional Horticulturist;
 - (e) Landscape Contractors Association MD-DC-VA Certified Landscape Technician; or
 - (f) Certified U.S. Green Building Council professional.
- 3404.3 Applicants shall submit a GAR score sheet with the GAR calculated for the given lot at the time of building permit application.
- 3404.4 Applicants shall provide a landscape plan prepared by a Certified Landscape Expert that includes the following information:
- (a) GAR elements called out by category and area, which may be provided as a part of the landscape plan or as a separate document;
 - (b) Lot dimension and size;
 - (c) Location and areas of all landscape elements with dimensions;
 - (d) Location, size, and species of all plants used to meet requirements;
 - (e) Both common and botanical names of all plant material;
 - (f) Identification of all existing trees that are to be preserved, with their location, trunk diameter at four feet, six inches (4 ft. 6 in.) above grade, canopy radius, and species;
 - (g) Plans indicating how preserved trees and other plants will be protected during demolition and construction;
 - (h) Location and dimensions of wheel stops, curbs, or other devices to protect landscaping for landscaped areas adjacent to driveways;
 - (i) A schematic irrigation and drainage plan and the size and depth of all plant containers for rooftop or container landscaping or areas to be irrigated with rainwater;

- (j) Location and size of any trees to be removed;
- (k) Specifications for soil improvement; and
- (l) Signature of the Certified Landscape Expert who prepared the plans together as verification that plantings and other landscape elements meet the requirements of the this chapter.

3404.5 Applicants shall provide a landscape maintenance plan prepared and signed by a Certified Landscape Expert that describes how the plantings, water features and hardscape features will be cared for and maintained including:

- (a) Soil preparation;
- (b) Use of compost;
- (c) Plant replacement;
- (d) Irrigation;
- (e) Weed and pest control; and
- (f) Control of noxious or invasive species.

3404.6 The following modifications or substitutions to the landscape elements of an approved landscape plan require a plan revision and approval:

- (a) Number of trees, shrubs, or groundcovers;
- (b) Location of required plantings or landscape features;
- (c) Substitution of species; or
- (d) Revisions of any feature that could decrease the planting area or lower the GAR score.

3404.7 Except as provided below, approved landscape elements shall be installed in accordance with the approved plan prior to the issuance of the certificate of occupancy.

3404.8 Prior to the issuance of the certificate of occupancy, a landscape checklist must be signed by a Certified Landscape Expert, verifying that that landscaping was installed according to the building permit approved by DCRA.

3404.9 The Zoning Administrator may grant a temporary certificate of occupancy when installation of the required landscaping is not currently possible due to weather,

season or site construction subject to the condition that the required landscaping must be installed within four (4) months after the date the temporary certificate is issued.

3404.10 The Zoning Administrator may grant up to two (2) extensions of a temporary certificate of occupancy, each for a four (4) month period by based on the same conditions of § 3004.9.

3405 SPECIAL EXCEPTIONS FOR GREEN AREA RATIO

3405.1 The Board of Zoning Adjustment may grant, by special exception, a full or partial reduction in the GAR required under this chapter if, in addition to meeting the general requirements of § 3104, the applicant demonstrates that providing the GAR is impractical as a result of equivalent sustainability measures already being implemented on the property that achieve the intent of the GAR through methods not available through the GAR requirement.

3406 MAINTENANCE REQUIREMENTS FOR GREEN AREA RATIO

3406.1 All plantings and landscape elements used to calculate a property’s GAR must be maintained for the life of the project. If, for any reason, the installed landscape elements fall below the minimum required GAR score, new eligible landscape elements shall be added to compensate and result in the required ratio. These elements are not required to be the same as the submitted plans, so long as the GAR achieved is equivalent.

Chapter 4 **RESIDENCE DISTRICTS: HEIGHT, AREA, AND DENSITY REGULATIONS** is amended by adding a new § 412 PERVIOUS SURFACE to read as follows:

412 PERVIOUS SURFACE

412.1 Except as otherwise required by this title, the minimum percentage of pervious surface of a lot in a Residence District shall be as set forth in the following table:

ZONE DISTRICT AND STRUCTURE	MINIMUM PERCENTAGE OF PERVIOUS SURFACE
R-1 through R-4 Public recreation and community centers	30%
R-1-A, R-1-B All other structures	50%
R-2 All other structures	30%
R-3 All other structures	20%

ZONE DISTRICT AND STRUCTURE	MINIMUM PERCENTAGE OF PERVIOUS SURFACE
R-4 All other structures	20%

412.2 The percent of pervious surface area shall be calculated by dividing the total area of pervious surfaces on the lot by the total area of the lot.

412.3 Only the following shall be considered pervious surfaces for the purposes of calculating the pervious surface area:

- (a) Grass, mulched groundcover, all areas of a vegetated roof planted with a growing medium, and other planted areas;
- (b) Pervious pavers or paving that facilitate the infiltration of water into the soil; and
- (c) Decks or porches constructed above the surface of the lot that are erected on pier foundations, and that maintain a permeable surface underneath that can facilitate the infiltration of water into the soil.

412.4 The Board of Zoning Adjustment may grant, by special exception, a full or partial reduction in the minimum pervious surface requirement required by this section if, in addition to meeting the general requirements of § 3104, the applicant demonstrates that complying with the minimum pervious surface requirement is impractical because of size of lot, or other conditions relating to the lot or surrounding area that would tend to make full compliance unduly restrictive, prohibitively costly, or unreasonable, or as a result of equivalent measures being implemented on the property that provide the same minimum pervious surface amount.

Chapter 21 is amended by adding a new § 2111 **SURFACE PARKING LOTS LANDSCAPING STANDARDS**, to read as follows:

2111 SURFACE PARKING LOTS LANDSCAPING STANDARDS

2111.1 Surface parking areas with ten (10) or more parking spaces shall conform to the landscaping, tree canopy cover, screening, and lighting requirements as set forth in this section:

- (a) A minimum of ten percent (10%) of the total area devoted to parking, including aisles and driveways shall be covered by landscaped areas planted with trees and shrubs;

- (b) The landscaping shall be maintained in a healthy, growing condition; Dead or dying landscaping shall be replaced;
- (c) All end islands of parking rows longer than nine (9) parking spaces, and all areas otherwise not used for ingress and egress, aisles, and parking spaces shall be landscaped;
- (d) Landscaping around the perimeter of the parking area may count toward the area requirement of this subsection up to a distance of six feet (6 ft.) from the pavement;
- (e) All newly planted trees shall have a minimum diameter of two and one-half inches (2.5 in.); All trees shall be planted or retained in a space that provides a minimum of five hundred (500) cubic feet of soil volume per tree; and
- (f) Trees shall be planted a minimum of four feet (4 ft.) from any protective barrier, such as curbs or wheel stops.

2111.2 The Board of Zoning Adjustment may grant, by special exception, a full or partial reduction in the landscape standards for parking lots required by this section if, in addition to meeting the general requirements of § 3104, the applicant demonstrates that complying with the landscape standards is impractical because of size of lot, or other conditions relating to the lot or surrounding area that would tend to make full compliance unduly restrictive, prohibitively costly, or unreasonable.

Chapter 31, BOARD OF ZONING ADJUSTMENT RULES OF PRACTICE AND PROCEDURE, is amended as follows:

Section 3104.1 is amended by adding the following to the table:

TYPE OF SPECIAL EXCEPTION	ZONE DISTRICT	SECTIONS IN WHICH THE CONDITIONS ARE SPECIFIED
Green Area Ratio	All Districts where applicable	§3405
Minimum Pervious Surface	All Districts where applicable	412
Surface Parking Lots Landscaping Standards	All Districts where applicable	2111

Proposed amendments to the Zoning Regulations of the District of Columbia are authorized pursuant to the Zoning Act of June 20, 1938, (52 Stat. 797), as amended, D.C. Official Code § 6-641.01, *et seq.*

The public hearing on this case will be conducted as a rulemaking in accordance with the provisions of 11 DCMR § 3021. Pursuant to that section, the Commission will impose time limits on testimony presented to it at the public hearing.

All individuals, organizations, or associations wishing to testify in this case should file their intention to testify in writing. Written statements, in lieu of personal appearances or oral presentations, may be submitted for inclusion in the record.

Information should be forwarded to Sharon S. Schellin, the Secretary of the Zoning Commission, Office of Zoning, Suite 200-S, 441 4th Street, N.W., Washington, D.C., 20001. Please include the number of this particular case and your daytime telephone number. **FOR FURTHER INFORMATION, YOU MAY CONTACT THE OFFICE OF ZONING AT (202) 727-6311.**

ANTHONY J. HOOD, MARCIE I. COHEN, PETER G. MAY, AND MICHAEL G. TURNBULL ----- ZONING COMMISSION FOR THE DISTRICT OF COLUMBIA, BY SARA A. BARDIN, DIRECTOR, AND BY SHARON S. SCHELLIN, SECRETARY TO THE ZONING COMMISSION