**UE 2:**
**INCREASE BIODIVERSITY IN SIDEWALK PLANTINGS**

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**Summary**

**Issue:**
Where groundcover is required under the Zoning Code, such as in sidewalk planting strips, standard practice is to use turfgrass. But, turfgrass is a water-intensive monoculture that requires pesticides and fertilizers.

**Recommendation:**
Prohibit the use of turfgrass within the sidewalk planting strips required in new developments.

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**Proposed Legislation, Rule or Study**

**Amendments to the New York City Zoning Resolution**

1. Add the following definitions to Section 12-10 (Definitions):

   **Low Herbaceous plants**
   
   A “low herbaceous plant” is part of the family of plants that lack a permanent woody stem, are low-growing or creeping and include: grasses, native ground covers, “steppables” (herbaceous ground covers tolerant of limited foot traffic), herbs, perennials, annuals and vegetables. Both evergreen and deciduous plants may be herbaceous plants.

   **Native Meadow**
   
   A “native meadow” is a combination of native, warm-season grass types which may or may not contain perennials (flowers). Warm-season grasses have extensive root systems which make them far more drought tolerant than cool-season grasses that comprise turfgrass. Mature height ranges of the plants contained in a meadow typically vary from 8 inches to 36 inches depending on seed mix.

   **No-mow grass**
   
   “No-mow grass” is a spreading or stoloniferous grass (such as SR3100 Hard Fescue, Scaldis Hard Fescue, Dawson Red Fescue, Creeping Red Fescue or Sheep fescue) that ranges in mature height from 4 to 8 inches.

   **Turfgrass**
   
   “Turfgrass” is a spreading or stoloniferous grass that is comprised of cool-season grass seeds and requires regular mowing.

2. Amend Section 26-11 as follows:

   **26-11 General Purposes**
   
   The urban design guidelines are established to strengthen, at street level, the relationship of new developments with existing buildings and to improve the quality of the streetscape by:

   (a) maintaining the visual continuity of new developments at street level;
   (b) enhancing the visual character of the neighborhood; [and]
   (c) reducing conflict between pedestrian and vehicular circulation[.]; and
   (d) improving the environmental quality through sustainable landscape practices.
3. Amend Section 26-23 as follows:

26-23
Requirements for Planting Strips and Trees

A minimum three-foot wide planting strip shall be provided adjacent to and along the entire length of the required curb. Within the required planting strip, one tree of at least three inches in caliper shall be planted for every 25 feet of length of such planting strip. Driveways are permitted to traverse such planting strips, and utilities are permitted to be located within such planting strips. Within this planting strip, no turf grass shall be permitted.

4. Amend Section 26-42 as follows:

26-42
Planting Strips

In accordance with applicability requirements of underlying district regulations, the owner of the development, enlargement or converted building shall provide and maintain a planting strip. Street trees required pursuant to Section 26-41 shall be planted within such planting strip. In addition to such street trees, such strip shall be fully planted with [grass or groundcover] native meadow plantings, no-mow grass, low herbaceous plants or native ground covers, except that street trees within the planting strip shall have a minimum of a 3 foot diameter mulch bed at their base. Native meadow or other grasses shall be mowed once per year. Such planting strip shall be located adjacent to and extend along the entire length of the curb of the street.

Supporting Information

Issue – Expanded
32 million acres in the United States are planted in turfgrass, more than the acreage planted with crops. Although ubiquitous in private and public gardens across the country, turfgrass has many negative environmental attributes. It requires excessive amounts of water, causes water and air pollution, and has very low biodiversity.

Each day, approximately 7.9 billion gallons of potable water are used throughout the U.S. to irrigate landscapes that are largely comprised of turfgrass. In the Northeast, just 1000 square feet of turfgrass requires 624 gallons of water weekly and often more than 10,000 gallons over the course of the growing season. Almost 10% of the potable water in urban areas is used for landscaping.

Often, turfgrass is also fertilized with nitrogen and phosphorus. Both of these highly water soluble chemicals runoff into receiving waters with heavy rain or excessive irrigation. Phosphorus causes algal blooms that devastate fish and other organisms and upsets the ecology of aquatic systems. A 1000 square foot area of bluegrass requires 6 pounds of nitrogen fertilizer weekly. Pesticides used to treat turfgrass are also highly toxic and water soluble. About 7 million birds are estimated die annually throughout the US as a result of exposure to lawn pesticides.

In addition, lawnmowers are highly polluting and consume 58 million gallons of gasoline each year in the U.S. A typical lawn mower operating for one hour produces the same amount of air pollution as one new car running for 11 hours.

Finally, most turfgrass seed species are not native to the Northeast and as a result, insects do not feed on the grass blades. This reduces the presence of birds and other animals in New York City.

Environmental & Health Benefits
Reduced noise and air pollution from mowers and blowers; less damage to tree trunks from mowers; longer lifespans for street trees; greater habitat from diversified species.

This proposal was found to have a low, positive environmental impact per building and to impact a small number of buildings. It was thus given an environmental score of 1.

This proposal was found to have no significant positive health impact.

Cost & Savings
This proposal is not expected to have any significant impact on capital costs.

Precedents
There are no known precedents for this proposal.
This recommendation may assist in achieving credit for:

- LEED NC-SS cr.5.1 Site Development, Protect or Restore Habitat;
- LEED EB-SS CR.4 Reduced Site Disturbance, Protect or Restore Open Space;
- LEED for Schools-SS cr. 5.2 Site Development, Protect or Restore Habitat; and
- LEED ND (pilot program)-GCT cr.7 Minimize Site Disturbance during Construction.

These credits include options that require protecting a portion of the site area with native/adapted vegetation. For previously developed sites, LEED requires that a project utilize local and regional governmental agencies, consultants, educational facilities, and native plant societies as resources for the selection of appropriate native or adapted plant materials. LEED prohibits plant materials listed as invasive or noxious weed species. A project seeking these relevant LEED credits must support with research that turfgrass is in fact an invasive species.

This recommendation will also assist in achieving credit for:

- LEED NC-WE cr.1.1 & 1.2 Water Efficient Landscaping;
- LEED EB-WE cr.1.1 & 1.2 Water Efficient Landscaping;
- LEED for Schools-WE cr.1.1 & 1.2 Water Efficient Landscaping;
- LEED for Retail NC (pilot program) WE cr.1.1 & 1.2 Water Efficient Landscaping; and
- LEED ND (pilot program) GCT cr.3 Reduced Water Use.

These credits limit or eliminate the use of potable water for landscape irrigation, and include the selection of climate-tolerant plants.

Implementation and Market Availability

“No mow” grasses and native meadow grasses are readily available from multiple suppliers. Internet resources and botanical gardens offer extensive information on appropriate plant and seed selection, planting procedures, care and maintenance of turfgrass alternatives. University web sites such as University of Massachusetts, Rutgers University and University of Connecticut offer such resources.

Notes

Selection of the appropriate types of herbaceous plants depends on the soil type and sun and shade conditions but will typically survive without irrigation under normal annual rainfall in New York City. Selection of species should consider appropriate height, salt and drought tolerance and resistance to foot traffic.

For native meadows, annual mowing is required to prevent growth of woody plants. Mowing should be done in the fall and should retain between 6”-8” height of stems. Selection of the appropriate types or combinations of native grasses and wildflower perennials depends on the soil type and sun and shade conditions but will typically survive without irrigation or supplemental water under annual rainfall in New York City. Selection of species should consider appropriate height, salt tolerance, and resistance to foot traffic.

No-mow grass does requires mowing once or twice a year to prevent growth of woody plants. Selection of the appropriate type of no-mow grass depends on the soil type and sun and shade conditions but will typically survive without irrigation or supplemental water under annual rainfall in New York City. Select mixes that are appropriate for New York City’s climatic zone (Zone 6) and use at least 3 seed types in the mix. Available and appropriate species are inherently salt and drought tolerant.

Turfgrass requires regular mowing, fertilizer and pest control-applications, and constant water application of at least 1” per week of supplemental water from a potable water source.