**UE 1: INCREASE BIODIVERSITY IN PUBLIC LANDSCAPES**

*Rules of the City of New York (New York City Department of Transportation and Department of Parks and Recreation)*
Proposal developed by the Site & Site Stormwater Committee

**Summary**

**Issue:**
Historically, foreign species and monocultures have been widely used in landscaping to the detriment of the urban ecology. Native and diverse plants species tend to be hardy, require little water and fertilizer, and provide habitats for birds and other native animals.

**Recommendation:**
Promote diverse and native plant species by requiring their use on city-owned property, including buildings, parks and sidewalks.

**Proposed Legislation, Rule or Study**

City agencies should revise their planting rules, specifications and design manuals to conform to the standard below.

The following requirements shall apply to planting on city owned property.

1. No plant species shall be used if it is listed as invasive as defined and identified by the New York State Department of Environmental Conservation.

2. The following requirements shall pertain to various sites:

<table>
<thead>
<tr>
<th>Type of Site</th>
<th>Native Species Requirement</th>
<th>Diversity Requirement</th>
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<tbody>
<tr>
<td>Green Streets Medians</td>
<td>A minimum of 50% of all plant material shall be native species and drought and salt tolerant</td>
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<td>Sites 1 &lt; 0.5 acres</td>
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<td>Sidewalks</td>
<td>A minimum of 75% of all trees proposed to be planted shall be drought and salt tolerant; minimum 30% shall be native.</td>
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<td>Builder’s Pavement Plan to include location and species of all trees, both existing and proposed, on each affected block. No single tree species shall be used for a length of more than four blocks.</td>
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<td>0.5 acres &lt; Sites &lt; 5</td>
<td>A minimum of 60% of all plant material shall be native species and drought and salt tolerant.</td>
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<td>acres</td>
<td>No single species shall comprise more than 30% and not more than 50% of any genus and not more than 70% of any family of the plant material.</td>
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<tr>
<td>Sites &gt; 5 acres</td>
<td>A minimum of 75% of all plant material shall be native species and drought and salt tolerant.</td>
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<td></td>
<td>No single species shall comprise more than 10% and not more than 20% of any genus and not more than 30% of any family of the plant material.</td>
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**Exemptions:**

1. Historic parks that have significant stands or allees of viable, non-invasive, non-native trees.
2. Existing trees (or shrubs) shall not be removed to bring a project into compliance.
Supporting Information

Issue – Expanded

Landscaping has traditionally involved exotic plants and vast monocultures of turf grass. Non-native species are typically brought to North America without their predators and thus often outcompete native plant species. Many non-native species are prolific seed producers, escaping cultivation and colonizing new areas. Maintaining monocultures of turf grass requires the application of fertilizers and herbicides. Non-native species that have adapted to wetter conditions than New York, can also require regular watering.

Invasive species have caused millions of dollars in damage to agriculture, wetlands, water bodies and livestock. Ecologists estimate that invasive species overtake 3 million acres per year at a cost of $123 billion annually; zebra mussel can shut down electrical utilities by clogging water intake pipes; leafy spurge causes $144 million in livestock forage damage annually in Montana, North and South Dakotas and Wyoming; invading sea lampreys caused the collapse of the lake trout and other Great Lakes fisheries, costing the US and Canada approximately $13 million annually to control; the Asian long-horned beetle required the destruction of 2000 trees in Brooklyn, costing the federal, state and city governments $5 million (as of 1999).

In contrast, native species are already adapted to the local climate and ecosystem. They typically require less water than exotic plants and are harder. When plantings are diverse, there is less need for pesticides and fertilizers. Native plants also provide habitats for local birds, insects and other animals.

Environmental & Health Benefits

Native and diverse plantings require less water and fertilization and are more likely to survive drought conditions and pathogens.

This proposal was found to have a low, positive environmental impact per building and to impact a large number of buildings. It was thus given an environmental score of 2.

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.

Prohibiting the use of invasive, non-native species reduces labor cost associated with grounds maintenance and reduces the cost of replanting after intended species have been overrun by invasive, non-native species.

Much greater savings are attributable to curtailing or suppressing the spread of invasive species and/or host pests that have destroyed natural areas such as forests, wetlands, water bodies, and economic resources such as fisheries, agriculture and timber production.

Precedents

The Federal Report of the National Performance Review, 1994, recommends “environmentally beneficial landscaping” at federal facilities and federally funded projects. The recommendations, which were incorporated into all federal programs and practices by February 1996, propose that federal agencies use regionally native plants for landscaping in a way that minimize adverse effects on the natural habitat.

Executive Order #13112 passed on February 3, 1999 promulgated during the Clinton administration states that a federal agency cannot authorize, fund or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States. This same Executive Order created the National Invasive Species Council that posts a list (updated every 2 years) of invasive species. Any state agency receiving federal funds, such as NYS DOT, must uphold the native planting requirement.

The guidance highlights that using native plants and employing landscaping practices that conserve water and prevent pollution will minimize the adverse effects of landscaping on the environment.

The current approved list of Street Trees published by NYCDPR 2009 contains 66% of native tree species.

New York State and New York City have a number of different groups focused on identifying invasive plant species. Unlike many other states, NYSDEC has yet to publish a list if invasive plants. Until such time, it is recommended to use the Brooklyn Botanic Garden list and the Cornell Cooperative Extension Invasive Species Clearinghouse.

LEED

This recommendation may assist in achieving:

- 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
- 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.

In addition, LEED EB-SS cr.1 Green Site and Building Exterior Management includes protecting natural areas among the possible measures to include in the management plan for obtaining this credit.
Implementation & Market Availability
There are no known implementation issues associated with this proposal.
Wholesale and retail nurseries and plant growers are greatly expanding the availability of native plant species.

Notes
A native species is:

- A species that reproduces in a region without human intervention;
- A species that co-evolves with and depends on other regional plants and animals for survival;
- A plant not transplanted to the region by humans accidentally or purposefully;
- A species that, with respect to a particular ecosystem, that historically occurred or currently occurs, other than as a result of human introduction, in that ecosystem.

ENDNOTES:

1 Note: Site area is the unbuilt area of the site, and refers to both building sites and parks.
2 Note: Plant material includes trees, hedges, shrubs, and perennial plants.