



CITY COUNCIL WORK SESSIONS AGENDA

**Sustainable Land Care Policy
Council Chambers
25 Crescent Road
Monday, July 15, 2019
8:00 PM**

Work Session Packet - *Agenda*

- *Introductions*
- *Council Discussion*
- *Questions and Answers*
- *Other Items*

Sustainable Land Care Policy

[Summary of Group Suggestions.pdf](#)

[Sustainable Land Care Policy July 15 2019 Final Staff Draft.pdf](#)

[Sustainable Land Care Policy July 25 2017.pdf](#)

[Sustainable Land Care Policy July 25 2017 GreenACES final edit 3 2019.pdf](#)

[FPAB Report 2019-01.pdf](#)

[ACT_Report_2019_1.pdf](#)

[PRAB Report 19-2 Sustainable Land Care Policy 3-21-19.pdf](#)

City Council Work Sessions Agenda Item Report

Meeting Date: July 15, 2019

Submitted by: Shaniya Lashley-Mullen

Submitting Department: Administration

Item Type: Work Session Item

Agenda Section:

Subject:

Sustainable Land Care Policy

Suggested Action:

Attachments:

[Summary of Group Suggestions.pdf](#)

[Sustainable Land Care Policy July 15 2019 Final Staff Draft.pdf](#)

[Sustainable Land Care Policy July 25 2017.pdf](#)

[Sustainable Land Care Policy July 25 2017 GreenACES final edit 3 2019.pdf](#)

[FPAB Report 2019-01.pdf](#)

[ACT_Report_2019_1.pdf](#)

[PRAB Report 19-2 Sustainable Land Care Policy 3-21-19.pdf](#)

Summary of Group Suggestions

Below are the suggestions put forth by GreenACES, ACT, FPAB, and PRAB along with actions taken by staff.

GreenACES:

Introduction:

- Insertion of detailed history under "Background"
- Staff decided to remove "Background" section

Plant Care:

- Insertion of language on pesticides and adverse health effects, precautionary principle, differences between IPM and OPM, NOFA, general rule, and additional requirements for public notification
- Staff included revised language on pesticides and adverse health effects
- Staff did not include precautionary principle
- Staff reduced language on IPM and OPM and included a table to depict differences
- Staff included NOFA language and general rule (in different location)
- Staff modified and reduced language for public notification

ACT:

No suggestions

FPAB:

Introduction:

- Insertion of new language under "Organization"
- Staff included new language

PRAB:

No suggestions

Sustainable Land Care Policy



City of Greenbelt
July 2019⁴

Introduction

Sustainable land care means planting what will do well in regional climates, conserving water, using organic sources of nutrients, minimizing the use of pesticides, building soil health, and minimizing the impacts of polluted runoff.

The Policy is intended to be a living document—one that is updatable and adaptable to a variety of factors including: climate change, introduction of invasive pests and plants, passage of new regulations, and shifting research patterns.

Geography:

The City has a total land area of 6.34 square miles, of which 6.28 square miles are land and 0.06 square miles are water. Staff manages 515 acres of parkland, a 709 acre National Historic District, and numerous outdoor recreation amenities. Greenbelt is located within three sub-watersheds that drain into the Anacostia and Potomac Rivers.

Organization:

The Policy applies to all City-owned property, except for specific areas that are governed by code under an alternative policy. For example, the Forest Preserve Management and Maintenance Guidelines, adopted by City Council in 2007, is the policy that governs the Greenbelt Forest Preserve pursuant to Chapter 12, Articles 8 and 9 of the Greenbelt City Code¹.

The Policy applies to all Staff working within the City, including Public Works employees and contractors. The Policy will be implemented by trained, certified, and licensed Staff whose actions are regulated by the State of Maryland and the Environmental Protection Agency. Staff will have access to education resources that promote sustainable landscaping practices.

Areas of Consideration:

The Policy describes sustainable approaches for the following areas of consideration:

1. Site Analysis & Design
2. Plant Care
3. Athletic Turf
4. Watering
5. Trees
6. Invasive Species
7. Composting & Mulching²

Site Analysis & Design

The secret to successful landscape design and maintenance is through proper planning.

Site Analysis & Design:

The goal of Site Analysis & Design is to gather data and record observations about a landscape site. This information is utilized to develop landscapes that are sustainable and require minimal care. A Site Analysis & Design includes the following considerations:

1. Soil
2. Plant Species
3. Wildlife
4. Water
5. Sunlight
6. Access

Soil:

One of the first steps toward establishing a healthy landscape is an analysis of the soil structure and nutrient composition. Since Greenbelt's soil has been significantly altered—due to years of construction, agricultural practices, and other human activities—it's important to conduct thorough soil testing on a regular basis.

The City will adhere to the following methods in order to best maintain soil:

1. Soil testing of landscapes and athletic fields conducted in accordance with ASTM Standard D5435 – 13, *Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain Protection*.³
2. Proposed soil, sediment and erosion alterations will be in compliance with mandatory requirements of Maryland Department of the Environment's *Standards and Specifications for Soil Erosion and Sediment Control*.⁴

Plant Species:

Plants that are properly matched with their surrounding environment have positive effects on the local ecosystem. Determining the “right plant for the right place” can reduce maintenance needs, simplify watering routines, and attract a diversity of wildlife.⁵

The City will employ the following principles when analyzing plant placement:

1. Preference given to native, non-invasive plants for restoration of natural areas—which have adapted to the conditions of the region, require less maintenance, and provide a deep root structure for capture of rain water runoff.
2. Utilize plants with proven pest and disease resistance for landscape and street trees.
3. Select plants that are tolerant to environmental pressures and conditions.
4. Select a diversity of plants—monocultures are prone to disease and insect infestation.
5. Preference to purchase plants from local nurseries that sustainably grow plant stock.

Wildlife:

Greenbelt is home to a diversity of wildlife. By mimicking natural ecosystems, local landscapes can provide shelter, nesting sites, food, and water sources for an abundance of species.⁶

Greenbelt Staff will utilize the following principles to attract and retain wildlife:

1. Develop diverse landscapes—different wildlife species have varying needs for survival. The more vibrant the landscape, the more wildlife it can expect to attract.
2. Design around existing trees or other significant vegetation—by linking plant areas together, a "habitat corridor" is created for wildlife to travel to and from natural areas.

Additional Considerations:

A Site Analysis & Design can include a variety of professional recommendations. Greenbelt Staff will also consider, but not be limited to, the following directives:

1. Strive to reduce the amount of impermeable surfaces throughout the City—by choosing permeable surfacing options during design phases that promote improved storm water runoff quality.
2. Evaluate parking islands, and other similar areas near paved surfaces for conversion to storm water management entities—such as rain gardens.
3. Prohibit vehicle use in turf areas and tree protection zones—unless approved by the Public Works Department.



Plant Care

Sustainable plant care meets the needs of the present without compromising the needs of the future.

Plant Care:

All vegetation needs nutrients in order to thrive. Most plants can obtain these minerals through the soil and atmosphere, depending upon their location, age, and species. On occasion, it may be prudent, or even required, to consider additional land management practices.

Fertilizers:

Fertilizers are materials of natural or synthetic origin that supply essential nutrients to plants.⁷ Due to potential impact on the environment—including runoff into local waterways and buildup of excessive soil nutrient levels—the use of fertilizers is often not recommended.

With proper care of plants and soil, most landscapes can survive without additional inputs. However, if nutrients are missing from the soil, the growth rate of plants will be limited. The City will consider fertilizers in the following instances:

1. When establishing new plant beds and areas where the soil is nutrient deficient.
2. To invigorate growth of trees in decline, as determined by a Licensed Arborist.

Fertilizers will be employed only after a soil test has been conducted, and results indicate a lack of nutrients to sustain plant life.⁸ Maryland Nutrient Management regulations require soil testing prior to fertilizer application so the types and amounts are specific to correct deficiencies. With the proper management of soil, the use of fertilizers may be reduced or even eliminated in some circumstances. It is important to note that utilizing sources of nutrients that are renewable resources such as blended organic fertilizer is a viable means of supplying necessary plant nutrients.⁹

The City will observe guidelines established under the *Maryland Nutrient Management Law*¹⁰, including:

1. Staff that use fertilizer must be certified by the Maryland Department of Agriculture or work under direct supervision of certified persons.
2. No fertilizer applications within 15 feet of waterways or as specified by State Law.
3. Do not apply fertilizer between November 15 and March 1.

Pesticides:

Pesticides—which include insecticides, herbicides, and fungicides—are substances intended to prevent, destroy, repel, or mitigate pests.¹¹ By their very nature, pesticides can harm the environment because they are designed to adversely impact living organisms.

The City recognizes that pesticides are valuable tools in protecting both human and environmental health. However, emerging research has linked a higher risk of adverse health effects to pesticide applicators. These risks can be mitigated by proper training, education, and the wearing of personal protection equipment (PPE).

By completing a Site Analysis & Design, many pest problems can be reduced. The following preventive measures will be implemented to diminish potential pest impacts:

1. Selection of plant species that are proven to be pest resistant.
2. Regular monitoring of landscapes to determine pest threats.
3. Conduct soil testing as needed to maintain healthy soil and disrupt pest population.
4. Inspect all new plant material orders to ensure they are insect and disease-free.

Integrated Pest Management (IPM) and Organic Pest Management (OPM) are two related valuable tools to assist the City in Pest Management.

Organic Pest Management	Integrated Pest Management
1) Preventing plant and pest problems.	1) Preventing plant and pest problems.
2) Identifying pests, beneficials and their ecology.	2) Identifying pests, beneficials and their ecology.
3) Regular monitoring of plants, pests, beneficials and practices that affect them.	3) Regular monitoring of plants, pests, beneficials and practices that affect them.
4) Taking action once pest exceeds threshold if necessary using an integrated approach utilizing physical, mechanical, cultural, and biological controls.	4) Taking action once pest exceeds threshold if necessary using an integrated approach utilizing physical, mechanical, cultural, biological, and (as a last resort) the least toxic, most environmentally-friendly <u>chemical</u> controls.
5) Evaluating action, recordkeeping, continuing to monitor, and assessing the effect of pest management.	5) Evaluating action, recordkeeping, continuing to monitor, and assessing the effect of pest management.

The City will maintain City-owned property through OPM and IPM practices. The City will follow OPM protocol until chemical controls are necessary. If chemical controls are necessary, only the most environmentally friendly pesticides will be used on City property. This rule applies to all maintenance done by City employees and to all City contracts.

These measures below are part of IPM a strategy that manages pest damage by the most economical means and least possible hazard to the environment.¹² IPM uses several compatible techniques to achieve safe, long-term pest management:

1. *Cultural Controls* - Practices that reduce pest establishment, reproduction, and survival - healthy soil, proper watering, and sanitation.
2. *Biological Controls* - The use of natural enemies - predators, parasites, pathogens, and competitors - to control pest damage.
3. *Mechanical Controls* - Use of barriers to exclude pests and create unsuitable living conditions.
4. *Chemical Controls* - Use of pesticides, as a last resort, in combination with other approaches.

There are effective alternatives to the use of pesticides for most landscaping applications. As previously noted, NOFA has developed a standards-based approach to organic landscape maintenance that avoids the use of pesticides, while promoting a healthy landscape. When pesticides are considered, elements of the *NOFA Standards for Organic Land Care: Practices for Design and Maintenance of Ecological Landscapes* may be utilized.¹³ These proactive strategies aim to further enhance biodiversity, biological cycles, and soil biological activity; and include:

1. Minimizing known or suspected effects on human health and the environment
2. Minimizing persistence in the environment of the applied material
3. Maximizing material effectiveness to keep the amount and number of applications to a minimum.
4. Use naturally occurring materials where possible.

In some cases, Maryland Department of Agriculture (MDA) or other Government entities mandate the use of pesticides. Recent outbreaks of gypsy moth and emerald ash borer have resulted in a Federal Quarantine managed with a combination of insecticides.¹⁴

Unless mandated, Greenbelt will only apply pesticides as a last-resort control mechanism. The following guidelines will be employed:

1. Staff must be certified/licensed to use pesticides - or work under direct supervision of certified persons - according to Maryland's Pesticide Applicator's Law.¹⁵
2. Staff will abide by the EPA's list of banned chemicals.
3. Staff will wear proper PPE for the pesticide being applied.
4. No Pesticide use for aesthetic purposes unless action thresholds for plant health are met or exceeded as determined by a certified/licensed Pesticide applicator.¹⁶
5. Evaluation of current and future weather conditions to prevent drift.
6. Exceeding label rate of application is a violation of Federal Law.
7. Do not use within 15 feet of waterways¹⁷; except for control of aquatic invasives where Staff will have an aquatic treatment license.
8. Disposal of infected plants must be conducted in accordance with Maryland Department of Agriculture standards.
9. Most environmentally friendly products will be used first.
10. Whenever possible use natural occurring materials—with exception to instances involving threats to plant and public health, as well as public safety.

Public Notification:

Notification will be given on the appropriate City website and signs will be posted adjacent to application areas and remain posted for at least 48 hours after application of the pesticide. Notice on signs will include:

1. The company name (City of Greenbelt or vendor).
2. Phone number to contact in case of questions.
3. Date of application.
4. Common name of the pesticide used.

Other Considerations:

In addition to following mandatory guidelines set forth by the MDA regarding pesticide use, Greenbelt Staff have consulted the United States Environmental Protection Agency's list of *Banned or Severely Restricted Pesticides*¹⁸, the City of Takoma Park's *Safe Grow Act of 2013*¹⁹, and the Northeast Organic Farming Association's *Standards for Organic Land Care, Practices for Design and Maintenance of Ecological Landscapes*²⁰.

Athletic Turf

Managing athletic fields goes beyond cost and includes safety issues and uniform playing conditions.

Athletic Turf:

Athletic and utility-type turfs comprise a significant portion of the landscape in Greenbelt. These areas are key resources to the community as they contribute to open space, provide recreation opportunities, and add value to nearby properties.

Athletic turf requires a unique and deliberate maintenance plan, as it must adhere to safety standards of various sports programs. Greenbelt Staff will implement best management practices provided in the *Maryland Professional Lawn Care Manual*, including:

1. Establish mowing height of 2.5" to 3" to increase turf density.
2. Aerate and overseed fields in Spring and Fall to promote seed germination.

Due to heavy use, athletic turf can lack density and exhibit bare spots which allow weeds to germinate. Invasive species and broadleaf weeds pose significant safety challenges for athletes by eliminating a uniform playing surface. In order to maximize safety for users, Greenbelt staff will administer an Integrated Pest Management (IPM) strategy including:

1. Conduct soil testing as needed to determine turf health.
2. Based on soil results, administer application of blended organic fertilizer or pH products to promote turf growth.
3. Based on field assessment, administer applications of synthetic fertilizer only when the safety of playing field has been compromised.

Turf care is an emerging field of research. The University of Maryland established a Turfgrass Management Program and other scholars are conducting long range studies²¹ on sports turf resilience. As laws, trends, and new research evolve, the City will adapt its management strategies to meet community needs.

Watering

Water is a finite resource that must be protected and preserved.

Watering:

Maintaining a beautiful landscape often requires supplemental watering. Since many plants cannot sustain periods of dry weather, it is important to establish a conservation plan that considers amount, frequency, and flow of watering practices.

The use of water as a supplemental resource for plant health will be considered in the following situations:

1. To establish new plantings.
2. To care for annual plantings.

Applications of water will adhere to the following directives:

1. Drip irrigation systems are the preferred use to water annual plantings.
2. New perennials and trees will receive supplemental watering for Season 1, and will be evaluated for watering needs in Season 2.
3. Overhead watering systems are only acceptable when large areas of plants and trees show signs of drought stress. This practice should only be conducted on a short-term basis every 2 weeks until sufficient rainfall or water restrictions are imposed by the State of Maryland.

Runoff:

When rain hits hard surfaces like streets and sidewalks, it channels into storm drains and nearby water sources. This water eventually ends up in the Chesapeake Bay and brings with it debris, chemicals, and other pollutants.

Reducing storm water runoff improves water quality by preventing pollutants from reaching waterways and taking stress off of drainage systems. Considerations for handling runoff in Greenbelt include:

1. Conduct quarterly water sampling as required by the *Maryland Department of Environment's Municipal Separate Storm Sewer System (MS4) Permits*.
2. The use of rain barrels and cisterns that can supply water for annual planting needs.
3. Construction of rain gardens and riparian buffers to filter storm water runoff.
4. When it improves runoff, choosing pervious surfaces—which allow the movement of storm water through the surface—for new Capital Projects.²²

Trees

Trees are a valuable asset to community landscapes that must be functional, visually pleasing, environmentally friendly, and maintainable.

Trees:

More than 2468 acres, or 62%, of Greenbelt are covered by tree canopy, while an estimated 23% of the City can support additional trees.²³ Urban tree canopy (UTC) provides many benefits—improved water quality, reduced air pollution, enhanced property value, wildlife habitat, control of “heat island effect,” and aesthetic benefits.

The City is developing plans to increase canopy coverage and improve maintenance systems of Greenbelt’s trees. In 2013, the City conducted a *Street Tree Inventory* that used GIS software to map and retrieve data about right-of-way street trees.²⁴ The City will develop a *Tree Master Plan* to ensure a safe, attractive, and sustainable tree canopy.



The following guidelines will be implemented to protect and enhance tree canopy:

1. All City trees will be regularly monitored and inspected by the City Arborist for symptoms of stress, disease, pests, and physical damage.
2. The *Street Tree Inventory* will be updated to reflect new plantings, hazard trees, and tree removals.
3. No tree will be removed or pruned without permission of the City’s Certified Arborist.
4. Street trees posing hazard to public safety will be pruned or removed as needed.
5. New trees will be planted in accordance with
 - a. *Prince George’s County Landscape Manual*.²⁵
 - b. Greenbelt Advisory Committee on Trees’ *Recommended Trees for Use Under Power Lines* and *Recommended Tree Species Appropriate for Greenbelt Parks*.²⁶
 - c. City of Greenbelt’s *Tree Master Plan*.
6. Tree protection zones will be established around new plantings and large established tree areas that require protection from foot and vehicle traffic.

Invasive Plant Species

Invasive plants impede recreational activities and have enormous effects on labor costs and the environment.

Invasive Species:

Invasive species are one of the leading causes of environmental degradation and loss of biological diversity worldwide. As global travel has introduced species to new areas, these non-native plants can be invasive and often alter natural habitats with disastrous consequences on the environment.

Taking action against invasive plants involves significant consideration of available tools and techniques, as well as site conditions and impact on the environment. The goal of invasive management should be to restore the landscape with minimal impact to people, non-target plants, wildlife, and the environment.

The City will control invasive plants utilizing the following directives:

1. Preference given to native plants when establishing new plant beds.
2. Positive identification of invasives listed in the *Plant Invaders of Mid-Atlantic Natural Areas* before treatment is administered.²⁷
3. Mechanical removal of invasive plants is the preferred method of control. When it is not feasible due to cost or labor availability, targeted applications of approved herbicides can be used in accordance with Maryland's *Pesticide Applicator's Law*.
4. Maintain membership and active participation in *Maryland Invasive Species Council*.²⁸

Areas of land that should be prioritized to receive treatment for invasive species include:

1. Tracts of land which are being reforested.
2. Sites where an invasive species appears which was not previously present in Greenbelt.
3. Edges of tracts where invasive species are established or sites that were recently disturbed.
4. Parks and other natural areas with high public visibility and usage.
5. High value wildlife habitats.

Composting & Mulching

Composting and mulching is the single most important action that sustainable gardeners do to create low-maintenance, healthy gardens.

Composting:

Compost is organic matter that has been decomposed and recycled as a fertilizer or soil amendment. Interest in composting programs has grown recently as landfill space decreases. Each American produces on average 2.37 pounds of compostable and recyclable material daily.²⁹

Composting keeps excess materials out of landfills, which reduces the amount of methane released into the atmosphere. Some additional benefits of a composting program include:

1. Enriches soil, helping retain moisture and suppressing plant diseases and pests.
2. Reduces the need for fertilizers.
3. Provides cost savings over conventional soils
4. Community engagement in “green” initiatives
5. CO₂ sequestration and methane reduction

The City encourages composting at all scales and supports the following efforts:

1. *Backyard Composting* – Citizens establish compost piles by purchasing compost bin or building an enclosure.
2. *Community Composting* – City partners with community groups to establish compost bins and to help with composting programs. Public Works maintains community compost area where employees contribute lunch scraps.

When applicable, the City will use compostable materials from community composting programs to enhance soils and encourage new plant growth.

Mulching:

The use of mulches in landscape provides several benefits to plants and trees. Mulch can retain 21% more moisture in landscape beds and also keep soil temperature 10° cooler. In addition, mulch can suppress weeds and provide a habitat for soil organisms.

The City recognizes the benefits of mulching and will employ the following directives:

1. Mulch should be used around the base of new plants, shrubs, and trees where applicable.
2. Layering organic mulches (compost, leaves) is suggested in conjunction with wood chips and shredded hardwood.
3. Mulch layers should comply with Prince Georges’ County planting standards.³⁰
4. Mulch should be raked, re-spread, or removed on an annual basis.



Conclusion

Sustainability is not an exercise in sacrifice today, but represents an opportunity of choice and prosperity for both today and tomorrow.

The *Sustainable Land Care Policy* is the culmination of planning and collaboration between the City, multiple citizen advisory groups, and external partners. The Policy is designed to create attractive landscapes that are in balance with the local environment and require minimal resource inputs. Sustainable land care is “functional, cost-efficient, visually pleasing, environmentally friendly and maintainable.”³¹

Sustainable land care is not a new concept. Environmental awareness movements of the 1960s spawned a host of landscape design firms with a focus of “green” and “eco-friendly” practices.³² Greenbelt has always been at the forefront of environmental sustainability—it was founded as one of three “green” towns planned in 1935 under the United States Resettlement Administration (along with Greendale, Wisconsin and Greenhills, Ohio).³³

Greenbelt is fortunate to benefit from State leadership, as Maryland is pioneering efforts to achieve sustainability. As the Department of Natural Resources has stated, “a sustainable future is one in which our children have options, are able to meet their needs, and enjoy prosperity. What we do or fail to do today will affect the ability of our children to make a sustainable future for their children.”³⁴

The City of Greenbelt is committed to doing its part to realize these opportunities. The *Sustainable Land Care Policy* is the roadmap to achieving a sustainable future. As a living and updatable document, the City looks forward to reviewing the directives contained within on an as needed basis.

References and Footnotes

-
- ¹ Examples include City Code, Greenbelt Department of Planning & Community Development; and playground safety regulations.
- ² Framework for areas of consideration established in “Draft Copy for Discussion – Sustainable Land Care Policy, ACT Revised Copy,” Advisory Committee on Trees, 2013.
- ³ “Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain Protection,” ASTM, 2013.
- ⁴ “Maryland Standards and Specifications for Soil Erosion and Sediment Control,” Maryland Department of the Environment Water Management Administration, 2011.
- ⁵ “Sustainable Lawn & Landscape Practices for Communities,” Chicago Metropolitan Agency for Planning, 2012.
- ⁶ “Designing Neighborhoods for People and Wildlife,” American Society of Landscape Architects, 2012.
- ⁷ “Fertilizer,” <https://en.wikipedia.org/wiki/Fertilizer>, 2015.
- ⁸ Soil testing will be performed by University of Maryland Extension approved vendors, https://extension.umd.edu/sites/default/files/images/uploaded/SoilLabComparison_10-15-2014.pdf
- ⁹ Synthetic Fertilizers are man-made, inorganic compounds. Organic fertilizers are derived from natural sources and provide nutrients and improved soil quality.
- ¹⁰ “Maryland Nutrient Management Law,” Maryland Department of Agriculture, 2013 (or latest edition).
- ¹¹ “Pesticides,” United States Environmental Protection Agency, 2014.
- ¹² “Integrated Pest Management,” EPA, www.epa.gov/pesticides/factsheets/ipm.htm, 2014.
- ¹³ Northeast Organic Farming Association, <http://www.organiclandcare.net>.
- ¹⁴ “Plants/Pests,” Maryland Department of Agriculture, mda.maryland.gov/plants-pests/Pages/default.aspx.
- ¹⁵ “Pesticide Regulation,” Maryland Department of Agriculture, http://mda.maryland.gov/plants-pests/pages/pesticide_regulation.aspx.
- ¹⁶ Action thresholds refer to the determined number of pests or level of pest damage required before action is necessary, as defined by the USDA National Institute of Food & Culture, Cooperative Extension System.
- ¹⁷ THE MAP REFERENCE FOR THE WATERWAYS OF GREENBELT GOES HERE!
- ¹⁸ “Banned or Severely Restricted Pesticides,” <http://scorecard.goodguide.com/chemical-groups>
- ¹⁹ “Safe Grow Act of 2013,” City of Takoma Park, 7/25/2013.
- ²⁰ NOFA, “Standards for Organic Land Care, Practices for Design and Maintenance of Ecological Landscapes,” 1/2011.
- ²¹ “Researchers planting for 20-year study of sports turf resilience,” PHYS.org, <http://phys.org/news/2015-06-year-sports-turf-resilience.html>, 2015.
- ²² “Permeable Paving,” Wikipedia, https://en.wikipedia.org/wiki/Permeable_paving, 9/29/2015.
- ²³ “A Report on the City of Greenbelt’s Existing and Possible Urban Tree Canopy,” University of Vermont, 2/22/2009.
- ²⁴ “Street Tree Inventory for the City of Greenbelt,” City of Greenbelt Public Works, Fall 2013.
- ²⁵ “Prince George’s County Landscape Manual,” Maryland National-Capitol Park & Planning Commission, 2010.
- ²⁶ “Recommended Tree Species Appropriate for Greenbelt Parks,” Report to the City Council, 2/16/2016.
- ²⁷ “Plant Invaders of Mid-Atlantic Natural Areas,” National Park Service, 2014.
- ²⁸ “Maryland Invasive Species Council,” <http://www.mdinvasivesp.org/>.
- ²⁹ “Municipal Solid Waste,” Environmental Protection Agency,

References and Footnotes

<http://www3.epa.gov/epawaste/nonhaz/municipal/>, 6/25/2015.

³⁰ "Prince Georges' County Specifications and Standards for Roadways and Bridges," 2012.

³¹ "Sustainable Landscaping," Colorado State University Extension,

<http://extension.colostate.edu/publications-2/>, 2015.

³² "Meet the Pioneers of Sustainable Design," Forbes,

<http://www.forbes.com/sites/rahimkanani/2014/01/16/meet-the-pioneers-of-sustainable-design/>, 1/16/2014.

³³ "New Deal City", Sue Halpem, Mother Jones, <http://www.motherjones.com/politics/2002/05/new-deal-city>, 6/2002.

³⁴ "Our Common Future: Toward Sustainable Development," <http://www.un-documents.net/ocf-02.htm>, United Nations, 1987.

Sustainable Land Care Policy



Introduction

Sustainable land care means planting what will do well in a climate, conserving water, using organic sources of nutrients, minimizing the use of pesticides, building soil health, and minimizing the impacts of polluted runoff.

City of Greenbelt
July 2017

Introduction

Sustainable land care means planting what will do well in regional climates, conserving water, using organic sources of nutrients, minimizing the use of pesticides, building soil health, and minimizing the impacts of polluted runoff.

Background:

The City of Greenbelt (City) has always been a leader in environmental stewardship. Founded in 1937 as one of America's first Planned Communities and "Garden Towns," the layout of the City was designed for sustainability and community interaction. Over the years, Greenbelt citizens have remained active in local greening efforts, and as a result, the City has retained much of its historic charm.¹

In 2007, the Greenbelt Advisory Committee on Environmental Sustainability (Green ACES) presented a request to City Council in favor of adopting organic land care practices. The proposal called for the implementation of organic pest and plant management practices, a higher level of transparency in operational methods, and the development of outreach programs to local citizenry. After several years of research and discussion between City Staff (Staff) and Greenbelt citizens, an initial draft of a Sustainable Land Care Policy emerged.²

The Sustainable Land Care Policy (Policy) builds upon Green ACES' recommendations by establishing operational guidelines that protect the environment and make efficient use of municipal resources. The Policy is intended to be a living document—one that is updatable and adaptable to a variety of factors including: climate change, introduction of invasive pests and plants, passage of new regulations, and shifting research patterns.

Geography:

The City has a total land area of 6.34 square miles, of which 6.28 square miles are land and 0.06 square miles are water. Staff manages 515 acres of parkland, a 709 acre National Historic District, and numerous outdoor recreation amenities. Greenbelt is located within three sub-watersheds that drain into the Anacostia and Potomac Rivers.

Organization:

The Policy applies to all City owned Property, but recognizes that additional guidelines may be administered for specific land areas.³

The Policy applies to all Staff working within the City, including Public Works employees and contractors. The Policy will be implemented by trained, certified, and licensed Staff whose actions are regulated by the State of Maryland and the Environmental Protection Agency. Staff will have access to education resources that promote sustainable landscaping practices.

Areas of Consideration:

The Policy describes sustainable approaches for the following areas of consideration:

1. Site Analysis & Design
2. Plant Care
3. Athletic Turf
4. Watering
5. Trees
6. Invasive Species
7. Composting & Mulching⁴

Site Analysis & Design

The secret to successful landscape design and maintenance is through proper planning.

Site Analysis & Design:

The goal of Site Analysis & Design is to gather data and record observations about a landscape site. This information is utilized to develop ecosystems that are sustainable and require minimal care. A Site Analysis & Design includes the following considerations:

1. Soil
2. Plant Species
3. Wildlife

Soil:

One of the first steps toward establishing a healthy landscape is an analysis of the soil structure. Since Greenbelt's soil has been significantly altered—due to years of construction, agricultural practices, and other human activities—it's important to conduct thorough soil testing on a regular basis.

The City will adhere to the following methods in order to best maintain soil:

1. Soil testing of landscapes and athletic fields conducted in accordance with ASTM Standard D5435 – 13, *Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain Protection*.⁵
2. Proposed soil, sediment and erosion alterations will be in compliance with mandatory requirements of Maryland Department of the Environment's *Standards and Specifications for Soil Erosion and Sediment Control*.⁶

Plant Species:

Plants that are properly matched with their surrounding environment have positive effects on the local ecosystem. Determining the “right plant for the right place” can reduce maintenance needs, simplify watering routines, and attract a diversity of wildlife.⁷

The City will employ the following principles when analyzing plant placement:

1. Preference given to native, non-invasive plants for restoration of natural areas—which have adapted to the conditions of the region, require less maintenance, and provide a deep root structure for capture of rain water runoff.
2. Utilize plants with proven pest and disease resistance for landscape and street trees.
3. Select plants that are tolerant to environmental pressures and conditions.
4. Select a diversity of plants—monocultures are prone to disease and insect infestation.
5. Preference to purchase plants from local nurseries that sustainably grow plant stock.

Wildlife:

Greenbelt is home to a diversity of wildlife. By mimicking natural ecosystems, local landscapes can provide shelter, nesting sites, food, and water sources for an abundance of species.⁸

Greenbelt Staff will utilize the following principles to attract and retain wildlife:

1. Develop diverse landscapes—different wildlife species have varying needs for survival. The more vibrant the landscape, the more wildlife it can expect to attract.
2. Design around existing trees or other significant vegetation—by linking plant areas together, a "habitat corridor" is created for wildlife to travel to and from natural areas.

Additional Considerations:

A Site Analysis & Design can include a variety of professional recommendations. Greenbelt Staff will also consider, but not be limited to, the following directives:

1. Strive to reduce the amount of impermeable surfaces throughout the City—by choosing permeable surfacing options during design phases that promote improved storm water runoff quality.
2. Evaluate parking islands, and other similar areas near paved surfaces for conversion to storm water management entities—such as rain gardens.
3. Prohibit vehicle use in turf areas and tree protection zones—unless approved by the Public Works Department.



Plant Care

Sustainable plant care meets the needs of the present without compromising the needs of the future.

Plant Care:

All vegetation needs nutrients in order to thrive. Most plants can obtain these minerals through the soil and atmosphere, depending upon their location, age, and species. On occasion, it may be prudent, or even required, to consider additional land management practices.

Fertilizers:

Fertilizers are materials of natural or synthetic origin that supply essential nutrients to plants.⁹ Due to potential impact on the environment—including runoff into local waterways and buildup of excessive soil nutrient levels—the use of fertilizers is often not recommended.

With proper care of plants and soil, most landscapes can survive without additional inputs. However, if nutrients are missing from the soil, the growth rate of plants will be limited. The City will consider fertilizers in the following instances:

1. When establishing new plant beds and areas where the soil is nutrient deficient.
2. To invigorate growth of trees in decline, as determined by a Licensed Arborist.

Fertilizers will be employed only after a soil test has been conducted, and results indicate a lack of nutrients to sustain plant life.¹⁰ Maryland Nutrient Management regulations require soil testing prior to fertilizer application so the types and amounts are specific to correct deficiencies. With the proper management of soil, the use of fertilizers may be reduced or even eliminated in some circumstances. It is important to note that utilizing sources of nutrients that are renewable resources such as blended organic fertilizer is a viable means of supplying necessary plant nutrients.¹¹

The City will observe guidelines established under the *Maryland Nutrient Management Law*¹², including:

1. Staff that use fertilizer must be certified by the Maryland Department of Agriculture or work under direct supervision of certified persons.
2. No fertilizer applications within 15 feet of waterways or as specified by State Law.
3. Do not apply fertilizer between November 15 and March 1.

Pesticides:

Pesticides—which include insecticides, herbicides, and fungicides—are substances intended to prevent, destroy, repel, or mitigate pests.¹³ By their very nature, pesticides can harm the environment because they are designed to adversely impact living organisms.

By completing a Site Analysis & Design, many pest problems can be reduced. The following preventive measures will be implemented to diminish potential pest impacts:

1. Selection of plant species that are proven to be pest resistant.
2. Regular monitoring of landscapes to determine pest threats.
3. Use of barriers—including fencing—to exclude pests.
4. Conduct soil testing as needed to maintain healthy soil and disrupt pest population.
5. Inspect all new plant material orders to ensure they are insect and disease-free.

These measures are part of Integrated Pest Management (IPM) - a strategy that manages pest damage by the most economical means and least possible hazard to the environment.¹⁴ IPM uses several compatible techniques to achieve safe, long-term pest management:

1. *Cultural Controls* - Practices that reduce pest establishment, reproduction, and survival - healthy soil, proper watering, and sanitation.
2. *Biological Controls* - The use of natural enemies - predators, parasites, pathogens, and competitors - to control pest damage.
3. *Mechanical Controls* - Use of barriers to exclude pests and create unsuitable living conditions.
4. *Chemical Controls* - Use of pesticides, as a last resort, in combination with other approaches.

When pesticides are considered, elements of the Northeast Organic Farming Association's (NOFA) *Standards for Organic Land Care: Practices for Design and Maintenance of Ecological Landscapes* may be utilized.¹⁵ These proactive strategies aim to further enhance biodiversity, biological cycles, and soil biological activity; and include:

1. Minimizing known or suspected effects on human health and the environment
2. Minimizing persistence in the environment of the applied material
3. Maximizing material effectiveness to keep the amount and number of applications to a minimum.
4. Use naturally occurring materials where possible.

In some cases, Maryland Department of Agriculture (MDA) or other Government entities mandate the use of pesticides. Recent outbreaks of gypsy moth and emerald ash borer have resulted in a Federal Quarantine managed with a combination of insecticides.¹⁶

Unless mandated, Greenbelt will only apply pesticides as a last-resort control mechanism. The following guidelines will be employed:

1. Staff must be certified/licensed to use pesticides - or work under direct supervision of certified persons - according to Maryland's Pesticide Applicator's Law.¹⁷
2. Staff will abide by the EPA's list of banned chemicals.
3. No Pesticide use for aesthetic purposes unless action thresholds for plant health are met or exceeded as determined by a certified/licensed Pesticide applicator.¹⁸
4. Evaluation of current and future weather conditions to prevent drift.
5. Exceeding label rate of application is a violation of Federal Law.
6. Do not use within 15 feet of waterways¹⁹; except for control of aquatic invasives where Staff will have an aquatic treatment license.
7. Disposal of infected plants must be conducted in accordance with Maryland Department of Agriculture standards.
8. Least toxic and most environmentally friendly products will be used first.
9. Whenever possible use natural occurring materials—with exception to instances involving threats to plant and public health, as well as public safety.

Public Notification:

Except where immediate application is necessary to protect human health or prevent significant economic damage, notice of each planned use of a pesticide will be provided at least 48 hours before application to members of the community. Signs will be posted adjacent to application areas and remain posted for at least 48 hours after application of the pesticide. Flags will be used for targeted application areas in public use spaces. Notice on signs will include:

1. The company name (City of Greenbelt or vendor).
2. Phone number to contact in case of questions.
3. Date of application.

Other Considerations:

In addition to following mandatory guidelines set forth by the MDA regarding pesticide use, Greenbelt Staff have consulted the United States Environmental Protection Agency's list of *Banned or Severely Restricted Pesticides*²⁰, the City of Takoma Park's *Safe Grow Act of 2013*²¹, and the Northeast Organic Farming Association's *Standards for Organic Land Care, Practices for Design and Maintenance of Ecological Landscapes*²².

Athletic Turf

Managing athletic fields goes beyond cost and includes safety issues and uniform playing conditions.

Athletic Turf:

Athletic and utility-type turfs comprise a significant portion of the landscape in Greenbelt. These areas are key resources to the community as they contribute to open space, provide recreation opportunities, and add value to nearby properties.

Athletic turf requires a unique and deliberate maintenance plan, as it must adhere to safety standards of various sports programs. Greenbelt Staff will implement best management practices provided in the *Maryland Professional Lawn Care Manual*, including:

1. Establish mowing height of 2.5" to 3" to increase turf density.
2. Aerate and overseed fields in Spring and Fall to promote seed germination.

Due to heavy use, athletic turf can lack density and exhibit bare spots which allow weeds to germinate. Invasive species and broadleaf weeds pose significant safety challenges for athletes by eliminating a uniform playing surface. In order to maximize safety for users, Greenbelt staff will administer an Integrated Pest Management (IPM) strategy including:

1. Conduct soil testing as needed to determine turf health.
2. Based on soil results, administer application of blended organic fertilizer or pH products to promote turf growth.
3. Based on field assessment, administer applications of synthetic fertilizer only when the safety of playing field has been compromised.

Turf care is an emerging field of research. The University of Maryland established a Turfgrass Management Program and other scholars are conducting long range studies²³ on sports turf resilience. As laws, trends, and new research evolve, the City will adapt its management strategies to meet community needs.

Watering

Water is a finite resource that must be protected and preserved.

Watering:

Maintaining a beautiful landscape often requires supplemental watering. Since many plants cannot sustain periods of dry weather, it is important to establish a conservation plan that considers amount, frequency, and flow of watering practices.

The use of water as a supplemental resource for plant health will be considered in the following situations:

1. To establish new plantings.
2. To care for annual plantings.

Applications of water will adhere to the following directives:

1. Drip irrigation systems are the preferred use to water annual plantings.
2. New perennials and trees will receive supplemental watering for Season 1, and will be evaluated for watering needs in Season 2.
3. Overhead watering systems are only acceptable when large areas of plants and trees show signs of drought stress. This practice should only be conducted on a short-term basis every 2 weeks until sufficient rainfall or water restrictions are imposed by the State of Maryland.

Runoff:

When rain hits hard surfaces like streets and sidewalks, it channels into storm drains and nearby water sources. This water eventually ends up in the Chesapeake Bay and brings with it debris, chemicals, and other pollutants.

Reducing storm water runoff improves water quality by preventing pollutants from reaching waterways and taking stress off of drainage systems. Considerations for handling runoff in Greenbelt includes:

1. Conduct quarterly water sampling as required by the *Maryland Department of Environment's Municipal Separate Storm Sewer System (MS4) Permits*.
2. The use of rain barrels and cisterns that can supply water for annual planting needs.
3. Construction of rain gardens and riparian buffers to filter storm water runoff.
4. When it improves runoff, choosing pervious surfaces—which allow the movement of storm water through the surface—for new Capital Projects.²⁴

Trees

Trees are a valuable asset to community landscapes that must be functional, visually pleasing, environmentally friendly, and maintainable.

Trees:

More than 2468 acres, or 62%, of Greenbelt are covered by tree canopy, while an estimated 23% of the City can support additional trees.²⁵ Urban tree canopy (UTC) provides many benefits—improved water quality, reduced air pollution, enhanced property value, wildlife habitat, control of “heat island effect,” and aesthetic benefits.

The City is developing plans to increase canopy coverage and improve maintenance systems of Greenbelt’s trees. In 2013, the City conducted a *Street Tree Inventory* that used GIS software to map and retrieve data about right-of-way street trees.²⁶ The City will develop a *Tree Master Plan* to ensure a safe, attractive, and sustainable tree canopy.



The following guidelines will be implemented to protect and enhance tree canopy:

1. All City trees will be regularly monitored and inspected by the City Arborist for symptoms of stress, disease, pests, and physical damage.
2. The *Street Tree Inventory* will be updated to reflect new plantings, hazard trees, and tree removals.
3. No tree will be removed or pruned without permission of the City’s Certified Arborist.
4. Street trees posing hazard to public safety will be pruned or removed as needed.
5. New trees will be planted in accordance with
 - a. *Prince George’s County Landscape Manual*.²⁷
 - b. Greenbelt Advisory Committee on Trees’ *Recommended Trees for Use Under Power Lines* and *Recommended Tree Species Appropriate for Greenbelt Parks*.²⁸
 - c. City of Greenbelt’s *Tree Master Plan*.
6. Tree protection zones will be established around new plantings and large established tree areas that require protection from foot and vehicle traffic.

Invasive Plant Species

Invasive plants impede recreational activities and have enormous effects on labor costs and the environment.

Invasive Species:

Invasive species are one of the leading causes of environmental degradation and loss of biological diversity worldwide. As global travel has introduced species to new areas, these non-native plants can be invasive and often alter natural habitats with disastrous consequences on the environment.

Taking action against invasive plants involves significant consideration of available tools and techniques, as well as site conditions and impact on the environment. The goal of invasive management should be to restore the landscape with minimal impact to people, non-target plants, wildlife, and the environment.

The City will control invasive plants utilizing the following directives:

1. Preference given to native plants when establishing new plant beds.
2. Positive identification of invasives listed in the *Plant Invaders of Mid-Atlantic Natural Areas* before treatment is administered.²⁹
3. Mechanical removal of invasive plants is the preferred method of control. When it is not feasible due to cost or labor availability, targeted applications of approved herbicides can be used in accordance with Maryland's *Pesticide Applicator's Law*.
4. Maintain membership and active participation in *Maryland Invasive Species Council*.³⁰

Areas of land that should be prioritized to receive treatment for invasive species include:

1. Tracts of land which are being reforested.
2. Sites where an invasive species appears which was not previously present in Greenbelt.
3. Edges of tracts where invasive species are established or sites that were recently disturbed.
4. Parks and other natural areas with high public visibility and usage.
5. High value wildlife habitats.

Composting & Mulching

Composting and mulching is the single most important action that sustainable gardeners do to create low-maintenance, healthy gardens.

Composting:

Compost is organic matter that has been decomposed and recycled as a fertilizer or soil amendment. Interest in composting programs has grown recently as landfill space decreases. Each American produces on average 2.37 pounds of compostable and recyclable material daily.³¹

Composting keeps excess materials out of landfills, which reduces the amount of methane released into the atmosphere. Some additional benefits of a composting program include:

1. Enriches soil, helping retain moisture and suppressing plant diseases and pests.
2. Reduces the need for fertilizers.
3. Provides cost savings over conventional soils
4. Community engagement in “green” initiatives
5. CO² sequestration and methane reduction

The City encourages composting at all scales and supports the following efforts:

1. *Backyard Composting* – Citizens establish compost piles by purchasing compost bin or building an enclosure.
2. *Community Composting* – City partners with community groups to establish compost bins and to help with composting programs. Public Works maintains community compost area where employees contribute lunch scraps.

When applicable, the City will use compostable materials from community composting programs to enhance soils and encourage new plant growth.

Mulching:

The use of mulches in landscape provides several benefits to plants and trees. Mulch can retain 21% more moisture in landscape beds and also keep soil temperature 10° cooler. In addition, mulch can suppress weeds and provide a habitat for soil organisms.

The City recognizes the benefits of mulching and will employ the following directives:

1. Mulch should be used around the base of new plants, shrubs, and trees where applicable.
2. Layering organic mulches (compost, leaves) is suggested in conjunction with wood chips and shredded hardwood.
3. Mulch layers should comply with Prince Georges’ County planting standards.³²
4. Mulch should be raked, re-spread, or removed on an annual basis.



Conclusion

Sustainability is not an exercise in sacrifice today, but represents an opportunity of choice and prosperity for both today and tomorrow.

The *Sustainable Land Care Policy* is the culmination of planning and collaboration between the City, multiple citizen advisory groups, and external partners. The Policy is designed to create attractive landscapes that are in balance with the local environment and require minimal resource inputs. Sustainable land care is “functional, cost-efficient, visually pleasing, environmentally friendly and maintainable.”³³

Sustainable land care is not a new concept. Environmental awareness movements of the 1960s spawned a host of landscape design firms with a focus of “green” and “eco-friendly” practices.³⁴ Greenbelt has always been at the forefront of environmental sustainability—it was founded as one of three “green” towns planned in 1935 under the United States Resettlement Administration (along with Greendale, Wisconsin and Greenhills, Ohio).³⁵

Greenbelt is fortunate to benefit from State leadership, as Maryland is pioneering efforts to achieve sustainability. As the Department of Natural Resources has stated, “a sustainable future is one in which our children have options, are able to meet their needs, and enjoy prosperity. What we do or fail to do today will affect the ability of our children to make a sustainable future for their children.”³⁶

The City of Greenbelt is committed to doing its part to realize these opportunities. The *Sustainable Land Care Policy* is the roadmap to achieving a sustainable future. As a living and updatable document, the City looks forward to reviewing the directives contained within on an as needed basis.

References and Footnotes

-
- ¹ Green Aces, “Sustainability Plan Framework”, 2013.
- ² “Public and Environmental Health Issues Regarding Pesticide Use and Recommendations for Adoption of Organic Land Care and Organic Pest Management (OPM) Practices for Greenbelt,” GreenACES, 2007.
- ³ Examples include “Forest Preserve Health Assessment,” Greenbelt Department of Planning & Community Development; and playground safety regulations.
- ⁴ Framework for areas of consideration established in “Draft Copy for Discussion – Sustainable Land Care Policy, ACT Revised Copy,” Advisory Committee on Trees, 2013.
- ⁵ “Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain Protection,” ASTM, 2013.
- ⁶ “Maryland Standards and Specifications for Soil Erosion and Sediment Control,” Maryland Department of the Environment Water Management Administration, 2011.
- ⁷ “Sustainable Lawn & Landscape Practices for Communities,” Chicago Metropolitan Agency for Planning, 2012.
- ⁸ “Designing Neighborhoods for People and Wildlife,” American Society of Landscape Architects, 2012.
- ⁹ “Fertilizer,” <https://en.wikipedia.org/wiki/Fertilizer>, 2015.
- ¹⁰ Soil testing will be performed by University of Maryland Extension approved vendors, https://extension.umd.edu/sites/default/files/images/uploaded/SoilLabComparison_10-15-2014.pdf
- ¹¹ Synthetic Fertilizers are man-made, inorganic compounds. Organic fertilizers are derived from natural sources and provide nutrients and improved soil quality.
- ¹² “Maryland Nutrient Management Law,” Maryland Department of Agriculture, 2013 (or latest edition).
- ¹³ “Pesticides,” United States Environmental Protection Agency, 2014.
- ¹⁴ “Integrated Pest Management,” EPA, www.epa.gov/pesticides/factsheets/ipm.htm, 2014.
- ¹⁵ Northeast Organic Farming Association, <http://www.organiclandcare.net>.
- ¹⁶ “Plants/Pests,” Maryland Department of Agriculture, mda.maryland.gov/plants-pests/Pages/default.aspx.
- ¹⁷ “Pesticide Regulation,” Maryland Department of Agriculture, http://mda.maryland.gov/plants-pests/pages/pesticide_regulation.aspx.
- ¹⁸ Action thresholds refer to the determined number of pests or level of pest damage required before action is necessary, as defined by the USDA National Institute of Food & Culture, Cooperative Extension System.
- ¹⁹ **THE MAP REFERENCE FOR THE WATERWAYS OF GREENBELT GOES HERE!**
- ²⁰ “Banned or Severely Restricted Pesticides,” <http://scorecard.goodguide.com/chemical-groups>
- ²¹ “Safe Grow Act of 2013,” City of Takoma Park, 7/25/2013.
- ²² NOFA, “Standards for Organic Land Care, Practices for Design and Maintenance of Ecological Landscapes,” 1/2011.
- ²³ “Researchers planting for 20-year study of sports turf resilience,” PHYS.org, <http://phys.org/news/2015-06-year-sports-turf-resilience.html>, 2015.
- ²⁴ “Permeable Paving,” Wikipedia, https://en.wikipedia.org/wiki/Permeable_paving, 9/29/2015.
- ²⁵ “A Report on the City of Greenbelt’s Existing and Possible Urban Tree Canopy,” University of Vermont, 2/22/2009.
- ²⁶ “Street Tree Inventory for the City of Greenbelt,” City of Greenbelt Public Works, Fall 2013.
- ²⁷ “Prince George’s County Landscape Manual,” Maryland National-Capitol Park & Planning Commission, 2010.
- ²⁸ “Recommended Tree Species Appropriate for Greenbelt Parks,” Report to the City Council, 2/16/2016.

References and Footnotes

- ²⁹ "Plant Invaders of Mid-Atlantic Natural Areas," National Park Service, 2014.
- ³⁰ "Maryland Invasive Species Council, <http://www.mdinvasivesp.org/>.
- ³¹ "Municipal Solid Waste," Environmental Protection Agency, <http://www3.epa.gov/epawaste/nonhaz/municipal/>, 6/25/2015.
- ³² "Prince Georges' County Specifications and Standards for Roadways and Bridges," 2012.
- ³³ "Sustainable Landscaping," Colorado State University Extension, <http://extension.colostate.edu/publications-2/>, 2015.
- ³⁴ "Meet the Pioneers of Sustainable Design," Forbes, <http://www.forbes.com/sites/rahimkanani/2014/01/16/meet-the-pioneers-of-sustainable-design/>, 1/16/2014.
- ³⁵ "New Deal City", Sue Halpem, Mother Jones, <http://www.motherjones.com/politics/2002/05/new-deal-city>, 6/2002.
- ³⁶ "Our Common Future: Toward Sustainable Development," <http://www.un-documents.net/ocf-02.htm>, United Nations, 1987.

Sustainable Land Care Policy



Introduction

Sustainable land care means planting what will do well in a climate, conserving water, using organic sources of nutrients, minimizing the use of pesticides, building soil health, and minimizing the impacts of polluted runoff.

City of Greenbelt
July 2017

Introduction

Sustainable land care means planting what will do well in regional climates, conserving water, using organic sources of nutrients, minimizing the use of pesticides, building soil health, and minimizing the impacts of polluted runoff.

Background:

The City of Greenbelt (City) has always been a leader in environmental stewardship. Founded in 1937 as one of America's first Planned Communities and "Garden Towns," the layout of the City was designed for sustainability and community interaction. Over the years, Greenbelt citizens have remained active in local greening efforts, and as a result, the City has retained much of its historic charm.¹

In 2005, responding to citizen concerns about the use of pesticides within the City of Greenbelt, then Mayor, Judith Davis, asked REAC (now known as Green ACES) advisory committee to study the issues and come up with recommendations to Council. After an extensive more than two-year study REAC/Green ACES prepared a detailed report, entitled *Public and Environmental Health Issues Regarding Pesticide Use and Recommendations for Adoption of Organic Land Care and Organic Pest Management (OPM) Practices for Greenbelt*.² The major recommendation of the REAC (now Green ACES) report was that the City, consistent with the Precautionary Principles, and concern with public and environmental health, adopt an Organic Land Care (OLC) and Organic Pest Management (OPM) policy. The Organic Land Care Standards of the Northeast Organic Farming Association (NOFA) which were specifically developed by experts in the field for urban and suburban landscapes were recommended as the key guides to be followed.³ The proposal also called for a higher level of transparency in operation methods and the development of education outreach programs to local citizenry. In a September 2009 work session, City staff recommended that Council adopt 11 of the 12 REAC/Green ACES recommendations including the endorsement of OLC and OPM for

Greenbelt. At the work session attended by members of Council, and also by the City Manager and several public works staff, each of the recommendations was reviewed and the city staff expressed support and endorsement of 11 of the 12 recommendations. Appendix A contains a copy of the minutes from this September 30, 2009 work session. Public Works staff indicated that they had already begun to implement the recommendations. While not a formal binding resolution, Council members at the work session also expressed strong appreciation for the Green ACES report. Based on the city staff's support for the Green ACES recommendations, Greenbelt as a City began to be regarded as a leader in the movement toward more sustainable land care policy in the region.⁴

One of the REAC recommendations was that the City Staff develop a Sustainable Land Care Policy manual and in 2011, the first draft Sustainable Land Care Policy was developed by Leslie Riddle, then Assistant Director of Public Works.⁵ The Green ACES Sustainability Framework ~~s~~document submitted in 2013 reiterated the REAC/Green ACES endorsement of Organic Land Care and the 12 REAC/Green ACES recommendations.⁶ In 2007, the Greenbelt Advisory Committee on Environmental Sustainability (Green ACES) presented a request to City Council in favor of adopting organic land care practices. The proposal called for the implementation of organic pest and plant management practices, a higher level of transparency in operational methods, and the development of outreach programs to local citizenry. After several years of research and discussion between City Staff (Staff) and Greenbelt citizens, an initial draft of a Sustainable Land Care Policy emerged.⁷

The Sustainable Land Care Policy (Policy) builds

Introduction

Sustainable land care means planting what will do well in regional climates, conserving water, using organic sources of nutrients, minimizing the use of pesticides, building soil health, and minimizing the impacts of polluted runoff.

upon Green ACES' recommendations by establishing operational guidelines that protect the environment and make efficient use of municipal resources. The Policy is intended to be a living document—one that is updatable and adaptable to a variety of factors including: climate change, introduction of invasive pests and plants, passage of new regulations, and shifting research patterns.

Geography:

The City has a total land area of 6.34 square miles, of which 6.28 square miles are land and 0.06 square miles are water. Staff manages 515 acres of parkland, a 709-acre National Historic District, and numerous outdoor recreation amenities. Greenbelt is located within three sub-watersheds that drain into the Anacostia and Potomac Rivers.

Organization:

The Policy applies to all City-owned ~~Property~~property, but recognizes that additional guidelines may be administered for specific land areas.⁸

The Policy applies to all Staff working within the City, including Public Works employees and contractors. The Policy will be implemented by trained, certified, and licensed Staff whose actions are regulated by the State of Maryland and the Environmental Protection Agency. Staff will have access to education resources that promote sustainable landscaping practices.

Areas of Consideration:

The Policy describes sustainable approaches for the following areas of consideration:

1. Site Analysis & Design
2. Plant Care
3. Athletic Turf
4. Watering
5. Trees
6. Invasive Species
7. Composting & Mulching⁹

Site Analysis & Design

The secret to successful landscape design and maintenance is through proper planning.

Site Analysis & Design:

The goal of Site Analysis & Design is to gather data and record observations about a landscape site. This information is utilized to develop ecosystems that are sustainable and require minimal care. A Site Analysis & Design includes the following considerations:

1. Soil
2. Plant Species
3. Wildlife

Soil:

One of the first steps toward establishing a healthy landscape is an analysis of the soil structure. Since Greenbelt's soil has been significantly altered—due to years of construction, agricultural practices, and other human activities—it's important to conduct thorough soil testing on a regular basis.

The City will adhere to the following methods in order to best maintain soil:

1. Soil testing of landscapes and athletic fields conducted in accordance with ASTM Standard D5435 – 13, *Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain Protection*.¹⁰
2. Proposed soil, sediment and erosion alterations will be in compliance with mandatory requirements of Maryland Department of the Environment's *Standards and Specifications for Soil Erosion and Sediment Control*.¹¹

Plant Species:

Plants that are properly matched with their surrounding environment have positive effects on the local ecosystem. Determining the “right plant for the right place” can reduce maintenance needs, simplify watering routines, and attract a diversity of wildlife.¹²

The City will employ the following principles when analyzing plant placement:

1. Preference given to native, non-invasive plants for restoration of natural areas—which have adapted to the conditions of the region, require less maintenance, and provide a deep root structure for capture of rain water runoff.
2. Utilize plants with proven pest and disease resistance for landscape and street trees.
3. Select plants that are tolerant to environmental pressures and conditions.
4. Select a diversity of plants—monocultures are prone to disease and insect infestation.
5. Preference to purchase plants from local nurseries that sustainably grow plant stock.

Wildlife:

Greenbelt is home to a diversity of wildlife. By mimicking natural ecosystems, local landscapes can provide shelter, nesting sites, food, and water sources for an abundance of species.¹³

Greenbelt Staff will utilize the following principles to attract and retain wildlife:

1. Develop diverse landscapes—different wildlife species have varying needs for survival. The more vibrant the landscape, the more wildlife it can expect to attract.
2. Design around existing trees or other significant vegetation—by linking plant areas together, a "habitat corridor" is created for wildlife to travel to and from natural areas.

Additional Considerations:

A Site Analysis & Design can include a variety of professional recommendations. Greenbelt Staff will also consider, but not be limited to, the following directives:

1. Strive to reduce the amount of impermeable surfaces throughout the City—by choosing permeable surfacing options during design phases that promote improved storm water runoff quality.
2. Evaluate parking islands, and other similar areas near paved surfaces for conversion to storm water management entities—such as rain gardens.
3. Prohibit vehicle use in turf areas and tree protection zones—unless approved by the Public Works Department.



Plant Care

Sustainable plant care meets the needs of the present without compromising the needs of the future.

Plant Care:

All vegetation needs nutrients in order to thrive. Most plants can obtain these minerals through the soil and atmosphere, depending upon their location, age, and species. On occasion, it may be prudent, or even required, to consider additional land management practices.

Fertilizers:

Fertilizers are materials of natural or synthetic origin that supply essential nutrients to plants.¹⁴ Due to potential impact on the environment—including runoff into local waterways and buildup of excessive soil nutrient levels—the use of fertilizers is often not recommended.

With proper care of plants and soil, most landscapes can survive without additional inputs. However, if nutrients are missing from the soil, the growth rate of plants will be limited. The City will consider fertilizers in the following instances:

1. When establishing new plant beds and areas where the soil is nutrient deficient.
2. To invigorate growth of trees in decline, as determined by a Licensed Arborist.

Fertilizers will be employed only after a soil test has been conducted, and results indicate a lack of nutrients to sustain plant life.¹⁵ Maryland Nutrient Management regulations require soil testing prior to fertilizer application so the types and amounts are specific to correct deficiencies. With the proper management of soil, the use of fertilizers may be reduced or even eliminated in some circumstances. It is important to note that utilizing sources of nutrients that are renewable resources such as blended organic fertilizer is a viable means of supplying necessary plant nutrients.¹⁶

The City will observe guidelines established under the *Maryland Nutrient Management Law*¹⁷, including:

1. Staff that use fertilizer must be certified by the Maryland Department of Agriculture or work under direct supervision of certified persons.
2. No fertilizer applications within 15 feet of waterways or as specified by State Law.
3. Do not apply fertilizer between November 15 and March 1.

Pesticides:

Pesticides—which include insecticides, herbicides, and fungicides—are substances intended to prevent, destroy, repel, or mitigate pests.¹⁸ By their very nature, pesticides can harm the environment because they are designed to adversely impact living organisms.

The City recognizes that pesticides are valuable tools in protecting both human and environmental health. However, pesticides are by their very nature toxic substances, and exposure to certain pesticides has been linked to numerous human health problems. There is growing evidence of harmful effects associated with long-term use of or exposure to chemical pesticides. While there is not at present a consensus on causation, pesticide exposure has been linked to the following health problems: birth defects; numerous cancers, including non-Hodgkins lymphoma; Parkinson's disease and other neurological disorders; immune system problems; and male infertility. In addition to potential links to human health problems, neonicotinoids, a class of insecticide chemically related to nicotine, have been linked to population declines in bees, which serve an important function in pollination.¹⁹

Because of the potential adverse health effects of certain pesticides, the City will generally

Plant Care

Sustainable plant care meets the needs of the present without compromising the needs of the future.

apply the “precautionary principle” in its decisions to use pesticides for the care of City land. The precautionary principle can be summarized as follows:

“When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.” - Wingspread Statement on the Precautionary Principle, Jan. 1998

specifically endorsed OPM because OPM takes a holistic positive land care approach and has developed a specific set of practices that are “preferred”, “allowed” or “prohibited.” Based upon past citizen concerns about pesticide use in Greenbelt, Green ACES concluded that having clear written procedures would help to ensure consistency and transparency. The OPM standards are regularly updated by teams of expert practitioners in land care to reflect changes in the field. The Northeast Organic Farming Association (NOFA) standards²⁰ give specific guidance that Green ACES believes is needed to ensure protection of public and environmental health over time.

By completing a Site Analysis & Design, many pest problems can be reduced. The following preventive measures will be implemented to diminish potential pest impacts:

1. Selection of plant species that are proven to be pest resistant.
2. Regular monitoring of landscapes to determine pest threats.
3. Use of barriers—including fencing—to exclude pests.
4. Conduct soil testing as needed to maintain healthy soil and disrupt pest population.
5. Inspect all new plant material orders to ensure they are insect and disease-free.

Integrated Pest Management (IPM) and Organic Pest Management (OPM) are two related valuable tools to assist the City in Pest Management. IPM has been used by the City for some years beginning in the 1990’s. While both IPM and OPM have much in common and seek similar goals, in 2007, 2009, and again in 2013, the Greenbelt Advisory Committee on the Environmental Sustainability (Green ACES) unanimously endorsed OPM. Green ACES

These measures [below](#) are part of ~~Integrated Pest Management (IPM)~~—a strategy that manages pest damage by the most economical means and least possible hazard to the environment.²¹ IPM uses several compatible techniques to achieve safe, long-term pest management:

1. *Cultural Controls* - Practices that reduce pest establishment, reproduction, and survival - healthy soil, proper watering, and sanitation.
2. *Biological Controls* - The use of natural enemies - predators, parasites, pathogens, and competitors - to control pest damage.
3. *Mechanical Controls* - Use of barriers to exclude pests and create unsuitable living conditions.
4. *Chemical Controls* - Use of pesticides, as a last resort, in combination with other approaches.

[There are effective alternatives to the use of pesticides for most landscaping applications. As previously noted, NOFA has developed a standards-based approach to organic landscape maintenance that avoids the use of pesticides, while promoting a healthy landscape.](#)

When pesticides are considered, elements of the ~~Northeast Organic Farming Association's~~ (NOFA) *Standards for Organic Land Care: Practices for Design and Maintenance of Ecological Landscapes* may be utilized.²² These proactive strategies aim to further enhance biodiversity, biological cycles, and soil biological activity; and include:

1. Minimizing known or suspected effects on human health and the environment
2. Minimizing persistence in the environment of the applied material
3. Maximizing material effectiveness to keep the amount and number of applications to a minimum.
4. Use naturally occurring materials where possible.

In some cases, Maryland Department of Agriculture (MDA) or other Government entities mandate the use of pesticides. Recent outbreaks of gypsy moth and emerald ash borer have resulted in a Federal Quarantine managed with a combination of insecticides.²³

General Rule

[The City will adhere to the precautionary principle in maintaining City-owned property through OPM practices. Except as provided in this Policy, only least toxic pesticides will be used on City property. This rule applies to all maintenance done by City employees and to all City contracts.](#)

Unless mandated, Greenbelt will only apply pesticides as a last-resort control mechanism. The following guidelines will be employed:

1. Staff must be certified/licensed to use pesticides - or work under direct supervision of certified persons - according to Maryland's Pesticide Applicator's Law.²⁴
2. Staff will abide by the EPA's list of banned chemicals.
3. No Pesticide use for aesthetic purposes unless action thresholds for plant health are met or exceeded as determined by a certified/licensed Pesticide applicator.²⁵
4. Evaluation of current and future weather conditions to prevent drift.
5. Exceeding label rate of application is a violation of Federal Law.
6. Do not use within 15 feet of waterways²⁶; except for control of aquatic invasives where Staff will have an aquatic treatment

license.

7. Disposal of infected plants must be conducted in accordance with Maryland Department of Agriculture standards.
8. Least toxic and most environmentally friendly products will be used first.
9. Whenever possible use natural occurring materials—with exception to instances involving threats to plant and public health, as well as public safety.

Public Notification:

Except where immediate application is necessary to protect human health or prevent significant economic damage, notice of each planned use of a pesticide will be provided at least 48 hours before application to members of the community. Notice will be given on the appropriate City website and signs ~~Signs~~ will be posted adjacent to application areas, and at the entrance to each building in which such pesticide is used, and remain posted for at least 48 hours after application of the pesticide. Flags will be used for targeted application areas in public use spaces. Both the notice on the City website and the ~~Notice on~~ signs will include:

1. The company name (City of Greenbelt or vendor).
2. Phone number to contact in case of questions.
3. The common name of the pesticide;
4. The location of the application;
5. The planned date and time of the application; and
6. The reason for the use of the pesticide.
- ~~3. Date of application.~~

In addition to the above information, the City website will include a description of the potential adverse effects of each pesticide other than a least toxic pesticide used on City property based on the material safety data sheet of the pesticide, and any appropriate additional warning information related to the pesticide.

Other Considerations:

In addition to following mandatory guidelines set forth by the MDA regarding pesticide use, Greenbelt Staff have consulted the United States Environmental Protection Agency's list of *Banned or Severely Restricted Pesticides*²⁷, the City of Takoma Park's *Safe Grow Act of 2013*²⁸, and the Northeast Organic Farming Association's *Standards for Organic Land Care, Practices for Design and Maintenance of Ecological Landscapes*²⁹.

Athletic Turf

Managing athletic fields goes beyond cost and includes safety issues and uniform playing conditions.

Athletic Turf:

Athletic and utility-type turfs comprise a significant portion of the landscape in Greenbelt. These areas are key resources to the community as they contribute to open space, provide recreation opportunities, and add value to nearby properties.

Athletic turf requires a unique and deliberate maintenance plan, as it must adhere to safety standards of various sports programs. Greenbelt Staff will implement best management practices provided in the *Maryland Professional Lawn Care Manual*, including:

1. Establish mowing height of 2.5" to 3" to increase turf density.
2. Aerate and overseed fields in Spring and Fall to promote seed germination.

Due to heavy use, athletic turf can lack density and exhibit bare spots which allow weeds to germinate. Invasive species and broadleaf weeds pose significant safety challenges for athletes by eliminating a uniform playing surface. In order to maximize safety for users, Greenbelt staff will administer an Integrated Pest Management (IPM) strategy including:

1. Conduct soil testing as needed to determine turf health.
2. Based on soil results, administer application of blended organic fertilizer or pH products to promote turf growth.
3. Based on field assessment, administer applications of synthetic fertilizer only when the safety of playing field has been compromised.

Turf care is an emerging field of research. The University of Maryland established a Turfgrass Management Program and other scholars are conducting long range studies³⁰ on sports turf resilience. As laws, trends, and new research evolve, the City will adapt its management strategies to meet community needs.

Watering

Water is a finite resource that must be protected and preserved.

Watering:

Maintaining a beautiful landscape often requires supplemental watering. Since many plants cannot sustain periods of dry weather, it is important to establish a conservation plan that considers amount, frequency, and flow of watering practices.

The use of water as a supplemental resource for plant health will be considered in the following situations:

1. To establish new plantings.
2. To care for annual plantings.

Applications of water will adhere to the following directives:

1. Drip irrigation systems are the preferred use to water annual plantings.
2. New perennials and trees will receive supplemental watering for Season 1, and will be evaluated for watering needs in Season 2.
3. Overhead watering systems are only acceptable when large areas of plants and trees show signs of drought stress. This practice should only be conducted on a short-term basis every 2 weeks until sufficient rainfall or water restrictions are imposed by the State of Maryland.

Runoff:

When rain hits hard surfaces like streets and sidewalks, it channels into storm drains and nearby water sources. This water eventually ends up in the Chesapeake Bay and brings with it debris, chemicals, and other pollutants.

Reducing storm water runoff improves water quality by preventing pollutants from reaching waterways and taking stress off of drainage systems. Considerations for handling runoff in Greenbelt includes:

1. Conduct quarterly water sampling as required by the *Maryland Department of Environment's Municipal Separate Storm Sewer System (MS4) Permits*.
2. The use of rain barrels and cisterns that can supply water for annual planting needs.
3. Construction of rain gardens and riparian buffers to filter storm water runoff.
4. When it improves runoff, choosing pervious surfaces—which allow the movement of storm water through the surface—for new Capital Projects.³¹

Trees

Trees are a valuable asset to community landscapes that must be functional, visually pleasing, environmentally friendly, and maintainable.

Trees:

More than 2468 acres, or 62%, of Greenbelt are covered by tree canopy, while an estimated 23% of the City can support additional trees.³² Urban tree canopy (UTC) provides many benefits—improved water quality, reduced air pollution, enhanced property value, wildlife habitat, control of “heat island effect,” and aesthetic benefits.

The City is developing plans to increase canopy coverage and improve maintenance systems of Greenbelt’s trees. In 2013, the City conducted a *Street Tree Inventory* that used GIS software to map and retrieve data about right-of-way street trees.³³ The City will develop a *Tree Master Plan* to ensure a safe, attractive, and sustainable tree canopy.



The following guidelines will be implemented to protect and enhance tree canopy:

1. All City trees will be regularly monitored and inspected by the City Arborist for symptoms of stress, disease, pests, and physical damage.
2. The *Street Tree Inventory* will be updated to reflect new plantings, hazard trees, and tree removals.
3. No tree will be removed or pruned without permission of the City’s Certified Arborist.
4. Street trees posing hazard to public safety will be pruned or removed as needed.
5. New trees will be planted in accordance with
 - a. *Prince George’s County Landscape Manual*.³⁴
 - b. *Greenbelt Advisory Committee on Trees’ Recommended Trees for Use Under Power Lines and Recommended Tree Species Appropriate for Greenbelt Parks*.³⁵
 - c. *City of Greenbelt’s Tree Master Plan*.
6. Tree protection zones will be established around new plantings and large established tree areas that require protection from foot and vehicle traffic.

Invasive Plant Species

Invasive plants impede recreational activities and have enormous effects on labor costs and the environment.

Invasive Species:

Invasive species are one of the leading causes of environmental degradation and loss of biological diversity worldwide. As global travel has introduced species to new areas, these non-native plants can be invasive and often alter natural habitats with disastrous consequences on the environment.

Taking action against invasive plants involves significant consideration of available tools and techniques, as well as site conditions and impact on the environment. The goal of invasive management should be to restore the landscape with minimal impact to people, non-target plants, wildlife, and the environment.

The City will control invasive plants utilizing the following directives:

1. Preference given to native plants when establishing new plant beds.
2. Positive identification of invasives listed in the *Plant Invaders of Mid-Atlantic Natural Areas* before treatment is administered.³⁶
3. Mechanical removal of invasive plants is the preferred method of control. When it is not feasible due to cost or labor availability, targeted applications of approved herbicides can be used in accordance with Maryland's *Pesticide Applicator's Law*.
4. Maintain membership and active participation in *Maryland Invasive Species Council*.³⁷

Areas of land that should be prioritized to receive treatment for invasive species include:

1. Tracts of land which are being reforested.
2. Sites where an invasive species appears which was not previously present in Greenbelt.
3. Edges of tracts where invasive species are established or sites that were recently disturbed.
4. Parks and other natural areas with high public visibility and usage.
5. High value wildlife habitats.

Composting & Mulching

Composting and mulching is the single most important action that sustainable gardeners do to create low-maintenance, healthy gardens.

Composting:

Compost is organic matter that has been decomposed and recycled as a fertilizer or soil amendment. Interest in composting programs has grown recently as landfill space decreases. Each American produces on average 2.37 pounds of compostable and recyclable material daily.³⁸

Composting keeps excess materials out of landfills, which reduces the amount of methane released into the atmosphere. Some additional benefits of a composting program include:

1. Enriches soil, helping retain moisture and suppressing plant diseases and pests.
2. Reduces the need for fertilizers.
3. Provides cost savings over conventional soils
4. Community engagement in "green" initiatives
5. CO₂ sequestration and methane reduction

The City encourages composting at all scales and supports the following efforts:

1. *Backyard Composting* – Citizens establish compost piles by purchasing compost bin or building an enclosure.
2. *Community Composting* – City partners with community groups to establish compost bins and to help with composting programs. Public Works maintains community compost area where employees contribute lunch scraps.

When applicable, the City will use compostable materials from community composting programs to enhance soils and encourage new plant growth.

Mulching:

The use of mulches in landscape provides several benefits to plants and trees. Mulch can retain 21% more moisture in landscape beds and also keep soil temperature 10° cooler. In addition, mulch can suppress weeds and provide a habitat for soil organisms.

The City recognizes the benefits of mulching and will employ the following directives:

1. Mulch should be used around the base of new plants, shrubs, and trees where applicable.
2. Layering organic mulches (compost, leaves) is suggested in conjunction with wood chips and shredded hardwood.
3. Mulch layers should comply with Prince Georges' County planting standards.³⁹
4. Mulch should be raked, re-spread, or removed on an annual basis.

Formatted: Subscript



Conclusion

Sustainability is not an exercise in sacrifice today, but represents an opportunity of choice and prosperity for both today and tomorrow.

The *Sustainable Land Care Policy* is the culmination of planning and collaboration between the City, multiple citizen advisory groups, and external partners. The Policy is designed to create attractive landscapes that are in balance with the local environment and require minimal resource inputs. Sustainable land care is “functional, cost-efficient, visually pleasing, environmentally friendly and maintainable.”⁴⁰

Sustainable land care is not a new concept. Environmental awareness movements of the 1960s spawned a host of landscape design firms with a focus of “green” and “eco-friendly” practices.⁴¹ Greenbelt has always been at the forefront of environmental sustainability—it was founded as one of three “green” towns planned in 1935 under the United States Resettlement Administration (along with Greendale, Wisconsin and Greenhills, Ohio).⁴²

Greenbelt is fortunate to benefit from State leadership, as Maryland is pioneering efforts to achieve sustainability. As the Department of Natural Resources has stated, “a sustainable future is one in which our children have options, are able to meet their needs, and enjoy prosperity. What we do or fail to do today will affect the ability of our children to make a sustainable future for their children.”⁴³

The City of Greenbelt is committed to doing its part to realize these opportunities. The *Sustainable Land Care Policy* is the roadmap to achieving a sustainable future. As a living and updatable document, the City looks forward to reviewing the directives contained within on an as needed basis.

References and Footnotes

¹ Green Aces, "Sustainability Plan Framework", 2013.

² The entire REAC/Green ACES report can be accessed at <http://chears.org/publications/fulltext/Pesticidereportreac7907.pdf>. The 12 recommendations mentioned are in ~~Appendix A~~ Section 3.2 Specific Recommendations to Council of this document.

³ The most recent standards are accessible at http://www.organiclandcare.net/sites/default/files/nofa_organic_land_care_standards_6thedition_2017_opt.pdf

⁴ The drafters of the Takoma Park "Safe Grow Ordinance" used the Greenbelt REAC Report to help design their program <https://takomaparkmd.gov/initiatives/safegrow/>

⁵ Sustainable Land Care Policy," Leslie Riddle, 2011

⁶ Greenbelt Sustainability Frameworks <http://www.greenbeltmd.gov/DocumentCenter/View/2641>
<https://www.greenbeltmd.gov/government/departments-con-t/public-works/green-steps-sustainability/sustainable-plan-framework>

⁷ "Public and Environmental Health Issues Regarding Pesticide Use and Recommendations for Adoption of Organic Land Care and Organic Pest Management (OPM) Practices for Greenbelt," GreenACES, 2007.

Since this footnote is being eliminated, all of the following footnotes need to be changed in the text and this Footnotes section-

⁸ Examples include "Forest Preserve Health Assessment," Greenbelt Department of Planning & Community Development; and playground safety regulations.

⁹ Framework for areas of consideration established in "Draft Copy for Discussion – Sustainable Land Care Policy, ACT Revised Copy," Advisory Committee on Trees, 2013.

¹⁰ "Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain Protection," ASTM, 2013.

¹¹ "Maryland Standards and Specifications for Soil Erosion and Sediment Control," Maryland Department of the Environment Water Management Administration, 2011.

¹² "Sustainable Lawn & Landscape Practices for Communities," Chicago Metropolitan Agency for Planning, 2012.

¹³ "Designing Neighborhoods for People and Wildlife," American Society of Landscape Architects, 2012.

¹⁴ "Fertilizer," <https://en.wikipedia.org/wiki/Fertilizer>, 2015.

¹⁵ Soil testing will be performed by University of Maryland Extension approved vendors, https://extension.umd.edu/sites/default/files/_images/uploaded/SoilLabComparison_10-15-2014.pdf

¹⁶ Synthetic Fertilizers are man-made, inorganic compounds. Organic fertilizers are derived from natural sources and provide nutrients and improved soil quality.

¹⁷ "Maryland Nutrient Management Law," Maryland Department of Agriculture, 2013 (or latest edition).

¹⁸ "Pesticides," United States Environmental Protection Agency, 2014.

¹⁹ <http://www.nrdc.org/health/kids/ocar/chap5.asp>
<http://www.webmd.com/baby/news/20090327/do-pesticides-make-birth-defects-crop-up>
<http://www.cfp.ca/content/53/10/1704.short>
<http://www.scientificamerican.com/article/parkinsons-disease-and-pesticides-whats-the-connection/>
<http://www.wri.org/publication/pesticides-and-immune-system>
<https://www.sciencedirect.com/science/article/pii/S0887233311003341> <http://weedingtech.com/new-study-suggests-exposure-to-roundup-herbicide-could-lead-to-male-infertility-2/>
<http://weedingtech.com/new-study-suggests-exposure-to-roundup-herbicide-could-lead-to-male-infertility-2/>

Formatted: Highlight

References and Footnotes

- [infertility-2/
http://usnews.nbcnews.com/news/2012/03/29/10921493-neonicotinoid-pesticides-tied-to-crashing-bee-populations-2-studies-find](http://usnews.nbcnews.com/news/2012/03/29/10921493-neonicotinoid-pesticides-tied-to-crashing-bee-populations-2-studies-find)
- ²⁰ The most recent edition of the NOFA standards, updated in 2017, can be found at http://www.organiclandcare.net/sites/default/files/nofa_organic_land_care_standards_6thedition_2017_opt.pdf
- ²¹ "Integrated Pest Management (IPM) Principles," EPA, 2014. <https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles>
- ²² Northeast Organic Farming Association, <http://www.organiclandcare.net>.
- ²³ "Plants/Pests," Maryland Department of Agriculture, mda.maryland.gov/plants-pests/Pages/default.aspx.
- ²⁴ "Pesticide Regulation," Maryland Department of Agriculture, http://mda.maryland.gov/plants-pests/pages/pesticide_regulation.aspx.
- ²⁵ Action thresholds refer to the determined number of pests or level of pest damage required before action is necessary, as defined by the USDA National Institute of Food & Culture, Cooperative Extension System.
- ²⁶ THE MAP REFERENCE FOR THE WATERWAYS OF GREENBELT GOES HERE!
- ²⁷ "Banned or Severely Restricted Pesticides," http://scorecard.goodguide.com/chemical-groups/one-list.tcl?short_list_name=brpest<http://scorecard.goodguide.com/chemical-groups>
- ²⁸ "Safe Grow Act of 2013," City of Takoma Park, 7/25/2013.
- ²⁹ NOFA, "Standards for Organic Land Care, Practices for Design and Maintenance of Ecological Landscapes," 1/2011.
- ³⁰ "Researchers planting for 20-year study of sports turf resilience," PHYS.org, <http://phys.org/news/2015-06-year-sports-turf-resilience.html>, 2015.
- ³¹ "Permeable Paving," Wikipedia, https://en.wikipedia.org/wiki/Permeable_paving, 9/29/2015.
- ³² "A Report on the City of Greenbelt's Existing and Possible Urban Tree Canopy," University of Vermont, 2/22/2009.
- ³³ "Street Tree Inventory for the City of Greenbelt," City of Greenbelt Public Works, Fall 2013.
- ³⁴ "Prince George's County Landscape Manual," Maryland National-Capitol Park & Planning Commission, 2010.
- ³⁵ "Recommended Tree Species Appropriate for Greenbelt Parks," Report to the City Council, 2/16/2016.
- ³⁶ "Plant Invaders of Mid-Atlantic Natural Areas," National Park Service, 2014.
- ³⁷ "Maryland Invasive Species Council, <http://www.mdinvasivesp.org/>.
- ³⁸ "Municipal Solid Waste," Environmental Protection Agency, <https://archive.epa.gov/epawaste/nonhaz/municipal/web/html/http://www3.epa.gov/epawaste/nonhaz/municipal/>, 6/25/2015. https://www.epa.gov/sites/production/files/2018-07/documents/2015_smm_msw_factsheet_07242018_fnl_508_002.pdf Here is the latest EPA report on MSW, but I can't find the 2.37 lbs of compostable & recyclable material as referenced in the text.
- ³⁹ "Prince Georges' County Specifications and Standards for Roadways and Bridges," 2012.
- ⁴⁰ "Sustainable Landscaping," Colorado State University Extension, <http://extension.colostate.edu/publications-2/>, 2015.
- ⁴¹ "Meet the Pioneers of Sustainable Design," Forbes, <http://www.forbes.com/sites/rahimkanani/2014/01/16/meet-the-pioneers-of-sustainable-design/>, 1/16/2014.
- ⁴² "New Deal City", Sue Halpern, Mother Jones, <http://www.motherjones.com/politics/2002/05/new->

Formatted: Highlight

Formatted: Highlight

Formatted: Highlight

References and Footnotes

[deal-city](#), 6/2002.

⁴³ "Our Common Future: Toward Sustainable Development," <http://www.un-documents.net/ocf-02.htm>,

United Nations, 1987. This is the UN statement, but the text references the MD DNR.

Formatted: Highlight

SUBJECT: Comments on and edits to the 2017 Sustainable Land Care Policy

DATE: April 9, 2019

BACKGROUND: At the February 2019 Forest Preserve Advisory Board (FPAB) meeting, the Board was informed by Public Works Assistant Director-Parks Brian Townsend that the city's 2017 Sustainable Land Care Policy had been reopened for review. Mr. Townsend provided the board with proposed additions and edits to the existing document from Green ACES, and asked the Board to review those proposed changes and propose any additional changes or clarifications. The board reviewed the policy on March 28, 2019.

DISCUSSION: In 2017 FPAB reviewed the proposed Sustainable Land Care Policy and concluded that it was mainly focused on landscaped areas and areas of high public use. FPAB's opinion was that the document should not apply to the Forest Preserve because the forest is not a landscaped area. The first sentence of the land-care policy states that "sustainable land care means planting what will do well in regional climates," but the city did not and does not plant in the forest. Instead, Greenbelt residents are stewards of the natural ecosystem that exists there. At the October 20, 2016 Forest Preserve meeting, we recommended that the Land Care Policy be revised to state that the Forest Preserve is governed by a different policy, namely the Forest Preserve Management and Maintenance Guidelines. Our recommended edit to the Land Care Policy has not yet been made, but we reaffirm our view on this matter. (FPAB will soon to be submitting a revised version of the guidelines which we propose to call the Forest Preserve Stewardship Guidelines).

RECOMMENDATION: The Forest Preserve Advisory Board supports the 2017 version of the Sustainable Land Care Policy, and recommends no substantial changes to that policy. We do, however, wish to request again the edit that we proposed in 2017, namely that the clarification be included as language in the revised Sustainable Land Care Policy.

FPAB recommends that the 2017 version of the Sustainable Land Care Policy be revised to explicitly state that the Forest Preserve is not covered by the document, and that the Forest Preserve Stewardship Guidelines should be cited as the authoritative policy for the Forest Preserve. The specific revision that FPAB recommends to the 2017 Sustainable Land Care Policy is to replace the first sentence following the "Organization" heading on page 1 with the following text:

"The Policy applies to all City-owned property, except for specific areas that are governed by code under an alternative policy. For example, the Forest Preserve Management and Maintenance Guidelines, adopted by City Council in 2007, is the policy that governs the Greenbelt Forest Preserve pursuant to Chapter 12, Articles 8 and 9 of the Greenbelt City Code."

Once these sentences are inserted, footnote #3 can be deleted because the footnote cites the wrong document (the AMT 2016 draft Forest Health Assessment), and our edits cite City Code in the sentence above. However, FPAB does recognize that other policies are cited in footnote #3 and that other Advisory Boards may object to their removal. FPAB recommends that any Advisory Boards whose mission covers the policies currently cited in footnote #3 be encouraged to edit our language to include those policies or to cite them in a footnote. All policies that take precedence by code should be listed and called out in the text of the document.

**Report #2019-1
February 27, 2019**

Greenbelt Advisory Committee on Trees – Report to the City Council

Subject: Sustainable Land Care Policy

The Advisory Committee on Trees (ACT) has again read through the Sustainable Land Care Policy (SLCP) document, which was discussed at the Greenbelt City Council Work Session on August 2, 2017. ACT members voted at their recent February 19, 2019 meeting to support implementation of the SLCP document presented at that August 2017 City Council Work Session meeting. ACT members understand that some possible changes have been suggested to the SLCP 2016 document. This is an earlier draft that may not have incorporated all the agreed upon changes.

ACT members suggest that another Work Session be held by the Greenbelt City Council, which would include all interested committees and boards (e.g., Advisory Committee on Trees, Forest Preserve Advisory Board, Green ACES, Park and Recreation Advisory Board) to consider the SLCP from August 2, 2017. ACT members believe that a Sustainable Land Care Policy needs to be adopted by the Greenbelt City Council so that Public Works personnel will have guidance for dealing with plants and land care issues in the City of Greenbelt in 2019 and future years.

At their most recent meeting, ACT members voted to support implementation of the Sustainable Land Care Policy presented at the August 2, 2017 Greenbelt City Council Work Session.

**PARK AND RECREATION ADVISORY BOARD
REPORT TO CITY COUNCIL**

Subject: **Sustainable Land Care Policy**

Background: PRAB has discussed the Sustainable Land Care Policy (SLCP) on numerous occasions over the past several years, including most recently at the February 27, 2019 regular meeting. This document has been through several updates and iterations but has yet to be finalized and approved as a resource for Greenbelt staff to utilize to direct maintenance efforts and work programs.

Recommendations: PRAB believes that the SLCP is critical to maintaining and improving conditions in Greenbelt. We respectfully recommend that City Council hosts another work session to finalize the SLCP, and then to adopt the document at their next meeting after the work session, so that staff in City departments can utilize this as a tool to guide planning, maintenance and operations moving forward.

PRAB supports the adoption of the SLCP with input and guidance from the experts in the Public Works Department as to some of the areas of concern addressed by other interested parties. Once the SLCP is adopted, PRAB requests that the Buddy Attick Lake Park Master Plan be reviewed and revised in collaboration with the Recreation and Public Works Departments.

Respectfully submitted by:
Jacob Chesnutt, PRAB Chair
Brandon 'Ric' Gordon, PRAB Vice-Chair