

Work Session

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| Agenda Item # | 6 |
| Meeting Date | November 13, 2012 |
| Prepared By | Jessie Carpenter City Clerk |
| Approved By | Suzanne Ludlow Acting City Manager |

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| Discussion Item | Discussion of Safe Grow Zone Initiative |
| Background | The Takoma Park Safe Grow Zone Initiative seeks to have the City Council enact a ban on the use of cosmetic lawn and garden pesticides on City property and to phase in a public education campaign and restrictions on the use of cosmetic lawn pesticides on private property within the City. To that end, supporters have submitted a draft ordinance for Council discussion at the work session on November 13, 2012. Catherine Cummings and Julie Taddeo will be at the work session to discuss the proposal. |
| Policy | Section 401(a) of the City Charter: <i>(a) The Council shall have the power to pass all such ordinances not contrary to the Constitution and laws of the State of Maryland or this Charter as it may deem necessary for the good government of the City; for the protection and preservation of the City's property, rights, and privileges; for the preservation of peace and good order; for securing persons and property from violence, danger, or destruction; and for the protection and promotion of the health, safety, comfort, convenience, welfare, and happiness of the residents of and visitors in the City.</i> |
| Fiscal Impact | To be determined. |
| Attachments | <ul style="list-style-type: none"> • Safe Grow Zone Proposed City Ordinance: The Safe Grow Zone Act of 2012 • Lawn Pesticides and Colony Collapse Disorder • Photograph • Letter of Support from Ryan McAllister, PhD, October 16, 2012 • City of Greenbelt Sustainable Land Care Policy (draft – not yet finalized) • SafeLawns.org blog entry, July 10, 2012, Pesticide Foes Win the Day in DC: Cheh's Bill Goes to Mayor: http://www.safelawns.org/blog/2012/07/pesticide-foes-win-the-day-in-dc-chehs-bill-goes-to-mayor/ • District of Columbia <i>Pesticide Education and Control Amendment Act of 2012</i>: http://dcclims1.dccouncil.us/images/00001/20120801151713.pdf • Beyond Pesticides blog entry, October 12, 2012, <i>Pesticide Poisonings Spur Legislation Proposal in Utah</i>: http://www.beyondpesticides.org/dailynewsblog/?p=8302 • New York Times Article, September 24, 2009, <i>The Grass is Greener at Harvard</i>: http://www.nytimes.com/2009/09/24/garden/24garden.html?pagewanted=all • State Preemption Laws: A Beyond Pesticides Factsheet: http://www.beyondpesticides.org/lawn/factsheets/Preemption%20Factsheet.pdf |
| Recommendation | Hear from Ms. Cummings and Ms. Taddeo and discuss the proposal. |
| Special Consideration | If the Council decides to proceed with enacting such an ordinance, many details would need to be worked out regarding implementation, monitoring, and enforcement. |

City of Takoma Park, Maryland

Ordinance No 2012-XX

The “Safe Grow Zone Act of 2012 “

Amending the *Takoma Park Code* Title 14. Health and Safety, to add restrictions on the use of cosmetic pesticides on public and private property in Takoma Park.

WHEREAS, Title 14 Health and Safety protects the public health, safety, comfort, and general welfare of the residents and businesses of the City;

WHEREAS, Takoma Park’s Strategic Plan for FY2010-15, adopted May 18, 2009, articulates concern for clean water and safe neighborhoods and working environments and calls for “use of alternative, less environmentally damaging products”;

WHEREAS, The State of Maryland is one of only 9 states, and the District of Columbia, that uphold the rights of localities to restrict pesticides, and this should be seen as an opportunity to affect positive change. Preemption laws in the remaining 41 states undermine local authority regarding pesticide regulations;

WHEREAS, The City of Takoma Park can and should implement the Precautionary Principle, as outlined in the Wingspread Statement of 1998, when regulating the use of cosmetic lawn pesticides or any issue that affects human and ecological health,

WHEREAS, it is the 50th anniversary of the publication of Rachel Carson’s *Silent Spring*, which in 1962 decried the indiscriminant use of pesticides in the environment;

WHEREAS, in 2004, the City Council of Takoma Park proclaimed May 27 as Rachel Carson Day, a day in which residents are encouraged to consider the dangers from pesticides, and to refrain from pesticide use;

WHEREAS, the EPA, the Committee on Environmental Health of the American Academy of Pediatrics, the National Academy of Sciences, and the 2010 President’s Cancer Panel have concluded that pesticide exposure is linked to reproductive disorders, birth defects, learning disabilities, neurological disease, endocrine disorders, and cancer;

WHEREAS, the EPA acknowledges, along with esteemed Mt. Sinai Children’s Environmental Health Center, that children, with their developing bodies and brains, are especially vulnerable to the harmful effects of lawn pesticides. Children’s behavior, (hand to mouth interactions,) proximity to the ground, walking or running through lawns instead of in the street, (especially where there are no sidewalks), dispose children to far more contact with lawn pesticides than adults;

WHEREAS, The Journal of the National Cancer Institute finds that home and garden pesticide use can increase the risk of childhood leukemia by up to seven times. Dr. Philip Landrigan, the Director of Mt.

Sinai Children’s Environmental Health Center states, “Case-control epidemiologic studies have found consistent, modest associations between pesticide exposures in utero and in early childhood and acute lymphocytic leukemia, childhood brain cancer and childhood non-Hodgkin’s lymphoma. Rates of childhood leukemia are consistently elevated among children who grow up on farms, among children whose parents used pesticides in the home or garden, and among children of pesticide applicators.”

WHEREAS, The EPA states pesticides are chemical irritants that can trigger asthma attacks in sufferers. 1 in 10 children suffer from asthma, more in urban areas, where building managers routinely contract with lawn pesticide applicators;

WHEREAS, The National Institute of Environmental Health Sciences at NIH, and the Harvard School of Public health have confirmed that exposure to pesticides raises the risk of Parkinson’s Disease;

WHEREAS, lawn pesticides have sub-lethal effects on animal life, including pets, aquatic organisms, and wildlife. A 2012 study by biologists at Harvard University concludes that pesticides are lethal to many pollinators and have been linked to Colony Collapse Disorder in honeybees;

WHEREAS, the Maryland Department of Natural Resources since 2004 have given Sligo Creek a rating of Poor; and the local advocacy group, Friends of Sligo Creek, on their website, ask people not to overuse pesticides and herbicides and also to “Encourage civic leaders to implement policies that reduce stormwater volumes, sewer leaks, nutrients, toxic chemicals, and other impediments to water quality,” and;

WHEREAS, the Chesapeake Bay Foundation’s 2010 State of the Bay Report observes that non-point source pollution from residential and commercial lawn pesticides in surrounding towns pollute the watershed and ultimately Chesapeake Bay;

WHEREAS, Most provinces in Canada have banned the use of cosmetic lawn chemicals, and subsequent studies show a dramatic increase in stream health; Washington DC has enacted the Pesticide Education and Control Amendment Act of 2012; and Greenbelt, MD, strictly prohibits the use of synthetic chemical pesticides on all city-owned land with their Sustainable Land Care Policy of 2011;

WHEREAS, non-toxic lawn care products are affordable and available to purchase in Takoma Park, and several local landscaping businesses offer pesticide-free lawn care.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF TAKOMA PARK, MARYLAND:

SECTION 1. Title 14, Health and Safety, Chapter 14, Cosmetic Lawn Pesticide Regulation, of the *Takoma Park Code* (2004 edition) is amended as follows:

14.28.010 Declaration of policy

The Council of the City finds that the use of pesticides for the cosmetic purposes of maintaining the aesthetic condition of lawns and gardens creates health risks to residents, especially children, and affects the quality of our environment and Chesapeake Bay. The intent of this ordinance is to clarify

what is meant by the cosmetic use of a pesticide, immediately prohibit the use of cosmetic pesticides on city property, and phase in a public education campaign and restrictions on the use of cosmetic lawn pesticides on private property within the City.

14.28.20 Definitions

As used in this chapter, subject to such extensions as may be given to any of these definitions under Section XXX of this chapter:

“Pesticide” refers to any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest. Though often misunderstood to refer only to insecticides, the term also applies to herbicides, fungicides, and various other substances used to control pests.

“Cosmetic use” means a pesticide applied for aesthetic purposes, E.g., to achieve a homogenous appearance, in the maintenance of lawn, turf, flowers, and ornamental plants, trees, or shrubs; unnecessary. An infestation of pests, (such as clover, grubs, black spot,) in these areas does not merit the use of pesticides. Exceptions include pesticides used for the purposes of controlling noxious weeds or to protect human health (see exceptions).

“Noxious weeds” shall include those described in Section 12.08.040 of Takoma Park Code.

“Health Risks” in this case, refers to the potential to suffer injury from chemical factors, such as exposure to cosmetic lawn pesticides

“Quality” means the state that is optimal for soil, water, air, flora, and fauna to thrive in Takoma Park and in all the connected environments where our activity has lasting impact

“Precautionary Principle” is the tool governments can employ when there is indication of potential harm to people or the environment, rather than proof of harm, as a result of human activity. It is clearly defined for use by American governments in the Wingspread Statement of 1998.

<http://www.sehn.org/wing.html>

14.28.30 Register

The City Manager shall create and issue, by April 1, 2013, and shall thereafter maintain a register of restricted pesticides and uses and administrative regulations necessary for enforcement of this ordinance. The initial register shall include the following pesticides and their associated products:

| Pesticide | Product |
|------------------------------------|----------------------------|
| • 2, 4-D | Ortho Max and Weed N’ Feed |
| • Bifenthrin | Ortho Bug B Gone Max |
| • Dicamba | Ortho Max and Weed N’ Feed |
| • Dichlorprop-p Dimethylamine Salt | Scott’s Turf Builder |
| • Diquat Dibromide | Spectracide and Roundup |
| • Fenoxycarb | Bayer Weed Control |
| • Fluazifop-butyl | Spectracide |
| • Glyphosate | Roundup |
| • Imazethapyr | Ortho Ground Clear |
| • Imazipic | Round Up Extended Control |
| • Imazipyr | Ortho Ground Clear |

- Imidacloprid Bayer Rose and Flower Care, Bayer Advantage Complete Insect Killer Turf and Soil (Banned in parts of New York State)
- Isoxaben Bayer Weed Control
- Lambda-cyhalothrin Terro Ant Killer and Ace Insect
- Mecoprop (MCP) Ortho Max, Weed N Feed, Ace Green Turf, many
- Metaldehyde Ortho Bug Geta Snail and Slug Killer
- Permethrin Ace, Bayer, many brands
- Propiconazole Bayer Fungus Control
- Quinoxifen, Quinchorac Ortho Crab Grass
- Sulfentrazone Spectracide Weed Stop for Lawns
- Tebuconazole Bayer Rose and Flower
- Trichlorfon, Trichloro Ortho Weed B Gone
- Triclopyr Ortho Chickweed, Clover, Oxalis and Ortho Poison Ivy

14.28.40 Prohibited Applications

- A. Use on City-owned Property: It shall be unlawful for any City employee or contractor to apply or cause to be applied any pesticide use on City-owned property or in a City right-of-way.
- B. Use on Other Public Property: The City of Takoma Park shall inform governmental entities that own or control land within the city, and whose use of pesticides the city does not have power to restrict, of city restrictions on the use of pesticides within the city, in order to encourage and achieve compliance.
- C. Use on Private Property: Starting July 1, 2013, it shall be illegal to apply restricted pesticides on private property in the city, whether by the property owner or a tenant, service provider, or other agent.
- D. Notice Requirement: From the date of adoption of this ordinance until June 31, 2013, any party applying a pesticide that will be restricted by this ordinance must post public notice, readable and visible from the public right-of-way at the point closest to the area of application, stating the substance applied and the date of application.

14.28.xx Exceptions

Exceptions to the Safe Grow Zone Act include:

Public Health or Safety: Pesticides can be used to control plants that are poisonous to the touch, such as poison ivy; insects that bite, sting, are venomous or are disease carrying, like mosquitoes; and animals,

insects or plants that may cause damage to a structure or infrastructure, such as termites. Cultural, physical, biological, and mechanical methods of control are also effective, and encouraged. (Education about alternative methods of mosquito control would be very useful for residents of Takoma Park, where in recent years, the Tiger Mosquito, *Aedes albopictus*, has become an extreme pest.)

Noxious Weeds: Maryland law requires landowners to control the noxious weeds Johnson grass, shattercane, and thistles on all types of land. Cultural, physical, biological, and mechanical methods of control are effective and encouraged.

Natural resources: The City of Takoma Park or Montgomery County may issue a license to control an invasive species that may be detrimental to the environment, or to protect a native plant, animal or a rare ecosystem.

Trees: Since trees are so important to protecting our climate, licensed professionals can use otherwise restricted pesticides with the written opinion of an arborist that states the use of pesticide is necessary to protect the health of the tree.

Where no feasible alternatives exist, or use is mandated by the State of Maryland or another governing entity.

A. City Use: Should the City of Takoma Park seek to apply restricted pesticides to public or private land, the City Manager shall issue a public attestation stating the location(s) and timing of use, the substance(s) to be applied, the date(s) of application, and the unavailability of acceptable alternatives, for any use of restricted pesticides.

B. Waiver for Private Use: The City of Takoma Park will accept and review appeals from individuals or groups who have exhausted acceptable alternatives to cosmetic pesticides. An application is a public record, stating the proposed location(s) and timing(s) of use, substance(s) to be applied, the date(s) of application, and the unavailability of acceptable alternatives. Applications shall be published by the city, online and in other forms, and shall be posted by the property owner or the owner's agent, in a form readable and visible from the public right-of-way at the point(s) closest to the area(s) of application, at least seven days prior to date(s) of application. The City Manager shall accept and weigh public comment in deciding whether to issue a waiver, which shall be of limited duration.

14.28.xx Outreach and education

The City Manager shall publish notice of this ordinance, including lists of banned pesticides and of alternative, less environmentally damaging products and cultural practices or methods of pest control, to customary outlets, and shall provide periodic notice regarding this ordinance, to identified retailers and lawn, garden, and tree-care providers serving Takoma Park and to churches, schools, and other institutions in the city, upon adoption of administrative regulations and subsequently every two years or more frequently.

The City Manager shall prepare and publish materials designed to educate the community about the role of pesticides in our local environment, such as the Sligo Creek Watershed, and about earth-friendly alternatives to cosmetic lawn pesticides.

14.28.xx Enforcements and penalties

- A. Each act of illegal application of a restricted pesticide shall be a Class B misdemeanor.
- B. Failure to provide and post notice of an allowed application of a restricted pesticide shall be a Class C misdemeanor.

ADOPTED BY THE COUNCIL OF THE CITY OF TAKOMA PARK, MARYLAND, THIS XX DAY OF XX, 2012, BY ROLL-CALL VOTE AS FOLLOWS:

AYE:

NAY:

ABSENT:

ABSTAIN:

Attest:

Jessie Carpenter, CMC
City Clerk

Lawn Pesticides and Colony Collapse Disorder

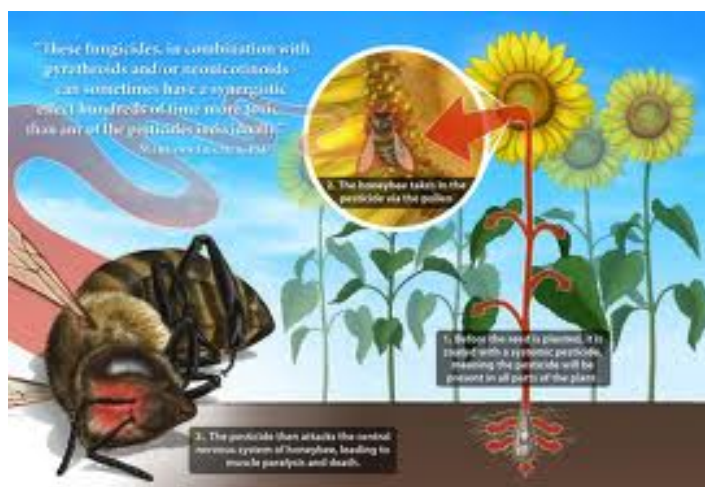
CCD (Colony Collapse Disorder) happens when entire beehives are deserted or die because of disease in the hive, but it has perplexed beekeepers and farmers because it is happening on such a large scale. In Europe, **neonicotinoid pesticides** have been banned because they are linked to CCD.

Safe Grow Zone Initiative is interested in this topic because neonicotinoid pesticides are used on lawns for cosmetic purposes, such as rose care and general insect control, not just in GM plants on agricultural land. (*see below*)

The USDA advises, "The best action the public can take to improve honey bee survival is not to use pesticides indiscriminately. In particular, the public should avoid applying pesticides during mid-day hours, when honey bees are most likely to be out foraging for nectar and pollen on flowering plants." (<http://www.ars.usda.gov/News/docs.htm?docid=15572#pub>)

The public is being asked to carry the burden of unbridled and irresponsible pesticide use, which is typical in both urban and suburban settings. As in the case of the EPA and asthma awareness, this is simply unfair. The average resident in Takoma Park, like the average honeybee, cannot avoid contact with lawn pesticides.

Also, local backyard beekeepers are concerned for their hives. Backyard beekeepers play a role in the honeybee's survival, and they preserve traditional, sustainable methods of harvesting honey. The presence of honeybees also increases yield in urban gardens.



<http://tonylinka.com/scientific/neonicotinoids.html>



From: Ryan McAllister
To: <Clerk@takomagov.org>
Date: Tuesday, October 16, 2012
Subject: Safe Grow Initiative Support Letter

Dear Mayor and City Council,

I am writing to support the Safe Grow Zone Initiative. I am delighted to hear of it and to hear that you are seriously considering creating synthetic pesticide and herbicide restrictions or bans in Takoma Park.

As a scientist, I have seen overwhelming evidence that these chemicals are a detriment to public health, degrade the land and water, and have unintended harmful effects on both flora and fauna.

In humans, these classes of chemicals act as teratogens, mutagens, carcinogens, and endocrine disruptors. Further, there is no evidence that there is any safe dose of these chemicals considering that they bio-accumulate and may have complicated interaction effects. Worse still, it is completely clear in the scientific literature that these chemicals have an especially profound effect in vulnerable populations.

As a community member and parent, I am very concerned about the effects of exposure to these chemicals and their bioaccumulation on children. My daughter in particular has an exceedingly rare chromosomal difference and profound special needs that make her more susceptible to injury from these chemicals.

Further, in my home in Takoma Park, we explicitly aim for our household to be safe for people with chemical sensitivities. "Chemical sensitivity" is an umbrella term for a variety of conditions that result from exposure to too many petroleum-based chemicals. For many people with such a condition, exposure to pesticides, herbicides, and other synthetic chemicals can bring on debilitating symptoms.

If you would like to speak further with me or if there is something else I might do to assist with the successful implementation of this initiative, I welcome hearing from you.

With appreciation,

Ryan McAllister, PhD
Research Professor, Physics and Oncology Departments, Georgetown University
Manager, Maitri House Intentional Community

Manor Circle
Takoma Park, MD 20912

Sustainable Land Care Policy

City of Greenbelt, Maryland

Department of Public Works



The City of Greenbelt, Maryland
Department of Public Works
Author: Lesley Riddle
Assistant Director of Public Works



Organizational Statement –

It is the intention of the Public Works Department of the City of Greenbelt, Maryland, to operate in the most sustainable and fiscally responsible manner possible. With the direction of the City Council, it is the Department's intention to adhere to a no pesticide and no fertilizer policy on property that is within the City's purview. That includes all parkland, athletic fields, playgrounds, forest preserve and all other multi-use city holdings.

The following policies under Sustainable Land Care Policy will be followed strictly by City staff and any contractor working for the City. The City will require that current and new contractors are environmentally responsible and follow City standards in regard to pesticide and fertilizer use. All contractors will be required to adhere to City guidelines for pesticide usage.

We will insure that City staff has access to education resources and certifications that promote and teach sustainable landscape and plant health care practices.

The City will foster relationships with local municipalities and citizen organizations to utilize external resources in achieving sustainable land care management goals.

As of January 1, 2011, the cosmetic use of pesticides and fertilizers has been banned on City property; only when mandated by Maryland state sanction will this policy be changed. As time and industry studies change and as more environmentally safe curatives for commercial and private landscape are adopted, the City will evaluate and adopt certain products it feels are appropriate for its needs. We feel that we must have

certain control tools at our disposal for use against invasive species and public health concerns.



Principles of Sustainable Land Care in the City of Greenbelt –

Ecology – The essence of land care is to modify and alter the land often simply for aesthetic purposes. For centuries we have modified our landscapes through methods that have not always proved to sustain and nourish the land. Sustainable landscape management considers the landscape as more than just a showplace for all of us to exhibit our financial and physical prowess. It is a creation that considers the natural provenance of plants and animals that inhabit this space that we call our home. It also considers both the macro- and micro-environments within each ecosystem and the inhabitants of these systems.

Without a good understanding of the natural systems within an ecosystem we will be unable to make good and long-term decisions for the health of the land and our health. Our goal within the City of Greenbelt is to garner a rich understanding of our local bioregion and work in concert with our natural systems, not in conflict or in an attempt to dominate them.

Sustainability – The health, welfare, and viability of future generations lie solidly in the hands of this current generation. Without knowledge and care for our natural world our children and their children will likely be left to survive in an inhospitable and erratic environment. Our actions today will impact future generations’ ability to sustain and maintain effectively. Therefore, by adopting this policy, it is our pledge to the citizens of Greenbelt to consider each action that we take in regard to the land care within

the City's purview. By adopting this Sustainable Land Care Policy, we will strive to maintain City land with as little impact to our natural ecosystems as possible.

Leadership – The City of Greenbelt has historically been a municipality that takes great pride in being a leader in innovative and socially progressive thinking. The City of Greenbelt, Maryland, is one of the cities built by the Federal Government in 1937 as part of Roosevelt's "New Deal." The structure of the city was engineered for sustainability and community interaction. Although Greenbelt's sister cities have not retained their socialized elemental design, Greenbelt has, hence the citizenship of Greenbelt is very involved in City process.

In 2007, the Greenbelt Advisory Committee on Environmental Sustainability (GreenACES), a local citizen committee, presented a request to the City Council for the City to adopt organic land care practices. GreenACES presented a comprehensive overview and fact sheet of the issues and problems revolving around pesticides. They also provided Council with a summary of recommendations and course of action they wanted to see the City consider for implementing a more organic based plant care program. They framed their core issue as "recommendations for adoption of organic land care and organic pest management practices for Greenbelt" (GreenACES, 2007).

The environmental leadership of Greenbelt citizens helped to create this policy and has aided in establishing and fostering a better relationship with the City and the Public Works Department. It is the intention of the City to also act as a leader in environmental stewardship and continue to develop outreach programs to other municipalities encouraging this type of policy as their model for operations.

Welfare - The impetus to study the use of pesticides in the City grew out of concerns for public and environmental health (human, animal and plant) specific to the City of Greenbelt, the wider Chesapeake Bay Watershed, and the greater global community. These concerns sparked the need to develop and implement this policy that addresses Sustainable Land Care. Because of the often unknown long term effects of certain pesticides, citizens in Greenbelt were concerned for their own health, the ecology of their neighborhood, and the damage to wildlife.

This policy was created to help ensure that the City and City staff consider the overall health and welfare of the environment, the citizens of Greenbelt, and the staff of the City of Greenbelt. By halting the use of all cosmetic landscape chemicals we can help to eliminate a percentage of the toxins and nutrient load that negatively affect our water, soils, and air. The City of Greenbelt will strive to “contribute to a significant reduction in unnecessary pesticide use, thus effecting improved protection of public health and the environment” (Beyond Pesticides, 2008).

Accountability – This policy reflects several years of work from both the citizens of Greenbelt and City staff. The City intends to uphold its pledge to the citizens and provide a level of transparency in operational methods and applications. A quarterly or bi-annual written review of operational intents and actions will be published for citizen review. This review will include plant and tree health care, community outreach, recycling programs and other sustainable programs and practices.

There is a specific level of expertise required in land care. City staff has been trained, certified, and licensed in plant and tree health care. Public Works staff currently includes a certified arborist, two certified horticulturists, a certified turf expert, and two

Maryland licensed Tree Care Experts. As registered operators, City employees are regulated by the State of Maryland and the Federal Government under Environmental Protection Agency laws for pesticide usage. Registered City employees are required to submit to yearly inspections for operations and all records are public domain.



Applications:

Site Analysis and Design Practice – The process of collecting and appropriately analyzing a landscape site is a critically important step in the short and long-term success of landscape installation and maintenance. Gathering appropriate information about soil structure, drainage and surface water flow, indigenous and invasive plant species, wildlife, and other critical information guides the land care expert in how to appropriately establish a plan for renovation, conservation, or preservation. The goal of a good site analysis should be to gather information that will show how work within existing ecosystems in the City of Greenbelt can be managed better and to establish landscapes that will require less care and use of resources.

The site analysis process should include the following considerations:

- Through the evaluation process all considerations for keeping existing ecosystems intact should be made.
- The site analysis will need to include a complete soil analysis, condition of existing plant material, water and drainage patterns, prevailing wind patterns and air circulation, and the sunlight that is available to the site.
- The site analysis will record all infrastructure that could impede the health and growth of plants and trees long term.
- The site analysis will need to record all existing plant species including invasive species that may need to be removed.

The design of landscapes within an existing environment should consider the following objectives:

- The ultimate objective should be to design to encourage and enhance the principles of ecosystem protection and restoration.
- The reduction of lawns which require a tremendous amount of energy input should be a major consideration.
- The species of plants that are selected for installation should be native or indigenous species that are considered non-invasive. The selection of these plants needs to be thoughtful and also consider the cultural needs of the plants and the characteristics of the site they will be planted.
- When possible the species of plants that are selected for installation should provide food sources.
- Design aspects should always strive include establishment and enhancement of wildlife habitat
- The use of invasive species is prohibited.

Soil – The health and long-term viability of plants rely on the health of the soil structure. Healthy soil contains the proper amounts of organic matter and organisms to sustain plants. The soil food web is a complex community of organisms that provide the root systems of plants nutrient and water uptake, disease suppression, and the medium to anchor their above ground structures.

Soil within suburban and urban environments have often been altered significantly by removal and movement of the existing soil profiles due to construction and other related human activity. Therefore, testing existing soils can determine what amendments will need to be considered. A standard soil test will determine the pH of the soil, the percentage of organic matter, and the macro and micro nutrients that are available to the existing and proposed plants.

The soil horizon within a healthy soil structure will include the top layer of soil which is the most beneficial to plants, the O horizon. The O horizon contains the highest percentage of organic material. The A horizon contains both organic material as well as

mineral material from the parent rock. The B horizon, referred to as the subsoil, and the zone of illuvial concentration of silicate clay, iron, aluminum, humus, carbonates, gypsum, or silica, alone or in combination.

It is typical within urban and suburban environments to see the O and A horizons completely removed during most construction projects. Because of the amount of disturbance in these soils the need to add organic matter back into the soil structure is often critical.

The following actions will be followed to retain soil health –

- Our goal is to preserve, maintain, and sustain the soil health; we will encourage this by diverse land use. Encouraging the use of diverse plant species and maintaining various levels of land use such as remnant woods, fallow fields, parkland, and forest preserve.
- During installation or renovation, any bare ground or disturbed soil must be kept covered with mulch, compost or pine needles. The area may also need to be protected with silt fence to deter soil runoff.
- Only with permission of the Public Works Department should any vehicle be allowed to drive on any turf areas.
- At no time will any vehicle be allowed to drive in tree protection zones.
- Limited disturbance of soil for planting will be allowed, deep tilling of any soil is prohibited.
- All applications of soil related herbicides and pesticides are prohibited.
- All applications of synthetic fertilizers are prohibited.

Soil Testing should include the following objectives-

- An initial soil test should be conducted on areas that are being considered for renovation and on all athletic fields.
- It is required to obtain separate soil samples from each testing site to ensure that an accurate soil testing is taken.
- The site soil samples must be an aggregate sample of the existing site: each sample must be taken from multiple areas within the test site, from a depth of least four to six inches, the sample must be about a half a cup of soil, and be sent for testing immediately.
- Soil samples will be sent to a local testing laboratory such as A & L Eastern Agricultural Laboratories.
- It is important to keep all records related to the soil testing and any additional information that is pertinent to the site.

- When adding additional compost to existing soils, top dressing on established athletic fields is recommended. On areas that are bare soil, surface tilling may be allowed with over-seeding and containment of compost with silt fence.

Water – Water conservation should always be an important factor in any site design or land care plan. All existing stream and waterways within the City of Greenbelt should be identified, recognized as a valuable resource and be protected. Controlling and mitigating storm water runoff should be a paramount feature in any landscape or design plan within the City.

The following directives should be followed for recognizing and mitigating the management of storm water –

- We should strive to reduce the amount of impermeable surface, including turf areas.
- Where it is applicable we should install rain water collection devices such as cisterns, rain-barrels or other water collection devices.
- Where it is appropriate for storm water capture and infiltration, rain gardens should be installed.
- Plants that can tolerate existing weather conditions without needing supplemental watering should always be utilized.
- Any mowing close to streams and the lake is prohibited. We need to encourage natural buffers along the lake and stream edges to improve storm water filtration.
- As time and finances allow, areas such as parking islands should be evaluated and considered for conversion to storm water management entities.
- We should continue to evaluate the ongoing stream restoration study and consider funding projects as time and financial commitment will allow.

Plant Species – It is important that we have a thorough understanding of both existing species within the City and plant species that we intend to utilize within the City’s landscape. Native plants are typically the type of plant that should be considered for use on our parks and landscapes. It is important to understand which plants work best within this region and also what their cultural needs are. Their cultural needs would include soil pH, sunlight exposure, water needs, space needed for mature growth, and other growth and cultural needs that may be independent to each species.

The following directives should be adhered to for new plantings:

- Using native plants should be considered before utilizing plants that are non-native to this region.
- It is appropriate to use cultivars of native plants for installation in all parks with the exception of Buddy Attick Park which has an existing master plan.
- It is preferred that any planting consider the use of plants that will be beneficial to wildlife.
- It is recommended that plantings be considered for their help with energy savings, such as using shade for cooling needs or wind breaks for heating needs.
- The use of known and/or identified invasive species is prohibited.

The following directives should be followed during the planting process –

- All existing native and non-invasive existing plantings that are viable should be integrated into the site plan.
- The cultural needs of the plants that are chosen for installation must match the site conditions.
- A soil test must be completed and amendments to the soil must be compost for plant beds, or bio-retention mixture for rain gardens.
- Any existing plant material that is undesirable must be removed manually or with a nonionic acid or acetic acid.
- Plants should be purchased from local nurseries that sustainably grow their own nursery stock.

Plant Care and Pruning – If the appropriate plant is chosen for the appropriate place then the long term health of the plant should be good and care should be minimal. If it is our desire is to let plants live naturally and without our intervention, then pruning would not really be needed. There are areas within the City purview that we could practice the hands-off approach to pruning. One of these areas is the Forest Preserve; this area needs limited maintenance based on guidelines which require this area to be naturalized. There are other areas in the City which require us to prune or shape plants so that they are structurally sound and do not impede City infrastructure.

The following directives should be followed for proper plant care and pruning:

- Plants and trees within City parkland and City right-of-way should have dead wood, diseased wood, crossed branching and weak branching removed as soon as possible.

- Any corrective pruning on large shrubs and trees should be done when the plant is still young and corrective measures are less harmful.
- It is important to know the growth habits of each species as well and any prior response to pruning.
- Pruning plants at the proper time is also important. The appropriate time to prune depends on the plant species. Knowing the blooming and fruiting cycles of plant and tree species is critical for scheduling pruning.
- Topping or heading back of trees is strictly prohibited
- All debris that is created during scheduled pruning must be recycled on site and in a timely manner.

Fertilization Techniques – It is often common practice in the landscape industry to use synthetic-based fertilizers as the main nutrient source for plants within managed landscapes. The depletion of our soil structure has also been a mitigating factor for the utilization of synthetic fertilizers in managed landscapes. The issue that is most critical is that these excess nutrients from point and non-point source pollution flow into waterways and have a significant impact on the balance of life within a natural ecosystem. Excess nutrients can cause algae blooms in waterways. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water, called eutrophication. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.

With the proper management of soil, the use of synthetic fertilizers is not really necessary. Using compost, compost teas, companion crops, nitrogen sequestering crops, and blended organic fertilizers within a land care plan can eliminate the need for synthetically manufactured fertilizers. It is important to note that utilizing sources of nutrients that are renewable resources is very important and must be adhered to within the City.

The following directives must be adhered for fertilization within the City:

- The use of all synthetic based fertilizers is prohibited

- The use of compost as a topdressing may be applied at 1 to 2 inches to all athletic fields in the fall.
- The use of compost in plant beds may be applied as needed and either as topdressing or incorporated within the soil no deeper than 3 or 4 inches.

Turf Care –Turf care requires an inordinate amount of time and energy. It is the desire of the City to reduce the amount of areas that are lawn. Because of athletic use and multi-use areas for City-related outdoor events, having turf areas is necessary.

The following directives must be followed for turf care within the City:

- Areas that can be left to grow will be mowed only once or twice per year.
- Over seeding of turf areas should be seeded with a low mow species of turf grass and other companion plantings.
- All turf areas will be maintained at a height of 3 inches or more, the athletic fields are exempt from this standard.
- All grass clippings and leaves will be mowed into the grass.
- The use of single species stands of grass are prohibited
- Use of synthetic fertilizers, pesticides and herbicides are prohibited.
- Yearly soil tests on athletic fields are required to determine nutrient requirements.
- The existing turf areas that are within riparian buffers will be left to grow naturally.

Pest Management – There is often a general understanding of pests in the landscape. These pest species include a number of different plants, pathogens, viruses, insects, and arthropods that can have a negative impact on plants growing in managed landscapes. Compared to the billions of these types of species existing in nature, very few are actually detrimental to plant survival and growth. The best means to reduce pest management intervention is to know your soil structure, site and plant requirements, and to select the best plantings for the site.

Urban and suburban landscapes such as the City’s parks and green space require a plan of action to monitor and determine if any real threats are present within the landscape. If we are faced with a pest outbreak we can take the appropriate steps to

monitor and/or consider treatment based on the host and what pest is present. In the case of any State mandated controls, such as gypsy moth or emerald ash borer, we would be mandated by the State and would take the necessary and required control measures.

It is our intention to work with the natural environment and not against it. This will require us to look differently at many species that may be considered pests in some land care plans but may be considered a viable species within the City's parks and land care policy.

We will monitor and scout all areas of parkland, landscape, and remnant woods on a regular basis for any insects, pathogens, and/or invasive weeds. With proper identification we can determine if we will need to take any control measures. Any preventive measure within the landscape should be the first consideration for control. If it is determined that the host plant is under threat and is a plant or tree of value then additional control measures may be taken.

The following guidelines should be followed for pest management:

Insects –

- We will use plant species in our landscapes that have proven to be pest resistant.
- We will carefully monitor plants and trees with proven susceptibilities.
- There will be an effort to protect and enhance natural habitat for predator species of insects.
- All use of synthetic insecticides is strictly prohibited.
- The use of mechanical removal, horticultural oil, the release of predator or parasite species, insecticidal soaps, botanical insecticides, and diatomaceous earth are approved for controlling insect populations that have proven to be problematic on particular plants. These products must not be applied in a broad spectrum spraying.
- Appropriate means of disposal or plants that have been infected with diseases that can be spread to other plants must be considered. Please refer to the Maryland Department of Agriculture for specific recommendations.

Pathogens -

- Maintaining the health of the soil is critical in discouraging pathogen related diseases in plant and trees. Insuring that the plant pH and macro- and micro-nutrients in the soil available to plants is important.
- We will choose plant species that are disease resistant.
- Before accepting any plant order from any nursery, the plant material must be thoroughly inspected by a staff member of the Parks Department to insure that the plants are free of insects and disease.
- Providing adequate space between plantings provides appropriate ventilation and deters the possibilities of encouraging pathogens.
- Identifying and taking steps to prevent the spread of pathogens within the landscape is important. Mechanically removing diseased limbs and stems by pruning them out may prevent the disease spreading any further.
- The use of any fungicide is strictly prohibited.

Weeds -

- The best means of controlling unwanted plant species within a landscape is to ensure the soil health is good and the soil structure is not compact.
- Keep a healthy canopy cover to discourage growth of unwanted species.
- All weeds in ornamental plant beds will be hand- or spot- sprayed with approved herbicides.
- Timely removal of weeds before seed dispersal.
- Any tilling of plant beds will need to be shallow to avoid exposing weed seeds to the soil surface.
- The use of any synthetic based herbicide is strictly prohibited.
- The use of herbicides that are acetic salts, pelorgonic or nonionic acid, potassium based salts of fatty acid are approved for weed control.

Mulching – Using mulches in the landscape helps to provide several benefits to plants and trees. It provides a layer of organic matter that covers the soil and retains moisture beneath this layer. A healthy covering of mulch or compost should be no more than 2 to 4 inches thick depending upon the planting and plant species. The exception to this standard would be to protect the roots of a tree against construction or vehicle compaction, where a thick layer of mulch would be installed on a temporary basis.

Mulches that are high in organic matter are often the best choice for plantings and trees beds. Organic matter in mulch and soil aids in moisture retention, suppresses soil

erosion, adds beneficial nutrients, helps in weed suppression, and provides a habitat for soil organisms.

The following directives should be followed for mulching:

- At no time should a layer of mulch in a plant bed exceed 4 inches
- The mulch layer in a planting of woody ornamentals should not exceed 4 inches in depth and be at least 4 inches away from the base of each plant or tree.
- The mulch layer in a perennial or herbaceous planting should not exceed a depth of 3 inches and should be at least 2 inches away from their base of the plant.
- The use of composted leaves and wood chips is encouraged.
- If we are using shredded hardwood mulch in plant beds the mulch from the previous year must be raked up and re-spread or removed.
- Using a layer of composted leaves under shredded hardwood mulch is suggested.
- The use of stone or gravel in landscape beds is encouraged but as an aesthetic feature and only to be used selectively.

Watering Standards – Irrigation systems have given us the ability to water landscapes keep them looking healthy during stressful seasons. Plants that cannot sustain during stressful periods of weather such as dry or wet seasons take exceptional amounts of time and energy to sustain. Water is a limited resource, utilizing large amounts of water for plants not able to survive in this climate and under typical conditions puts a strain on our natural systems. It is highly recommended that we consider planting species that require watering only during establishment and not for their lifespan.

The use of water as a supplemental resource for plant health in the City of Greenbelt will be for establishing new plantings and the use of a drip irrigation system for annual plantings that require more care during the growing season.

The following directives will be adhered to for watering:

- The use of above ground or impact head sprinkler systems is prohibited

- The use of underground or emitter watering systems for new and annual plantings is appropriate.
- Hand watering or the use of “gator bags” will be utilized for watering new tree plantings.
- Any break or leak within the City drip irrigation system upon discovery must be repaired immediately.
- At no time will water be wasted or allowed to drip from existing water or hose connectors.
- Rain barrel and cistern water should be used first for supplemental watering of new plantings and annual plantings.
- Watering of any plants or trees should follow the ‘infrequently and deeply’ standard of watering practice. Watering too frequently and without consistency can cause shallow root system development and this will reduce the plant’s ability to uptake water and nutrients.
- New plantings will receive supplemental watering for one growing season. The planting will be evaluated at the beginning of the next season for watering needs.

Trees - The human attachment to trees is a most amazing relationship. We rely on their shade to cool and protect us. We rely on their wood for our shelter, furniture, paper, and other products. They give us joy at their beauty and splendor, and they fail in spectacular and devastating ways. The city is responsible for over 500 acres of forested parks, right of ways and forest preserve. It is our duty to protect the trees but also to protect the citizens of Greenbelt from harm. We must ensure that we are working to save trees but also to remove and prune trees that are posing a hazard to public safety.

A study by the University of Vermont in 2008 provided an overhead study of the existing tree canopy in Greenbelt. The study showed that the City has a canopy cover of 62%, which is a large percentage compared to all the neighboring municipalities. It is the intention of the City to continue to protect its current asset and have a short and long-term plan for increasing the canopy coverage over the next ten years.

The following directives will be followed to protect and enhance the current tree canopy:

- All trees within the City purview will be monitored and inspected regularly by the City Forester for structural, biotic and abiotic symptoms of stress or disease.
- No tree will be removed without the permission of the City Forester and the citizen Advisory Committee on Trees.
- The current street tree inventory will be updated on a monthly basis to reflect new plantings, possible hazard trees and tree removals.
- A master list of possible hazard trees will be maintained and updated weekly to ensure proper risk management.
- A tree master plan will be completed by 2013 to reflect current tree methodology as well as long term objectives and planting plans.
- The use of any pesticide, growth regulator, or invasive means of chemical application is prohibited.
- The use of vertical mulching to help alleviate soil compaction around tree roots is encouraged every four to five years.
- A tree protection zone will be established around any tree that requires protection from foot and vehicle traffic.
- Any tree posing immediate hazard to public safety will be pruned or removed as needed.

Invasive Species – There are a number of species that are considered invasive because of their ability to thrive in our environment and because they successfully invade areas and deplete them of native species. Controlling these invaders has become a full time job for some land care professionals. But control must be a careful and well-thought out process. Blanket applications of herbicide or pesticide in our soil and water often do not control the unwanted invader and disturb and destroy natural ecosystems. A careful and methodical process or removal and replacement must be employed and there may even be sites where no control may be recommended.

The following directives will be followed for invasive species control:

- Only spot applications of approved herbicides will be allowed in the control of invasive species.
- Positive identification must first be made and a plan of action must be submitted before a treatment of an invasive species is approved.
- Hand removal of invasive species is the preferred mode of control.
- Any application of synthetic herbicide or pesticide is strictly forbidden except when mandated by the State of Maryland.

- The propagation of any invasive species is prohibited.

Wildlife – The City of Greenbelt has preserved a 200 acre tract of woods for its citizens and their children in perpetuity. In a region of urban and suburban sprawl, the woods provide a sanctuary for wildlife not often seen in this region. These woods are also connected to the largest tract of contiguous forest in the Mid-Atlantic region. The overall acreage of this wooded tract of land is over 20,000 acres. This area provides a haven for wildlife such as bald eagle, red and grey fox, Eastern coyote, and thousands of other aquatic and terrestrial plants and animals. It is our privilege to protect, and encourage the diversity of the wildlife in the City.

In the case of a sick or injured animal, we should contact the local animal control so they can effectively and humanely assess and determine the need for human intervention.

The following directives will be followed for wildlife control or interactions:

- The use of any traps other than those used by an approved wildlife service is prohibited.
- The use of a wire cage installed around trees for protection against beaver damage to the bark and stem is encouraged.
- Deer repellent on ornamental plantings may be used.
- Any poison or rodenticide that acts as a coagulant is prohibited.
- Encouraging wildlife to exist in a harmonious way within the natural infrastructure of the City is welcome.



Conclusion - The purpose of this Sustainable Land Care Policy is to offer operational guidelines for practicing landscaping in an effective and practical way that not only considers proper fiscal management but also focuses on appropriate

environmental sustainability. The City of Greenbelt is a unique place to live and work and the fact that this policy has been requested and supported by the City Council is evidence that the City is both environmentally and socially aware of the limitations of our natural resources and the need to protect and preserve our natural world.



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