

Appendix R Integrated Pest Management

R.1 Integrated Pest Management

This appendix is in support of the District of Columbia's legislation B19-745, The Anacostia Waterfront Environmental Standards Amendment Act of 2012. This legislation requires regulated projects in the AWDZ governed by this legislation to receive a DDOE approved Integrated Pest Management Plan

Integrated Pest Management (IPM) is an approach that applies biological, cultural, mechanical, and chemical controls to manage pests at acceptable levels. The following are general guidelines to encourage more-considered use of fertilizers, herbicides, and pesticides.

R.2 Components of an Integrated Pest Management Plan

1. Identification. Identify the Pest and Understand its Life Cycle. Correctly identify the pest to determine an appropriate control strategy. For assistance with pest identification, contact the Maryland Home & Garden Information Center at Maryland Cooperative Extension.
2. When to take Action. Insects are an integral part of the local ecology and thus their presence alone should not be reason for taking action. First, monitor pest numbers and determine if preventative maintenance measures can be employed to remediate the situation. Take action when alternative preventative methods are no longer feasible and when pest activity threatens the long-term health of the plant.
3. Prevention in Design,
 - (a) Choose the right plant for the right location.
 - (b) This means assessing species suitability to site soils, moisture, wind, and sun exposure. Well-selected species require less maintenance.
 - (c) Select plant species and cultivars resistant to disease.
 - (d) Select a diverse plant palette to ensure on-going survival of remaining plant material.
 - (e) Inspect delivered plant material prior to installation.
 - (f) Material delivered from the nursery may carry pathogens or insects. Inspect all plant material at the nursery and again prior to installation. Reject any material that is diseased.
4. Prevention in Maintenance and Construction. Proper cultural management practices can reduce plant stress and thus decrease their susceptibility to pests. Prior to applying pesticide or herbicides, consider your current landscape management practices. Soils are the foundation for healthy plants. As such, it is important to provide: the proper moisture, fertility, organic matter, and drainage.
 - (a) Soil testing. Submit a soil sample to a soil testing laboratory for analysis. The results determine the appropriate soil amendments to be applied.

- (b) Fertilizers. Organic fertilizers are derived natural sources such as: cottonseed meal, blood meal, fish emulsion, and manure. Slow-release inorganic fertilizers supply nutrients over the growing season with less nutrient loss than quick-release fertilizers. Fertilizer grade and rate should be selected and applied only as test results indicate. Do not apply fertilizer prior to a heavy rainfall event and do not apply between December and February.
 - (c) Trees and shrubs. Place mulch underneath the root zone of trees and shrubs to reduce competition with turf and weeds for water and nutrients. Topdress planting beds with compost to improve soil structure, biological activity, and fertility.
 - (d) Lawn areas. Increased mowing height can reduce weed germination, as less sunlight reaches the soil level. Topdressing with organic matter increases soil moisture and enables turf to withstand drought conditions. Regular monitoring and over-seeding of bare spots prevents weed establishment. After mowing, grass clippings should be left in-place. These above-mentioned strategies will reduce symptoms of disease and weed pressure, thus decreasing herbicide and fertilizer usage.
5. Develop a Treatment Plan. When pest activity exceeds acceptable levels, choose a control method appropriate to observed conditions. This may include biological, cultural, mechanical, and chemical controls.
- (a) Biological control. Uses the introduction of a predator. Introduce additional natural predators where existing populations are too few to effectively control pests. Consult with your local Cooperative Extension office.
 - (b) Cultural control. Use pruning and removal of Prune and remove diseased branches. Sanitize all tools after use. Properly amend soils and irrigate plantings as necessary.
 - (c) Mechanical control. Conduct weeding by hand, tool, or heat solarization. Remove insect pests by hand or using traps.
 - (d) Chemical control. Uses non-toxic, non-residual pesticide or herbicide products where necessary.
 - ◆ Narrow-spectrum contact pesticides target the pest directly and preserve beneficial predator species. Broad-spectrum pesticides also eliminate beneficial predators and thus the natural controls on pest populations. Only certified individuals can apply restricted-use pesticides.
 - ◆ Insecticidal soap and horticultural oils. Insecticidal soaps are used to penetrate the insect's outer covering, causing the cells to collapse. Horticultural oils, on the other hand, coat and suffocate the offending insect.
 - ◆ Application timing is used to maximize effectiveness, apply pesticides at the appropriate life cycle for the pest. Herbicide application also requires consideration for the seasonal growth pattern for the targeted weed.

R.3 Sample Form for an Integrated Pest Management Plan



**GOVERNMENT OF THE DISTRICT OF COLUMBIA
DISTRICT DEPARTMENT OF THE ENVIRONMENT
WATERSHED PROTECTION DIVISION
INSPECTION AND ENFORCEMENT BRANCH
Integrated Pest Management Plan**

This document/submission will serve as your IPM plan. **It must be printed and distributed to the owner of the property and to any person or company who is given responsibility for on-site pest management, landscaping, or facility maintenance (i.e. homeowners, property managers, maintenance companies).** Per the Stormwater Management Plan that this IPM plan supports, the owner of the property and their agents are legally required to comply with this plan.

Integrated pest management (IPM) is a continuous system of controlling pests (weeds, diseases, insects or others) in which pests are identified, action thresholds are considered, all possible control options are evaluated and selected control(s) are implemented. Control options which include biological, cultural, manual, mechanical and chemical methods are used to prevent or remedy unacceptable pest activity or damage. Choice of control option(s) is based on effectiveness, environmental impact, site characteristics, worker/public health and safety, and economics. IPM takes advantage of all appropriate pest management options.

PROJECT INFORMATION

Project Name
Street Number:
Street Name
Zip Code
Email Address:
Project Developer Information (Name & Title):
Contact
Company
Address
Phone
Fax

JUSTIFICATION FOR IPM PLAN
Ordinance Requirement
Yes No
 This development is a publically owned, privately developed property within the boundaries of the Anacostia Watershed Development Zone
 The property requires a Certificate of Occupancy and falls within the regulations of Green Area Ratio.

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Figure R.1 Sample form for an Integrated Pest Management Plan.

Environmental Criteria Manual requirement

(If site has existing or planned LID stormwater management structures, please refer to the DDOE Stormwater Guidebook for maintenance requirements)

Critical Environmental Features and Buffers (List any that exist - must be shown on the site plan)

Yes	No	
<input type="radio"/>	<input type="radio"/>	Streambank
<input type="radio"/>	<input type="radio"/>	Wetland
Other		<input type="text"/>

ANTICIPATED LANDSCAPE PESTS and SOLUTIONS

The Maryland Home and Garden Information Center offers regionally appropriate guidelines for preventative landscape maintenance and control of landscape pests. Refer to the following guidelines in the **Maryland Home & Garden Information Center**: <http://extension.umd.edu/hgic>.

Check all boxes to indicate you have read the guidelines in the Maryland Home & Garden Information Center website.

- [Insects](#)
- [Invasives](#)
- [Lawns](#)
- [Plant Diagnostics](#)
- [Soils](#)
- [Trees & Shrubs](#)
- [Weeds](#)

ADDITIONAL IPM SUBMITTAL REQUIREMENTS – SITES WITH GREEN AREA RATIO OBLIGATION

Where applicable to Green Area Ratio requirements, submit the IPM plan within Green Area Ratio drawings for review by DDOE. Include the following in your submitted plans:

- Seasonal schedule of all landscape management activities for the below categories.
- A paragraph for each category describing: materials, methods, preventative maintenance, and pest management practices as applies to each CATEGORY listed below. To protect our water resources, you are required to start with the least toxic options before using chemical treatment applications.

CATEGORIES required for submittal in IPM plan:

- Soil preparation
- Use of compost
- Plant replacement
- Irrigation
- Weed control
- Insect/disease control
- Control of noxious or invasive species

FigureR.1 (continued)

MAINTENANCE DOCUMENTATION

The property owner will maintain records of all Service Provider visits and pest control treatments for at least three (3) years. Information regarding pest management activities will be made available to the public at the property owner's administrative office. Requests to be notified of pesticide applications may also be made to this office. All guardians will be informed of their option to receive notification of all pesticide applications at enrollment and once annually.

Maintain the following records for all pesticide, herbicide, and fertilizer application.

- For pesticide and herbicide application:
 - Target pest and description of infestation severity
 - Prevention activities and non-chemical methods applied prior to chemical control
 - Type and quantity of pest/weed control used
 - Location of pesticide or herbicide application
 - Date of treatment application
 - Name and certification number of pesticide applicator
 - Application equipment used
 - Summary of results
- For fertilizer application:
 - Landscape type (lawn, ornamental planting beds, trees, other)
 - Location of fertilizer application within site
 - Soil report from lab with nutrient analysis and application recommendations
 - Fertilizer product description, including: product name, grade
 - Application rate (lb/1000 ft²)
 - Date of fertilizer application
 - Name of individual applicator and associated landscape business
 - Summary of results

PROGRAM OUTREACH TO PROPERTY OWNER

Developer agrees to inform the owner(s) of the property that they are required to apply less-toxic, non-chemical pest management options as described by the Maryland Home & Garden Information Center. IPM guidelines can be found at <http://extension.umd.edu/hgic>.

As the person preparing the IPM Plan, I am aware that this IPM plan is required to be filed as an exhibit in the declaration of covenants. If this is a government property where covenants are not filed then this IPM plan must be an element included in the projects SWMP maintenance partnership agreement or memorandum of understanding. These are legal instruments requiring the use of IPM on this site.

By checking all boxes, I certify that I have read the requirements listed here and agree to carry out an Integrated Pest Management strategy for the above-listed property

Signature _____

Date: _____

FigureR.1 (continued)

