SURREY
CITY OF PARKS

Corporate Report

NO: C016

COUNCIL DATE: July 9, 2007

COUNCIL-IN-COMMITTEE

TO:	**Mayor & Council**	DATE:	**July 3, 2007**
FROM:	**General Manager, Parks, Recreation and Culture**	FILE:	**5280-23**
		XC:	**0550-10**

SUBJECT: **Use of Herbicides for Weed Control in Street Landscaping**

RECOMMENDATION

That Council receive this report as information.

BACKGROUND

Council has approved a delegation from Mr. Jim McMurtry, who wishes to speak to Council regarding the City's use of pest control products for weed management in areas of street landscaping. This report provides background information regarding the City's use of herbicide for weed management in shrub beds and tree wells throughout the City.

DISCUSSION

Integrated Pest Management in the City of Surrey

The Parks, Recreation and Culture Department has an Integrated Pest Management (IPM) Policy (see attachment, Appendix 1) associated with the control of weeds, insects, diseases, molluscs, rodents and other pests within City parks and facilities. The fundamental elements of this Policy are also used by the Engineering Department and are considered de facto a Corporate Policy, although not formally adopted by Council.

The IPM Policy is based on widely held principles of plant health care, ecologically-based turf culture, horticulture and forestry programs, the need to minimize risk to people and the environment, and community values. The IPM Policy was developed after a careful review of literature and has been tailored to meet Surrey's specific needs.

The Parks, Recreation and Culture Department has now operated under the IPM Policy for approximately five years, finding it to be a thorough and practical document to guide the City in the management of its facilities and infrastructure. Key areas of departmental change driven by the document have been the development of alternative cultural practices, changes in planting design and changes in planting specifications to favour native plants and drought tolerant species. The ***Waterwise Garden*** (located at 56th Avenue & 144th Street) developed jointly by the Engineering Department and the Parks Division is a wonderful example of a project that fully embraces IPM principles in its design and operation, while meeting the needs of water conservation programs. The City's residential boulevard tree planting program is another example of adherence to IPM principles, whereby tree species are mixed along street fronts, avoiding monoculture plantings that can lead to disastrous pest infestations and early tree mortality. Staff now also routinely select hardy native plant materials when developing new parks, and use biological methods such as ladybug insect release to control common pests such as aphids rather than relying strictly on chemical controls. In management of natural grass sport fields, the City relies on intensive cultural practices that allow turf grasses to thrive and outgrow weeds, thereby nearly eliminating the use of herbicides on our fields. Weeds are generally not suppressed in passive grass areas with the use of herbicides, but rather are simply cut when the lawns are cut.

Authorities for Regulation of Pesticides

The Pest Management Regulatory Agency of Health Canada outlines the following responsibilities relating to pesticides:

Federal	Provincial/Territorial	Municipal
• Pesticide registration and re-evaluation • Human health and safety • Environmental impact • Value • Alternative strategies • Compliance and enforcement	• Transportation, sale, use, storage and disposal • Training, certification and licensing of applicators and vendors • Permits and use restrictions • Compliance and enforcement	• By-laws for municipal (and in some cases, private and residential) lands.

Use of Herbicides for Weed Control in Street Landscaping

The Integrated Pest Management Policy allows the use of herbicides, especially when used in combination with cultural, physical, mechanical and biological mechanisms of pest control. When herbicides are used, appropriate notification is posted at the site(s) where the herbicide is to be applied, remaining in place for a period of time directed by provincial guidelines.

The typical treatment of shrub beds and tree wells within street landscaping areas utilizes a combination of hand weeding, application of granular pre-emergent herbicide, and application of bark mulch to suppress weeds.

The City manages an inventory of approximately 100,000 m2 of horticulture beds within streets landscaping areas such as traffic circles, medians and boulevard beds. In addition, there are 12,500 shade trees with tree wells that require weeding maintenance. Street landscaping areas are typically difficult and hazardous to maintain because of the proximity of vehicular traffic. Also, horticulture beds are ornamental in nature and designed for aesthetic values, and are not intended nor generally used for active play or foot traffic that might bring the public in constant and regular contact with the soil and it's constituents.

Street landscaping sites are visited once or twice per year depending on the profile and visibility of the areas. This typically translates into a spring servicing, which would involve pruning, cleanup, weeding and application of pre-emergent herbicide. A second servicing in the fall is scheduled for main arterial road medians and streetscapes.

The flower and shrub beds in areas of street landscaping are designed to be dense enough at maturity to suppress weed growth, effectively using groundcover species to help eliminate the opportunity for weed establishment. Annual weed species are controlled by manual methods such as hoeing and deep mulch to inhibit new germination. As part of our IPM program, pre-emergent herbicide is applied to street landscaping beds and tree wells. While it is most commonly applied during the establishment period of new horticultural beds, it is also used in established beds to control the establishment of perennial weeds. Beds typically selected for application would have woody or perennial plants that are difficult and time consuming for manual treatment. Following treatment with pre-emergent herbicide granules, the beds are covered with organic mulches to suppress weeds.

Should pre-emergent herbicide use be curtailed in City operations, the additional cost associated with hand weeding to achieve similar results would be approximately $375,000 per year.

CONCLUSION

The City has a comprehensive Integrated Pest Management Policy in place, and is working within the Policy to reduce reliance on pesticide use through a combination of combination with cultural, physical, mechanical and biological mechanisms of pest control.

Horticulture beds, especially in street landscaping areas, are ornamental in nature and designed for aesthetic values, and are not intended nor generally used for active play or foot traffic that might bring the public in constant and regular contact with the soil and its constituents. In these areas, a combination of hand weeding, application of granular pre-emergent herbicide, and application of bark mulch is used to suppress weeds.

Should pre-emergent herbicide use be curtailed in City operations, the additional cost associated with hand weeding to achieve similar results would be approximately $375,000 per year.

All staff and contractors who apply pest control products on City lands are certified through the provincial licensing program. Further, application of pest control products on all City of Surrey projects is in full compliance with federal and provincial regulations.

Laurie Cavan
General Manager,
Parks, Recreation and Culture

Attachment – Integrated Pest Management Policy

Appendix 1

Integrated Pest Management Policy

http://surrey.ihostez.com/Documents/DocumentList.aspx?ID=18252

PARKS, RECREATION AND CULTURE DEPARTMENT

POLICY

SUBJECT: INTEGRATED PEST MANAGEMENT

INTENT

This Policy provides guidelines that will help to maintain and enhance the functionality, safe use, enjoyment and aesthetic beauty of the City's natural and developed parks. Integrated pest management (IPM) prevents and suppresses pests to acceptable levels effectively, economically and in an environmentally sound manner.

The Parks, Recreation and Culture Department is committed to managing vegetation and pest problems using IPM principles that will:

- use an ecological approach;
- minimize risk to human health and the environment;
- minimize the use of pesticides;
- consider community values in establishing maintenance standards for City lands; and
- include long-term benefits when determining cost-effectiveness.

The City is also committed to reviewing the implementation and ongoing success of its Integrated Pest Management Policy with City stakeholders on an annual basis.

IPM PRINCIPLES

The following principles are the basis of an IPM Program:

- prevention is the foundation of an IPM Program
- healthy ecosystems are less likely to have pest problems
- choose the right plant for the right place
- growing healthy plants is the best method of prevention
- do not plant monocultures; plant diversity results in fewer pest outbreaks
- when problems occur treat the cause, not the symptoms
- accurate problem diagnosis is essential

- it is not desirable to eliminate the pests; it is only necessary to keep pest numbers down to non-damaging levels
- pests are suppressed using a combination of techniques (biological, physical, cultural, mechanical, behavioural and chemical)
- chemical pesticides are used only when other options are not feasible or effective
- if it becomes necessary to use pesticides only the least toxic pesticides effective against the pest are chosen for use

POLICY GUIDELINES

This Policy provide guidelines for the Parks, Recreation and Culture Department to manage pest problems in natural and developed parks and other City landscapes safely and effectively in ways which minimize pesticide use while maintaining pests at acceptable levels.

I. INTEGRATED PEST MANAGEMENT

a. IPM principles will be used when maintaining parks and other public lands.

b. IPM principles will be used in the design and construction of new landscapes and recreational areas.

c. Pests will be controlled only when they exceed acceptable levels. Community values will be considered when establishing these levels. Tolerance levels for common pests will be developed in consultation with stakeholders.

d. Safeguarding human health, the environment and non-target organisms will be the primary considerations when developing pest management strategies and pest tolerance levels.

e. Pest problems will be controlled using a combination of cultural, physical, mechanical, biological, legal and chemical treatments in order to suppress pests to acceptable levels.

f. Non-chemical methods of pest control will be given priority when dealing with pest problems.

g. Chemical methods will be implemented only when other options are not feasible or effective. The least-toxic pesticide that effectively controls the pest will be selected and applied. Least-toxic pesticides generally have short residual effects and/or specifically affect target pests. They are:

   i. least hazardous to human health
   ii. least disruptive to beneficial organisms
   iii. least toxic to non-target organisms
   iv. least damaging to the general environment

h. These "preferred" pesticides include insecticidal and herbicidal soaps, horticultural oils, lime sulphur, biological pesticides such as Btk, etc.

i. Training and educational opportunities for City staff involved with the IPM activities will be provided in order to keep up-to-date on the latest IPM developments.

j. Information on IPM will be provided to the general public in order to encourage the use of non-toxic pest management strategies on private lands.

k. Federal and provincial pesticide and pest management legislation will be complied with at all times. Noxious weeds and invasive plants will be controlled using IPM strategies and in accordance with existing legislation.

l. The City will work cooperatively with federal and provincial governments to eradicate introduced exotic pests such as gypsy moth, using the most effective and safe methods available.

SUBJECT: INTEGRATED PEST MANAGEMENT

II. APPLICATION OF PESTICIDES

a. Application of pesticides will be in accordance with IPM principles.

b. All person applying pesticides on City lands will be trained and equipped to safely and effectively apply pesticides.

c. All persons involved in applying pesticides on City lands will hold a Ministry of Environment (MOE) Pesticide Applicator's Certificate in the "Appropriate Category".

d. Pesticides will be applied during periods of lowest public activity whenever possible.

e. Pesticides will not be applied when children are present at the location being treated.

f. Public areas will be posted with notices stating where and when pesticide treatments are planned, as per MOE guidelines.

g. Public areas will be posted with notices after pesticide treatments have occurred providing details on timing and product used, as per MOE guidelines.

h. Pesticide application techniques and equipment will be used that are specifically designed to prevent pesticide drift.

i. Pesticide applications will not be conducted when wind speeds are greater than eight (8) km/hour if pesticide drift is a possibility.

j. Pesticide application equipment will be calibrated on a regular basis to ensure accurate, effective pesticide applications and avoid pesticide disposal problems.

k. Backflow prevention devices must be used when filling spray tanks to prevent contamination of water supplies.

l. Disposal of rinse water, excess pesticides and empty pesticide containers will be carried out in strict adherence to MOE requirements.

m. Water bodies and riparian zones will be protected from pesticide contamination by the use of pesticide free zones and buffer zones that comply with MOE requirements and guidelines.

n. All pesticide applications will be made in strict compliance with label instructions.

o. Detailed written records will be kept of all pesticide applications, including name of the applicator, name and quantity of the chemical used, target pest, location, size of area sprayed, weather conditions and treatment efficacy based on follow-up inspections of treatment area. In cases where the pesticides are applied by contractors, these records will be completed by them and supplied to the City.

III. PESTICIDE SAFETY AND STORAGE

a. Protective clothing and equipment will be used when mixing, loading and applying pesticides, as per pesticide labels and MOE Guidelines.

b. Pesticide spills will be dealt with immediately, according to MOE Guidelines. A Pesticide Spill Kit will be available at all times during pesticide transportation, mixing, loading and during application of pesticides. A Pesticide Spill Kit will be available in all pesticide storage areas.

c. Pesticides and application equipment will not be left unsupervised at any time during spray operations unless they are locked in secure areas.

d. When not in use, pesticides and pesticide application equipment will be stored in locked storage areas that meet MOE Guidelines.

e. Equipment will be inspected prior to use and defective equipment will be repaired or disposed of immediately. Equipment will be cleaned and maintained according to manufacturer's recommendations and MOE Guidelines.