**RESOLUTION #2010-037**

**A RESOLUTION ADOPTING A TURF AND LANDSCAPE MANAGEMENT POLICY FOR ALL CITY- MAINTAINED LANDS**

WHEREAS, the City Council adopted an Integrated Pest Management Policy at its December 17th, 2009 City Council meeting.

WHEREAS, the Environmental Committee, at its meeting held January 12th, 2010 recommended that the City ask Russ Welser of Cornell Cooperative Extension, Chris Dorn Supervisor City Parks Bureau and Kevin Olvany Watershed Program Manager to establish a committee to review this policy and develop a more comprehensive policy related to the City's use of pesticides and fertilizers on City maintained lands for the City Council to review; and

WHEREAS, the committee met on several occasions and reviewed the policy along with the current turf and landscape management techniques that the City Parks Bureau utilizes and the latest Cornell Turf Management research in order to develop a more comprehensive policy;

WHEREAS, the committee was able to reach consensus and provided a recommended policy to the City of Canandaigua Environmental Committee entitled "City of Canandaigua Turf and Landscape Management Policy;

WHEREAS, this policy was reviewed by the Environmental Committee at its April 13th, 2010 committee and was recommended for City Council approval;

NOW, THEREFORE, BE IT RESOLVED, by the Canandaigua City Council that the City of Canandaigua hereby rescinds the Integrated Pest Management Policy of December 17th, 2009 and adopts the attached City of Canandaigua Turf and Landscape Management Policy for all City-maintained property.

Adopted this 6th day of May, 2010.

Attest:

Nancy C. Abdallah

Nancy Abdallah
City Clerk/Treasurer

# 4/7/10 Draft
# City of Canandaigua
# Turf and Landscape Management Policy

**Background and Purpose:**
The City of Canandaigua Park's Bureau manages 140 acres of grass turf and several acres of landscaped areas for multiple uses. The types of uses range from grassed areas in front of public buildings that receive little direct use to sports fields that receive intensive use. The type and intensity of turf use directly influences the level of management of specific areas. The more intensive use areas (such as sports fields and high use park areas) are more susceptible to damage and eventual pest infestation. These higher intensity areas require a more aggressive management approach in order to maintain a healthy/dense turf and landscaped area.

Management of turf and landscaped areas occasionally requires the use of fertilizers to maintain a healthy dense turf along with the use of pesticides to control pests that adversely affect or destroy these areas or, in some cases, negatively impact the park user's enjoyment of these resources. Pesticides may also be used to remove invasive species that have a substantial negative impact on habitat or in some cases are harmful to humans (Giant Hogweed). On average, the City has applied pesticides to its turf areas every 5 years with a range of 3-8 years based on the park. According to Cornell Turf Management Researchers this is a very low application frequency.

In order to further minimize the use of fertilizers and pesticides while successfully managing its turf and landscaped areas, the City has established the following policy to utilize an Integrated Pest Management (IPM) program combined with sound agricultural and horticultural practices. The purpose of this policy is to guide the City in successfully managing these lands for their multiple uses while protecting City staff, park users and the environment. There are several interrelated components to the City's Turf and Landscape Management policy. They include:

- an educated staff,
- current inventory of each of the City managed lands,
- monitoring to scout out potential pest problems,
- implementing management practices to improve the health and density of the turf and landscaped areas
- establishing pesticide use thresholds
- proper pesticide use

**Education:**
The employees of the Park's Bureau are continuously trained in the latest Integrated Pest Management techniques. They annually attend conferences that provide the latest scientific research on managing turf and landscaped areas in a way that minimizes the use of pesticides and fertilizers. They are also utilizing various web resources and Cornell University staff to stay up to date on the implementation of IPM programs. An educated

staff is the key to successfully implementing the City's turf and landscape management policy.

**Inventory:**
City Parks Staff inventory the condition of turf, trees and other landscape plants along with the associated usage of the property. The inventory can also identify what management practices may be used to maintain a healthy dense turf.

**Monitoring**:
Not all insects, weeds, and other living organisms require control. Many organisms are innocuous, and some are even beneficial. The City's policy is to monitor for pests and identify them accurately, so that appropriate control decisions can be made in conjunction with action thresholds. This monitoring and identification process removes the possibility that pesticides will be used when they are not needed or that the wrong pesticide will be used.

Monitoring is the actual scouting of these inventories (1-5 times a growing season) for levels of pest infestation. This would also include soil and tissue tests for proper fertilization rates. Constant monitoring also allows turf and landscape managers to recognize pest levels at early stages and alleviates problems with less cost and closure (non use) of areas.

**Management Practices:**
There is a wide array of tools that the City Parks Bureau uses to manage its turf and landscape areas in a way that minimizes the need to use fertilizers and pesticides. The practices listed and summarized below are critical to allowing grass to maintain a competitive advantage over weed species. The following is a small sample of the many management practices the City uses to maintain a healthy dense turf.

- **Irrigation systems** provide for many positive effects on the turf area that helps grass out-compete weeds. The most important is the ability to grow cool season grasses in the summer when non-irrigated turf is dormant. Irrigation systems allow the City to stretch the growing season to maintain a healthy existing turf and it also allows for renovations. Two areas where irrigation systems were installed and have been successful are Kershaw Park and Northeast Park. These are high use areas and irrigation plays an important role in maintaining a healthy dense turf while minimizing the use of fertilizers and pesticides.

- **Aeration**, which pulls plugs of soil from the ground, produces a soft zone three inches below ground level for new roots to grow actively. Aeration also reduces compaction and improves drainage.

- **Over seeding**, usually done in conjunction with aeration, applies many slits in the soil, plants seed in the slits, and then covers the seed, all in one pass. Over seeding also produces some aeration. Over seeding helps to maintain a seed base that can outcompete weed species.

- **Mowing**, the City mows at a height of 3- 3½ inches. Mowing at this height reduces stress on the turf and allows the turf to withstand heavy use. Cutting turf at a lower height would allow weed species to out-compete the grass turf.

- **Soil testing** is a vital tool in documenting whether an area needs additional nutrients. Nutrients (fertilizers) play an integral role in the growing of a healthy dense turf and landscaped area. The soil test provides an analysis of the minimum amount of fertilizer needed.

- **Fertilizer** application at proper rates plays a critical role in maintaining a healthy dense turf that can out-compete weed species and thus minimize the use of pesticides. The City of Canandaigua uses fertilizers for root feeding plants such as turf, landscape beds, flower beds, and in some cases, trees and potted plants. The latest research from Cornell has documented that turf density can be directly attributed to nitrogen levels and that nitrogen applications on established turf can be reduced by more than 50%. Previously, 80 to 125 pounds of nitrogen per acre was recommended each year. The City now applies half this amount every other year. Again, soil tests would dictate optimum applications. In addition, Cornell's research has also shown that the natural levels of phosphorus in our regional soils are sufficient and thus additional phosphorus is rarely needed to grow turf. Phosphorus is the nutrient of greatest concern to impacting the water quality of Canandaigua Lake. Therefore, the City will follow a policy of not using fertilizers with phosphorus unless a soil or tissue test document otherwise.

**Pesticide Use Thresholds**

On average, the City has applied pesticides to its turf areas every 5 years with a range of 3-8 years based on the park. According to Cornell Turf Management Researchers this is a very low application frequency. As part of this policy the City will strive to maintain and possibly lengthen the times between applications through the implementation of this policy.

Establishing thresholds is setting boundaries or levels of infestations and damage that can be tolerated before pesticides are utilized. The City of Canandaigua utilizes economic and public nuisance thresholds, rather than aesthetic ones, to determine if a pesticide may be used. Weed density in a turf plot is measurable. When dandelion and plantain densities are more than 25% of a turf plot and management practices have failed, then a pesticide application may be used depending on the priority of the turf or landscape. Lower priority areas will have a greater weed density threshold before herbicides are used as long as there is significant turf density.

When an infestation of grubs or other damaging insects begins in an athletic field and is at a density, which is damaging the turf, there are two ways to handle the problem. One practice would be to allow the damage to run its course over a large area, and then treat with a pesticide and renovate, which would be very expensive. Another practice would

notice the damage right away and treat the affected area and contain the damage and use of pesticides to a small area. This approach has the dual benefit of being far less expensive in pesticide and renovation costs along with much less damaging impact to the environment.

A property's usage, economic asset and environmental impact will be utilized in prioritizing when pesticides may be used. Athletic fields or Kershaw Park turf may have a higher priority because the intensity of use makes these areas more susceptible to damage and pest infestation. City managed lands that have a low use would have a lower priority due to the lack of intense use. Long-term plantings such as landscape beds and tree plantings are very expensive and have a high priority. Annual flowerbeds, while expensive, have a very low priority because they are short-term plantings. A bald face hornet nest 40 feet up in a street tree has very low priority, while a nest 10 feet over a sidewalk has the highest of priority. Impervious areas (areas of high runoff), such as curb lines and paving brick, and areas with high or fast drainage, will not be treated with pesticides. These areas are treated with management practices such as burning or trimming.

The management level of City maintained properties is prioritized based on the intensity of use, economic asset and environmental impact from highest to lowest in the table below.

| **Management Level of City Maintained land** | **City Maintained Lands** |
|---|---|
| Highest | Kershaw Park, Baker athletic fields, Northeast Park athletic fields; Kershaw landscape beds, City Hall landscape beds, Tree plantings |
| Medium | Sonnenberg and Jefferson Parks, Main St. medians, annual flowerbeds, City facility properties, |
| Lowest | City Pier, Atwater meadows, Lagoon Park, 5&20 medians, City Parking, Parking lot, City commercial sites (gravely), and other impervious areas |

**Pesticide Use practices:**
The City of Canandaigua has invested time and money on keeping our highly trained staff current in the proper use of pesticides. In addition, the City has made substantial investment in quality application equipment in order to make sure the proper amount of pesticide is applied. Quality personnel and equipment greatly improves the success and safety of a pesticide application.

If a situation occurs where a pesticide application is needed, the type of pesticide to be used is found in "Cornell Recommends", a yearly and always updated publication. Rates of application on the label are not recommendations, they are NYSDEC regulated law. The Environmental Impact Quotient (EIQ), a method developed by Cornell researchers to measure the environmental impact of pesticides, will be considered to select the best

pesticide with the least affect on the environment. The City will always strive to use a pesticide with a low EIQ.

The City applies pesticides in liquid form rather than granular form due to the liquid form's many advantages. Spraying allows for exact metering of an herbicide, allows each pest to be targeted precisely, and is not dependant on precipitation. Granular pesticides do not target the pest, but rely on root uptake to be effective. This means that adequate moisture must be available for the granules to work. In some cases granular pesticides can remain on a field for weeks before the next rain event activates the pesticide. People and pets using these fields are much more likely to be exposed to pesticides if a granular form is used. Finally, the application of pesticides on turf areas will be done during minimal use times in order to further reduce any potential exposure to pesticides.

**Conclusion**

The goal of all turf areas is a healthy, dense turf with a healthy root system 4-8 inches deep. This ideal turf acts as one of the best buffers to our watershed. As air pollution blows across and polluted rain and runoff water runs over a thick and healthy turf, it slows and collects these pollutants and in many cases metabolizes them into inert or usable compounds and elements. An important defense of our watershed and all of its users, including terrestrial and aquatic life, is the elimination of runoff. Cornell studies have documented that a healthy dense turf greatly reduces runoff. The goal of this policy is to maintain and possibly reduce the minimal use of pesticides and fertilizers that the City uses while successfully managing our turf and landscaped areas for their multiple uses along with protecting City staff, park users and the environment.