



# Project Goals – Phase 1

## **Turf Maintenance Assessment Review**

- Compare turf maintenance practices with Vaughan and Richmond Hill
- Compare appearance and features of turf in parks of differing sizes, areas and street boulevards including Sport fields, parks and the maintenance practices for each
- Inventory report
- Objective review of sites over two-week period

- **Cultural Practices** - Mowing, watering, fertilizing, and aerification combined to reduce weed, insect, and disease problems and to produce turf of high quality
- **IPM**, Integrated Pest Management is "Integrating practical and cultural tasks to minimize the deterioration of healthy turf."
- **PHC**, Plant Health Care - minimizing the use of potentially harmful pest control products

# Typical Turf Chart

Bluegrass, fescues,  
bent grass

Crabgrass, Twitch  
grass

Dense Clover can be  
slippery

knotweed, ironweed,  
plantain, and  
dandelion

<i>Turf Cover</i>	<i>%</i>	<i>%</i>
Turf Grass	50	70
Non-Turf Grass	20	
Clover	20	30
Other Weeds	10	
<i>Total</i>	100	100

## **Initial Findings for Markham**

- Intensively used soccer facilities
- Strong green turf in neighbourhood parks
- Street boulevards suffer the abuse of other agencies
- Turf quality matches Richmond Hill and exceeds Vaughan



# Project Goals – Phase 2

## **Turf Maintenance Maintenance Practices Review**

- Analyze current Town of Markham standards of care in turf management;
- Review the successful cultural practices of other municipalities;
- Propose alternatives to the current turf management practices;
- Cost the proposed alternatives to current practices and compare to the status quo and practices that involve the use of pesticides.

- *Parkettes*
- *Neighborhood Parks*
- *Community Parks*
- *Sportfields*
  - **A -TYPE**
  - **B - TYPE**
  - **C - TYPE**
- *Boulevards*
- *Window Streets*
- *Medians*



1. Workshop format including three turf experts (**Cheryl Shour, Tom Clancy, David Smith**), Markham staff and MMM staff to discuss Cultural Practices issues
2. Preliminary Report
3. Workshop format to bring consensus to a preferred approach to reducing or eliminating pesticide use in Markham
4. Resulting report on recommended strategies

## Five Ward 2 Parks and Civic Centre

- Increased mowing frequency ( approximately 12 more mowing operations per season)
- Aeration – 3 times per year
- Topdressing – 3 times per year
- Overseeding – 4 times per year
- Fertilization – every 6 weeks during the growing season
- use of alternative sources to combat an increase in the weed population



## Five Ward 2 Parks and Civic Centre

- no appreciable increase in the weed population at each of the specified sites
- limited decrease in the total weed population since the program commenced
- success of cultural practices is subject to favorable weather conditions

1. Stakeholders concern regarding the appearance of the noted areas
2. Sport Turf grass injuries. What is the risk management factor? What is the accepted management standard? Markham needs to determine what is acceptable?
3. Excessive use and wet field use
4. Building new parks is performed by a different department than the Operations Department which maintains the parks
5. Communication with the Stakeholders
6. Standardization and capital construction of Sport fields need to be reviewed in light of maintenance requirements
7. Monitoring Sport field use should be compared with the amount and type of maintenance for the field.
8. Lack of a soil testing program required to improve the quality of turf grass on Sport fields based on the needs of specific locations with varying degrees of soil types
9. Providing opportunities for staff to educate user groups on the need for change to the current structure of sport field permitting.

## Options

- A. Cultural practices without the use of pesticides (status quo) actual current practices;
- B. Current approved standards (spray weeds when there is more than 20% weed population on Sports fields and greater than 40% weed population in Parks;
- C. Some cultural practices (Ward 2 park sites plus Civic Centre) being used
- D. Full System Wide Cultural Practice program

**AERATION:** to avoid compaction in all classifications

**TOP DRESSING:** thicken turf grass, perform with soil testing

**OVERSEEDING:** in sportfields and parks, vary seed to match soils and watering

**MOWING:** increased mowing height – greater wearability

**FERTILIZER:** fertilize sportfields, parks, parkettes, consider organic fertilizer products

**PESTICIDE USE:** use only to initiate cultural program

## **Reduce Weeds and/or Clover because:**

- Failing to remove weeds increases the risk factor and liability when young athletes are playing soccer at a high level; and
- The sport fields, depending on the percentage of the weed population, may need to be closed in order to accommodate the complete sod or seed renovation of the sports field



# Thresholds

## PROPOSED WEED POPULATION THRESHOLDS

	SPORTS FIELDS			PARKS	PARKETTES	BLVDS	MEDIANS
	A	B	C				
<b>LEVEL ONE</b>							
CULTURAL PRACTICES PROGRAM WOULD MATCH THE PILOT PROGRAM WITH THE EXCEPTION OF THE ENHANCE GRASS CUTTING	<20%	<20%	<20%	<50%	<50%	N/A	N/A
<b>LEVEL TWO</b>							
INTENSIFIED CULTURAL PRACTICES PROGRAM	20% TO 50%	20% TO 50%	20% TO 50%	>50%	>50%	N/A	N/A
<b>LEVEL THREE</b>							
COMPLETE REHABILITATION OF ALL TURF	>50%	>50%	>50%	SEED IF BARE OF TURF AND/OR WEEDS	SEED IF BARE OF TURF AND/OR WEEDS	SEED IF BARE OF TURF AND/OR WEEDS	N/A
<b>REHABILITATION OPTIONS</b>							
1. RESEEDING	CLOSURE FOR UP TO 2 SEASONS				NORMAL REHABILITATION PROCEDURES INCLUDE INSTALLATION OF DRAINAGE TILE WHERE REQUIRED, APPLICATION OF 100 mm TOPSOIL, AND FINE GRADING PRIOR TO SODDING OR		
2. RESODDING	CLOSURE FOR 2 MONTHS						
3. HERBICIDE SPRAY	CLOSURE FOR 2 WEEKS						

## **Closing Fields - negative spinoffs :**

- Loss of revenue to Town
- Stakeholder complaints and public perception of the closure
- high cost of renovating the field
- concern that unless weeds are completely eliminated, the renovation of the field is only a short term remedy as weeds will return to the field unless there is a turf grass management program put in place
- loss of a park or playing facility out of the department's inventory
- loss of revenue by businesses in the area

