

Broadmoor Public Golf Course

TREE MANAGEMENT GUIDE

Conservation of the trees at the Broadmoor Public Golf Course is a priority for environmental, economic and human health reasons. Trees make a difference in our environmental health by reducing air pollution, fighting the greenhouse effect, modifying climate, conserving water, reducing soil erosion, reducing noise pollution and creating wildlife habitat and plant diversity. Trees make a difference in our economic health by reducing energy costs, increasing property values and aid in attracting businesses, residents and visitors. Trees increase our quality of life by adding beauty to the community and by impacting our physical and mental health.

The intent is to conserve the planted trees and remnant (native) forests at the Broadmoor Public Golf Course by managing individual trees to ensure sustainability of entire golf course property. It is recognized that over time the condition or function of a tree may change and thus require pruning, conversion to a wildlife tree or complete removal.

References:

1. "Tree Management", SER-009-035, Strathcona County Municipal Policy Handbook
2. "BPGC Tree Inventory and Hazard Assessment", January 2013

SECTION I: NON-NATIVE (PLANTED) URBAN FOREST

1. Introduction

Trees are an important asset for the Broadmoor Public Golf Course. Trees provide beauty, privacy and seclusion from adjoining tees, fairways, greens, and residential properties. They protect golfers, homes, buildings, and cars from errant golf shots. Trees frame the golf course and define the field of play causing golfers to choose their strategy for playing a hole.

While the trees at the Broadmoor Public Golf Course are a tremendous asset, they can also contribute to turf problems and in some instances may pose risks to health and property. Problems associated with trees can be effectively dealt with through proper care and management of the trees.

The trees on the Broadmoor Public Golf Course are currently valued at 42 million dollars based on number and size.

References:

1. "Trees – The Biggest Problem Of Golf Course Turf", James T. Snow, USGA
2. Green Section
3. "Prairie Turf Research Centre Report – August 24, 2012", James B. Ross, PTRC Director
4. "USGA Green Section Turf Advisory Service Visit – September 20, 2012", Derf E. Soller, Agronomist, Northwest Region
5. "The Truth About Trees". David A. Oatis, USGA Agronomist, Northeast Region
6. "Problems Associated with Trees On Golf Courses", Dr. Leon Lucas, CGA Agronomist
7. "Developing a Tree Care Program", James Skorulski, Reprinted from the USGA Green Section Record, 1996 March/April Vol34(2); 1-7
8. "Trees on Golf Courses: A Growing Concern", W. Dunlop White III

9. Purpose

The purpose of Section I of this guide is to develop specific inspection, evaluation and management procedures for the Broadmoor Public Golf Course which will properly maintain and conserve the trees and turf at the golf course. This program, while protecting the trees, will address the unique needs of the golfer and turfgrass-growing environment while respecting neighbouring homeowners and established County directives. The objective is healthier trees, healthier turf, and increased golfer satisfaction with the understanding and support of adjacent homeowners.

References;

1. "Tree Management", SER-009-035, Strathcona County Municipal Policy Handbook
2. "BPGC Tree Inventory and Hazard Assessment", January 2013

10. Tree Evaluation Requirement

Before any work is performed on an individual tree or group of trees, the Golf Course Superintendent and a Strathcona County Tree Care Professional will have inspected it.

The tree(s) will be evaluated based on specific and accepted criteria to facilitate critical decision-making.

References:

1. "Man's Friend Or Golf's Enemy", David A Oatis, USGA
2. "Developing a Tree Management Program", Gary Sherman
3. "Tree Management", SER-009-035, Strathcona County Municipal Policy Handbook

4. Evaluation Criteria

The following evaluation criteria will be used in the decision-making process:

- Purpose or function of the tree (provides screen, strategic shot value, etc.)
- Golfer and maintenance personnel safety hazard (overhanging branches, roots at the soil surface, etc.)
- Neighbouring property safety hazard
- The general health of the tree, including its form and structure (hazard identification)
- The impact on playability (pace of play)
- The agronomic impact on growing turfgrass (shade, root intrusion, etc.)
- Impact on traffic flow (concentrates traffic causing wear)
- The impact on aesthetics and surrounding trees
- Impact of trees on winter turf injury (based on historical data for specific sites)
- Heritage Tree – if a tree is deemed to be a ‘heritage tree’ it will be subject to the provisions of SER-009-037, “Heritage Tree Retention”, Strathcona County Municipal Policy Hand book

References:

1. “Tree Conservation During Development Operational Procedures”, SER-009-034, Strathcona County Municipal Policy Handbook
2. “Prairie Turf Research Centre Report”, August 24, 2012, James B. Ross
3. “Problems Associated with Trees on Golf Courses”, Dr. Leon Lucas, CGA Agronomist
4. “Man’s Friend or Golf’s Enemy”, David A. Oatis, USGA
5. “Trees – The Biggest Problem on the Golf Course”, James T. Snow, USGA Green Section
6. “Tree Conservation During Development Operational Procedures”, Strathcona County Engineering & Environmental Planning Procedures
7. “BPGC Tree Inventory and Hazard Assessment”, January 2013

5. Evaluation Outcomes

Once the evaluation process for each individual tree, or group of trees, is complete a decision as to the scope of work will be as follows:

- Prune
- Remove
- Relocate
- No action to be taken

No work will be undertaken until it is determined that sufficient funds exist to perform the work.

Homeowners bordering the Broadmoor Public Golf Course, which may be impacted by the work, will be informed of the tree work prior to the work being undertaken.

As per Procedure 4 of SER-009-035 "Tree Management", the Federal Migratory Birds Convention Act prohibits the damaging, destroying, removing or disturbing of nests of migratory birds. Migratory bird nesting surveys are required during the prime wildlife reproduction period from April 15 to July 21 prior to any tree management activities.

References:

1. "Tree Management", SER-009-035, Strathcona County Municipal Policy Handbook

6. Procedure

The following would illustrate the sequence in the maintenance of an individual tree or group of trees:

1. Golf Course Superintendent and Strathcona County Tree Care
2. Professional evaluates the tree(s) based on evaluation criteria
3. Scope of work required to correct the problem is determined
4. Migratory bird nesting survey is performed if required
5. Confirmation of funding to perform the work
6. Bordering homeowners are informed of the proposed work (If applicable)
7. Work is performed including site cleanup and rehabilitation as required

SECTION II: NATIVE URBAN FOREST

1. Introduction

Unique relationships exist between natural forested areas and wildlife. If one type of plant, animal, or natural habitat is removed it can adversely affect many others. Dead or dying trees are used by many species of birds, mammals, amphibians, and insects for shelter and food. Without the existence of these trees many of these creatures would simply die or leave the area. Without a scattering of dead trees, the diversity of the bird populations on the course would be reduced. With the loss of birds that utilize decaying wood, we would also lose some natural control of insects, which these birds provide. Dead branches serve as necessary perches for birds of prey. It is unrealistic to leave all dead trees, especially if they pose a hazard to health or property. However, if the tree or log presents no threat to safety or property, the golf course would prefer not to remove them, thereby allowing wildlife to share the property.

References;

1. "A Guide to Environmental Stewardship on the Golf Course", Audubon International, 2nd Edition
2. "Tree Management", SER-009-035, Strathcona County Municipal Policy Handbook
3. "Tree Conservation During Development", SER-009-034, Strathcona County Municipal Policy Handbook
4. "BPGC Tree Inventory and Hazard Assessment", January 2013

2. Purpose

The purpose of Section II of this guide is to have in place specific inspection and management procedures to ensure the conservation of the remnant natural forest within the Broadmoor Public Golf Course based on municipal, community and environmental needs and recognizing the unique relationship the golf course has with it's neighbours.

References:

1. "Tree Management", SER-009-035, Strathcona Municipal Policy Handbook
2. "BPGC Tree Inventory and Hazard Assessment", January 2013

3. Inspections and Notifications

Inspections will be performed by the Golf Course Superintendent a Strathcona County Tree Care Professional BPGC Tree Inventory and Hazard Assessment”.

Recommendations for work will be in accordance with the practices outlined in Section 4 “General Practices” and in accordance with Strathcona County policies. Homeowners bordering the Broadmoor Public Golf Course that may be impacted by the work will be informed of the tree work prior to any work being undertaken.

References:

1. “BPGC Tree Inventory and Hazard Assessment”, January 2013

4. General Practices

- **Maintain understory vegetation** --- Shrubs, small trees and other types of understory vegetation will not be removed in the woodland unless, in limited areas, air circulation must be improved.
- **Leave dead and dying trees when they pose no hazard** --- Dead and dying trees will be left standing unless, the tree is determined to present a immediate risk to health or property. The tree will be cut down if it presents a hazard to health or property. A Strathcona County Tree Care Professional will make the determination.
- **Fallen and cut trees will be left to decay** --- The fallen and/or cut limbs and trees will be left as the lay unless golfer access is required in the area and safety is a concern. The limbs and other tree debris will then be stacked as a “brush pile” in a location which presents no safety risk to the golfer or neighbouring properties. Wood will not be left if it is deemed to pose a potential fire risk as determined by a Strathcona County Tree Care Professional.
- **Heritage trees** --- Trees determined to be ‘heritage trees” are subject to the provisions of SER-009-037, “Heritage Tree Retention”, Strathcona County Municipal Policy Handbook.
- **Migratory Bird Nesting Surveys** --- No work will be undertaken without
 - Conducting a migratory bird survey as per Procedure 4 of SER-009-035,
 - “Tree Management”, Strathcona County Municipal Handbook.

References:

1. "A Guide to Environmental Stewardship on the Golf Course", Audubon International, 2nd Edition.
2. "Tree Conservation During Development", SER-009-034, Strathcona County Municipal Policy handbook
3. "Tree Management", SER-009-035, Strathcona County Municipal Policy Handbook
4. "Heritage Tree Retention", Ser-009-037, Strathcona County Municipal Policy Handbook

SECTION III: TREE PLANTING

1. Introduction

An improperly placed tree of the wrong species can interfere with the shot making strategy as originally intended by the course architect or adversely affect the growing conditions for the turf. The following guidelines are to be considered before planting a tree. These guidelines will help ensure that a new tree becomes an asset to the golf course rather than a problem requiring attention in the future. Note that each guideline may not always apply in all situations.

2. Purpose

The purpose of Section III of this guide is to outline the general principles of tree placement on the golf course to maintain playability, safety, and favourable agronomic conditions for proper turf growth.

3. Tree Placement Review

Before any tree is planted its placement is to be reviewed and evaluated by the Golf Course Superintendent and a Strathcona Tree Care Professional.

The proposed planting locations will be evaluated on specific criteria.

4. Placement Evaluation Criteria

There are many reasons to plant a tree. All proposed tree plantings must be evaluated to ensure that when the tree is mature it does not have an undesirable adverse affect on the turfgrass or adversely affect strategy or pace of play. All proposed plantings must be evaluated using the criteria as outlined in **Section I.4. Evaluation Criteria.**

Additional considerations will include:

- Whenever possible, the tree to be planted should be a species indigenous to the region.
- Select a planting location so that the mature canopy of the tree will not protrude on the line-of-flight between a tee and a fairway.
 - Do not plant trees in dense groves that impair sunlight penetration and air movement to adjacent turfgrass.
 - Place trees in strategic groupings rather than in continuous plantings.
 - Do not plant trees closer than 75 feet from a tee or green.
 - Try to avoid blocking scenic vistas with tree plantings.

When selecting trees, choose species native to your region that have:

- no surface or shallow roots
- minimum shading
- limited litter
- strong branching
- open canopy
- good pest resistance

Naturalize the appearance of large plantings by randomizing the distance between each tree.

Never plant more trees than can be adequately maintained particularly in the first year after planting.

References;

1. "Thoughtful Tree Planting", Paul Vermeulen, USGA
2. "Prairie Turfgrass Research Centre Report", August 24, 2012, James B. Ross

5. Notification

Homeowners bordering the Broadmoor Public Golf Course who may be impacted by the planting, will be notified of the planting prior to the planting being undertaken.

6. Evaluation Outcomes

Once the species of tree to be planted is agreed upon and the proposed planting location reviewed and evaluated the scope of work will be as follows:

- Plant in determined location
- Relocate determined position and plant
- Do not plant

No planting will be undertaken until it is determined sufficient funds exist to undertake the work.