

ALTONA FOREST. ENVIRONMENTAL MANAGEMENT PLAN

THE METROPOLITAN TORONTO AND REGION
CONSERVATION AUTHORITY

MARCH 29, 1996

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PREAMBLE

The Altona Forest Property consists of a healthy and diverse ecosystem within the urban centre of the Town of Pickering. The mixed deciduous and coniferous forest provides essential habitat for a large number of plants and animals. The Altona Forest Property contributes to the bioregion's greenspace network and is an important part of the Rouge-Duffins Wildlife Restoration Corridor.

The Altona Forest Property will provide an area for passive and non-intrusive outdoor activities that are compatible with the natural environment and respect the land's environmental carrying capacity. Public uses such as hiking, bird watching and wildlife photography are permitted. More active uses, particularly vehicular use by the public, are not permitted. Public uses beyond the existing passive activities will be subject to *The Strategy For Public Use Of Conservation Authority Lands (Public Use Strategy)* and to the management goals, objectives, policies and guidelines as set out in this Plan. In case of conflict between the stated goals and purposes of the *Public Use Strategy* and the stated goals and purposes of this Plan, the terms of this Plan shall prevail.

A key feature of the Property will be the establishment of the J. Murray Speirs Ecological Reserve - a twelve hectare area within the Altona Forest Property dedicated to the protection and observation of birds, plants and other wildlife. Academic and lay field studies of wildlife, forest functions and natural processes will be permitted. The establishment of the Ecological Reserve is discussed in more detail in the following sections.

The Metropolitan Toronto and Region Conservation Authority ("the Authority") in cooperation with the many community interests will direct management activities within the Property in accordance with the Altona Forest Environmental Management Plan ("the Plan").

The Plan has two fundamental purposes. The first is to direct actions in the short term for securing the site and establishing the J. Murray Speirs Ecological Reserve. Key short term tasks include:

- (a) Fencing the perimeter of the Property,
- (b) Providing limited points for pedestrian access where ecologically feasible,
- (c) Posting appropriate signage,
- (d) Hazard tree removal where appropriate,
- (e) Removal of debris and refuse,
- (f) Establishing the twelve hectare J. Murray Speirs Ecological Reserve with

metre grid reference points, within the larger Altona Forest Property,

The second purpose is to direct the long term management activities to protect and maintain the ecological integrity of the Altona Forest Property. For example, the creation of a Community Advisory Council is recommended. This proposed Council would act as the stewards of the Altona Forest Property. It would also provide a forum for public input and help the Authority in determining the specific needs and actions to manage the Altona Forest Property including the J. Murray Speirs Ecological Reserve.

In summary, the key long term tasks of the Authority include:

- (g) Managing vegetation to protect, maintain, restore and enhance habitat,
- (h) Review the requirements for the preparation of Operating plans and Edge management plans,
- (i) Further property acquisition,
- (j) Establishing a Community Advisory Council,
- (k) Monitoring and managing for environmentally sustainable levels of public use within the Altona Forest Property in keeping with the goals and objectives of this Plan,
- (l) Encouraging environmental monitoring programs and scientific and lay studies in the J. Murray Ecological Reserve,
- (m) Encouraging and educating users of the Altona Forest Property.

Detailed operating plans will be prepared, based on site inspections by staff and community input, to direct the specific implementation activities as they are required.

ALTONA FOREST

ENVIRONMENTAL MANAGEMENT PLAN

1.0 INTRODUCTION

The Metropolitan Toronto and Region Conservation Authority owns approximately 45 hectares of environmentally significant land known as the Altona Forest Property. It is located on Parts of Lots 31 and 32, Concession 1, Town of Pickering (Figure 1). The property is south of Finch Avenue East between Rosebank Road and Altona Road and north of Sheppard Avenue. The final size of the Altona Forest Property is expected to be approximately 53 hectares. This anticipates the inclusion of a portion of the Speirs and DiNardo properties. The Authority is also in the process of acquiring an adjacent thirteen hectares of valleyland which will extend southerly from the Altona Forest Property.

About 20,000 years ago the last great Canadian ice sheet invaded Southern Ontario. As the ice sheet retreated, a drumlinized till plain from the Oak Ridges Moraine south to what is now the Lake Ontario shoreline was formed. The smooth drumlin hills formed islands in ancient Lake Iroquois. Approximately 12,000 years ago, the waters of glacial Lake Iroquois cut a prominent fossil bluff just north of the Altona Forest Property, a remnant shoreline of this ancient glacial lake.

The meltwater from the receding glaciers sorted and stratified the soils into layers. These soils are underlain by more dense till layers at an average depth of 0.6 metre. Impermeable lower layers tend to retard deep percolation of water. As a result, the water saturates the upper soil horizons and accumulates in depressions. The topography varies from uniformly level to gently undulating, except where man made drainage channels have been dug through the overburden.

From a regional perspective the Lake Iroquois shoreline forms a one to two kilometre wide band of forest cover from the Rouge River in the west to Whitby in the east. The Altona Forest Property is a critical component in the Rouge-Duffins Wildlife Restoration Corridor which is the inter-regional corridor between the Rouge, Petticoat and Duffins watersheds (Figure 1). In turn, these watersheds provide linkages to a larger network for wildlife movement to the Oak Ridges Moraine, Lake Simcoe and Lake Ontario. The Altona Forest Property and the larger Rouge-Duffins Wildlife Restoration Corridor provide vital habitat, contribute to wildlife movement and enhance the health and biodiversity of plants and animals.

The Altona Forest Property is also situated in a transitional zone between the southern

(Carolinian) Deciduous Forest Region, and the mixed deciduous and coniferous cover of the Great Lakes - St. Lawrence Forest Region. The overlap of the two forest regions in conjunction with the wide range of moisture conditions and differing soil types are some of the important factors in creating the rich biodiversity of the Altona Forest Property. The Property consists of mature forest with old growth characteristics and numerous early to mid successional vegetation communities, such as old fields and wet meadows.

The Altona Forest Property provides interior forest habitat. However, this habitat has been significantly reduced as a result of development on the east side of the Property. Such large mature forest habitats, that are close to Lake Ontario, are significant within the Greater Toronto Area (GTA). Less than half of one percent of the wooded habitat remaining in the GTA provides mature interior forest habitat that has a core area at least 300 metres from the forest edge. The Altona Forest Property is one of the few large areas remaining, adjacent to Lake Ontario, where migrating birds have the protection of forest cover for resting and feeding during migration.

Ground water and surface run-off from the Oak Ridges Moraine and the Iroquois Bluff feeds and regulates the drainage of wetlands and tributary streams within the Altona Forest Property, which in turn regulates the flow of Petticoat Creek to Lake Ontario.

The main branch of the Petticoat Creek, located within a well-defined wooded valleyland, traverses the western edge and southwest corner of the Altona Forest Property. A significant portion of the Altona Forest Property and adjacent area drains to an intermittent watercourse called the Rosebank Tributary located within the central portion of the Property.

The Altona Forest Property was designated by the Authority as an Environmentally Significant Area in 1982. The Altona Forest Area Environmental Management Study, Phase One Report (December, 1990) commissioned by the Town of Pickering has also confirmed the significance of this area. Significant species have been documented in the Altona Forest Property, including orchids, hawks, deer and owls. The diverse plant communities include over 300 species creating many diverse habitats for birds, mammals, amphibians, and reptiles.

The area surrounding the Altona Forest Property is in various stages of development for residential and institutional purposes. Consequently, the Altona Forest Property will require special attention, as described in this Plan, to protect the area from encroaching development particularly within the J. Murray Speirs Ecological Reserve.

1.1 J. Murray Speirs Ecological Reserve

Dr. Speirs, who along with his late wife Doris Huestis Speirs, have used their property and the adjoining forest as a centre for investigative studies since 1948.

On his own initiative, Dr. J. Murray Speirs, one of Ontario's foremost field ornithologists, proposed that he donate approximately 2.8 hectares of his land to the Authority to be included as part of a larger Ecological Reserve within the Altona Forest Property. The J. Murray Speirs Ecological Reserve would form a vital component of the Altona Forest ecosystem.

It is understood that such an Ecological Reserve would be 12 hectares in size. It would incorporate the land to be donated by Dr. Speirs's and the DiNardo land into the Altona Forest Property, including a small pond located on the existing Speirs and DiNardo property line. These new acquisitions would be included as part of the Altona Forest Environmental Management Plan. Dr. Speirs's contributions and vision of the properties as an Ecological Reserve has been recognized by naming the Ecological Reserve in his honour.

It is understood that a thirty metre grid will be necessary to undertake investigative studies on bird communities and forest understorey within the 12 hectare Ecological Reserve. The Authority will establish the thirty metre grid for research purposes. The Authority will cooperate with adjacent landowners, the community and other agencies including natural heritage groups to maintain the grid system for the studies.

As of March 1996, the Ecological Reserve consists of Parts 2 to 11 inclusive on Plan 40R-16568.

2.0 GOALS AND OBJECTIVES

The goals of the Altona Forest Environmental Management Plan are:

- I. To protect and maintain the Altona Forest Property as an integral part of the larger ecosystem, so that it contributes to the ecological functions of the Petticoat Creek watershed and the Rouge-Duffins Wildlife Restoration Corridor.
- II. To protect and maintain the natural ecosystem of the Altona Forest Property by ensuring the health and diversity of its native species, habitats, ecological processes, and where appropriate restore such areas to an enhanced natural environmental condition. The environmental health of the natural ecosystem shall be paramount.
- III. To establish and protect the J. Murray Speirs Ecological Reserve as a natural ecosystem for passive scientific and lay field studies (Figure 1).
- IV. To conserve the archaeological features and when appropriate allow investigative research and interpretation of these features. Preservation of archaeological resources in their present undisturbed condition is preferred.
- V. To promote opportunities for public education about natural heritage and appropriate public use in the Altona Forest Property that respect the use of the ecosystem.

Considering the significant features and functions of the Altona Forest Property all management activities will be directed by the following objectives:

1. To protect and maintain the terrestrial and aquatic habitats, significant species, natural ecological features, functions (ie. wildlife migration linkages and forest interior habitat), natural ecological processes, and cultural features from deleterious human activities, eg. motorized recreation vehicles.
2. To manage the property with a philosophy of non-interference towards the natural dynamic activities of the ecosystem.

The intent is to allow natural processes to sustain and enhance the forest's health and not manage the Altona Forest Property as a manicured urban park. Interference with the natural processes occurring on the Altona Forest Property will be prohibited except when clear justification based on careful deliberation and appropriate studies demonstrate that such interference is necessary to meet the goals and objectives of the Plan.

More active measures may be required, where negative factors impact on the Altona Forest Property, such as non-native and invasive species, as well

as encroaching land uses.

3. Within the 12 hectare J. Murray Speirs Ecological Reserve, the paramount objective shall be to protect the forest as a natural ecosystem. The J. Murray Speirs Ecological Reserve shall remain in a natural state, while permitting passive field studies of wildlife, vegetation and bird communities.
4. To encourage the building of partnerships between federal and provincial agencies, municipalities, local groups, interest groups and the community.

These groups will assist the Authority to promote and implement the Plan for the Altona Forest Property.

5. To create a Community Advisory Council that will:
 - i) assist in and make recommendations regarding the management and monitoring of the Altona Forest Property,
 - ii) identify and enhance the positive relationships between the Altona Forest Property and its neighbours through the development of public awareness and stewardship programs.
 - iii) assist in the review of environmental evaluations and other relevant information and make recommendations consistent with the goals and objectives of this Plan regarding appropriate public access to the Altona Forest Property for educational, interpretive, recreational and other uses.
6. To provide controlled educational and research opportunities related to the Altona Forest Property.

These activities may be possible in the future, provided they do not conflict with any other objective, are passive in nature, and do not have any negative cumulative environmental impacts.

7. To promote limited and passive recreational uses such as bird watching and informal walking trails, on the condition that these activities do not have a cumulative negative environmental impact that degrade the Altona Forest Property.

Mountain biking, equestrian riding, camping, camp fires, active alteration of the ecological features of the property for scientific research or other such activities will not be permitted in the Altona Forest Property.

This objective will require the support of the community and compliance of the public to succeed. It is recognized that trails could degrade natural features and the location of alternative trail alignments will need to be identified and utilized from time to time to mitigate damage from over use.

3.0 RESOURCE MANAGEMENT POLICIES AND GUIDELINES

SUMMARY OF MANAGEMENT ISSUES

All management activities will be designed and implemented in compliance with Federal and Provincial legislation such as the *Migratory Birds Convention Act*, *Fisheries Act*, *Conservation Authority Act*, *Planning Act*, *Lakes and Rivers Improvement Act* and *Ontario Water Resources Act*.

Limited and restricted public use will be permitted in keeping with the goals and objectives of this Plan. However, the first priority is to secure, protect and maintain the natural ecosystem for which the Altona Forest Property was acquired. The Authority will work with the Community Advisory Council to determine the Altona Forest Property's carrying capacity for public uses such as the location for trails and access points.

Public uses, such as trails will be subject to the Authority's Public Use Strategy and when appropriate, an environmental evaluation as described in section 3.1.1.

Due to the present limitations of budget and other resources of the Authority, opportunities for the Community Advisory Council to help implement activities that are consistent with the goals, objectives, policies and guidelines of this Plan will be strongly encouraged.

Edge Management plans will be requested by the Authority for new developments adjacent to the Altona Forest Property. When applicable, an edge management plan will be subject to an environmental evaluation as described in section 3.1.1. With reference to fencing, it is not the intent of the Authority to place chain link fencing around the whole Altona Forest Property if there is no obvious need or the environmental impact would be too great to do so. Removal of hazard trees is intended to target only those few trees along the Altona Forest Property boundary and active public use areas that may pose a threat to personal safety and private property.

Where more intensive work is contemplated, a detailed operational management plan ("operating plan") will be prepared for the proposed activities. The preparation of operating plans will be subject to an environmental evaluation as described in section 3.1.1 and include other specific information such as a budget, a detailed description of work, schedule and staffing. The operating plan will be consistent with the goals and objectives of the Plan and the approved Authority operations standards.

To assist in achieving the goals and objectives stated in section 2.0, the following management policies and guidelines will be implemented.

3.1 SITE SECUREMENT

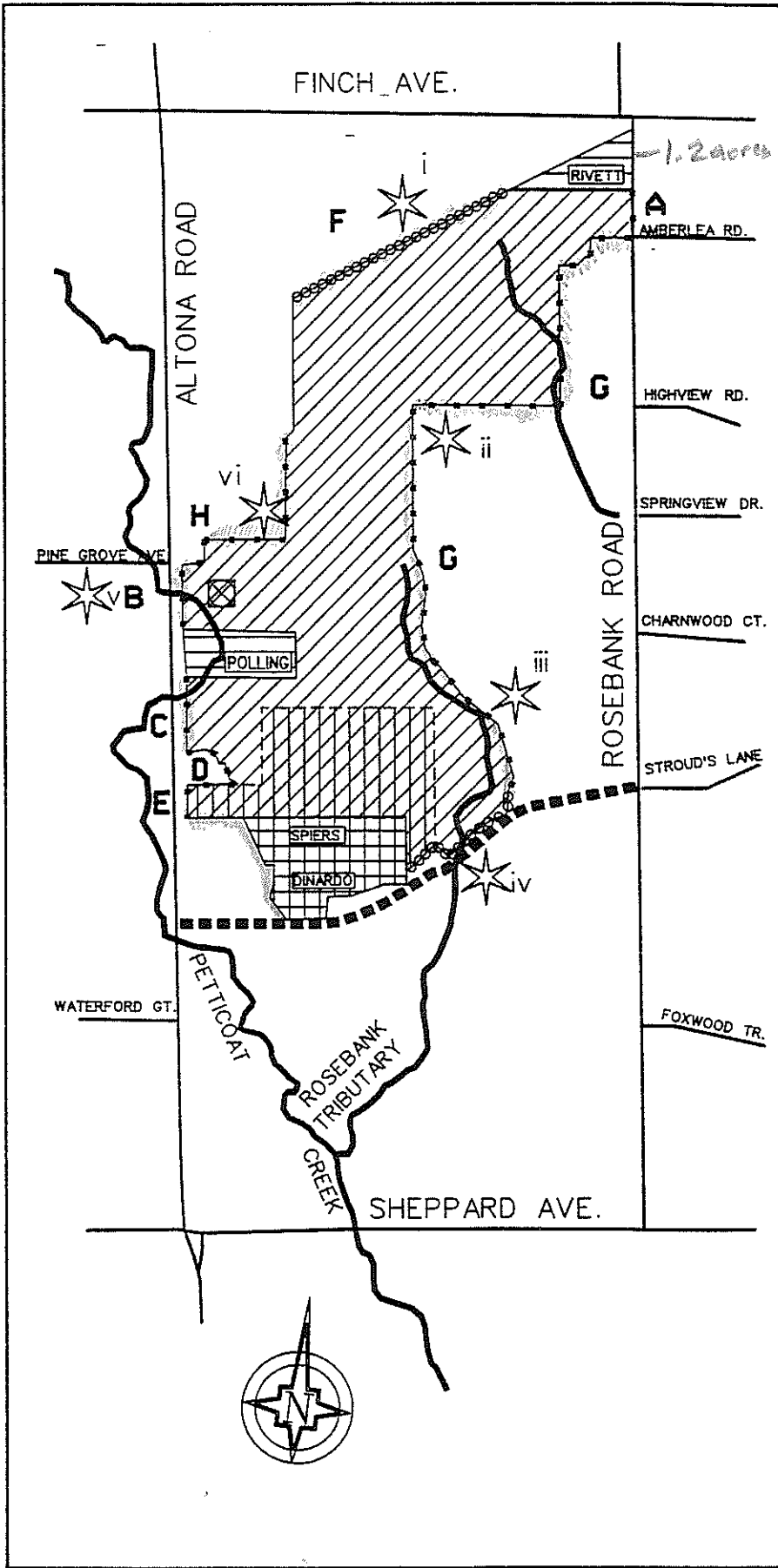
Access to and uses within the Altona Forest Property are currently very informal and uncontrolled. As new development occurs, the number of people wishing to enter the Altona Forest Property is expected to increase. Considering the significance and sensitivity of the forest habitats and wildlife populations, it is necessary to control and if required restrict public access to minimize cumulative impacts through human disturbances. Securement of the Altona Forest Property will be a key issue for the future protection of the Property, as the remaining property acquisitions within the Altona Forest project boundary are concluded.

Phasing of site securement and other management activities, including the installation of the recommended fences are listed below for existing Authority owned property (Table 1, Figure 2).

TABLE 1: PHASING OF SITE SECUREMENT IMPLEMENTATION

Activity	Completed Activity	Future Activity	IMPLEMENTED BY
Survey	- survey the eastern boundary		- Bramalea Limited
	- survey other boundaries	- survey other boundaries	- F&O, ESS
	- establish Grid Pattern and trail in the Ecological Reserve	- map trails and survey new property boundaries	- F&O, ESS, PS, CAC
Fence	- East Boundary part of section G	- part of section G	- Bramalea Limited - developer
	- Fence B and gate, C		- Contractor
	- Fence F & clear area	Fence A D E	- ESS, F&O
		Fence H	- developer
Hazard Tree Removal	- eastern boundary		- Bramalea Limited
	- other boundaries	- existing footpaths will be cleared of hazardous trees	- F&O, ESS
Signage	- at regular points of access		- F&O
		- existing footpaths and the Ecological Reserve	- F&O, CAC
Garbage Removal	- at boundaries and within the Altona Forest Property	- as required	- F&O, ESS - CAC
Management of Informal Trails		- close inappropriate trails and maintain other trails	- F&O, ESS - CAC










Facilities and Operations = F&O, MTRCA Property Section = PS, MTRCA
 Environmental Services Section = ESS, MTRCA Community Advisory Council = CAC



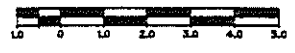
the metropolitan toronto and region conservation authority

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NOTES

-  M.T.R.C.A. LANDS
-  AREA OF J. MURRAY SPEIRS ECOLOGICAL RESERVE
-  POTENTIAL FUTURE ACQUISITION
-  POTENTIAL FUTURE PARKING AREA
-  POTENTIAL ACCESS POINT
-  PROPOSED CHAIN LINK FENCE
-  PROPOSED FARM FENCE
-  WATERCOURSES
-  PROPOSED ROAD STROUD'S LANE EXTENSION

SCALE



KILOMETRES

REVISIONS

NO.	DATE	DESCRIPTION	APP'D

DESIGN	T.S.	DRAWN	F.B.	CHECKED	T.S. F.B.
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PROJECT TITLE
ALTONA FOREST ENVIRONMENTAL MANAGEMENT PLAN

DRAWING TITLE
SITE SECUREMENT FIGURE 2

DRAWING NO.

FILENAME **TARIQ3.DGN**

DATE **JUNE, 1995** SCALE **AS INDICATED** REV.

3.1.1 Access/Fencing

Potential pedestrian access points have been identified, including one from the north (i), two from the east (ii,iii), one from the south (iv) and two on the western boundary (v,vi), (Figure 2). The number and specific location of access points will be determined following an environmental evaluation of all options. The access locations will not negatively impact the natural features or ecological functions of the Altona Forest Property including the J. Murray Speirs Ecological Reserve.

Environmental Evaluation

The environmental evaluation should include the following components:

- a) a reasonable description of the existing natural environment that will be affected either directly or indirectly;
- b) the environmental effects that might reasonably be expected to occur;
- c) methods and measures for mitigating potential environmental effects due to the proposed work; and
- d) a monitoring program to determine the effects on the environment.

Edge management plans as described in section 3.3 will be subject to the above process if investigating the location of potential access points.

With respect to access and fencing, the Authority will manage the Altona Forest Property subject to the following management policies and guidelines.

- Chain link fences will be installed at selected locations around the perimeter of the Altona Forest Property, and shall be constructed and maintained in good repair to identify property boundaries and control unauthorized access (Figure 2). Installation including any clearing necessary for fence construction should take place to minimize the impact on the Altona Forest Property, and obstruction in the floodplain. The fence will be 1.83 metres tall (6 feet) and made of black vinyl coated chain link fabric as described by the Authority standard.

Having stated this, it is not the intent of the Authority to place chain link fencing around the whole property. In certain instances where the environmental impact of installing a chain link fence would be unacceptable or encroachment is not an issue, the Authority may consider alternative types of fencing to demarcate the property boundary. In some instances a fence may not be required. Areas where urban development will abut the Altona Forest Property directly would usually require chain link fencing to be used.

During construction of a fence, removal of hazard trees may occur. This activity is intended to affect those few trees along the property boundary that may pose a threat to personal safety and private property.

- Chain link fencing along the eastern boundary of the Altona Forest Property should be installed prior to initiating grading or construction of the residential development. Any other areas requiring chain link fencing should also be done before development occurs adjacent to the Altona Forest Property.
- If the DiNardo property is purchased, the southern limit of the DiNardo property may require chain link fencing as described by the Authority standard. Consideration will be needed to assess north south wildlife movement before building this fence. An alternative type of fence may be considered.
- Fencing along the western limit of the Altona Forest Property may require an alternative to chain link fencing to meet the concerns of obstructions in a floodplain. Fencing should not impede water flows or create barriers which limit continuous wildlife corridors and linkages up and downstream. The compatibility of fencing in the flood plain will be determined by Authority staff.
- If the Speirs property is acquired, and if fencing at the east side of the Speirs's property is requested, private pedestrian access will be provided for only the Speirs' Family. This entrance will provide access into the portion of the Altona Forest Property called the J. Murray Speirs Ecological Reserve (Figure 2).
- Farm fence is recommended for installation along the boundary of the Altona Forest Property and the Ontario Hydro corridor.

Farm fence is also recommended for the southern boundary adjacent to the valley feature and Strouds Lane (Figure 2).

- In the future, a potential maintenance vehicle entrance may be considered along the eastern edge of the Altona Forest Property at the access point (ii) (Figure 2). A 3 metre wide chain link gate should be installed on the property line to allow for vehicular access so that Authority vehicles may undertake site management activities. This access point would provide limited access for emergency public services. Provisions for a 50 centimetre wide pedestrian walk through gate should be considered. Other access points shall have similar restrictive structures to prohibit unauthorized vehicular access.
- Double gates measuring 8 metres (24 feet) wide will be installed at access point (v) along the fence line on the western boundary of the Altona Forest Property (Figure 2). This access point will be used by Authority staff to enter the property in order to undertake any necessary management activities. This access point will provide limited access for emergency public services.
- Existing internal footpaths, although unauthorized at this time, will serve as an informal trail system. Public trails will be routed to avoid the J. Murray Speirs Ecological Reserve. In general, no upgrading other than minor tread maintenance, hazard tree removal and minor signage will be undertaken. New trails will not be established within the J. Murray Speirs Ecological Reserve, however temporary realignment of trails will be permitted to allow the recovery of degraded, overused trail surfaces. It is recognized such activities will require the assistance of the Community Advisory Council and the cooperation of the public using these informal trails.

3.1.2 Signage

- An Authority sign will be installed at ordinary points of access and at regular intervals around the perimeter of the Altona Forest Property in accordance with the Trespass to Property Act, Sections 5(1)(b), and 7(1)(3) and (4). Signs will be used to identify permitted uses. The signs will also indicate that the public should contact the Authority to learn about permitted activities in the Altona Forest Property. Signs will be placed on plywood backs and then mounted to the chain link fence, farm fence posts or put on other posts that have been driven

into the ground. The size of the sign must be large enough to contain a red circle that is ten centimetres in diameter.

Specific signage for the Ecological Reserve will be installed to indicate the area is a wildlife sanctuary.

3.1.3 Litter

- The Authority will deal with garbage that has been discarded on the site. Depending on the nature of the material, it may be removed or dispersed. Such activity will not be scheduled during times when the site is sensitive to damage or disturbance.

3.1.4 "Cleaning of the Forest"

- Actions such as raking, mowing, piling brush, spraying and brushing within the Altona Forest Property for the purpose of making the site appear "neat and clean" are not compatible with this Plan.

3.1.5 Hazard Tree Removal

- Authority staff will inspect the forest perimeter, informal footpaths and access points for hazardous conditions.
- Only trees that pose a threat to public safety or private property will be felled and/or removed.
- Hazardous trees will be dealt with as described in the vegetation management policies and guidelines.

3.2 VEGETATION MANAGEMENT

To date, the broad ecological communities have been inventoried and documented. In general, the forest stands and associated vegetation communities are in fair health and require minimal management at this time. Consequently, initial vegetation management will concentrate on activities that secure and provide a reasonable level of care to protect the resources. Emphasis will be given to

ensuring that the plant and animal communities are protected and maintained in their natural undisturbed condition. Within the J. Murray Ecological Reserve, protection of the forest habitat will be paramount, so that long term lay and academic studies of the birds, other wildlife and the habitat can continue. The following policies and guidelines will be followed:

- Emphasis will be placed on allowing the vegetation of the property to evolve naturally over time, eg. natural succession. Special effort, as described in this Plan, will be needed to maintain the J. Murray Speirs Ecological Reserve in its natural undisturbed state.
- Vegetation and sensitive habitat areas should be protected from degradation due to the negative impacts of human activities.
- In consultation with the Community Advisory Council, the Authority will choose from only native terrestrial and aquatic species, suited to the local site conditions and complementary to the existing vegetation cover for regeneration activity.
- Whenever possible, and where public safety is not a concern, all standing dead or damaged trees and forest debris will be left as found.
- Where it is necessary to fell trees for public safety reasons, one of two options will be followed:
 - (1) tree stumps will be cut as close to the ground as possible and left on site without grubbing, or
 - (2) trees will be cut well above the ground to leave standing as much of the trunk as possible to create further additional wildlife habitat.
- In the case where trees have to be cut, tree marking will be carried out by trained staff who are familiar with the objectives of this Plan, forest management practices and hazardous tree evaluation.
- The felling of live trees may be permitted to satisfy objectives for protecting, enhancing or restoring the natural state on the site. All trees felled will be left on site to form opportunities for wildlife habitat. Generally, tree felling will not be permitted in the J. Murray Speirs Ecological Reserve, except for the preservation of safe public use and concerns about disease.

- The removal of trees strictly for the production of firewood or timber products is contrary to this Plan.
- Pesticides may be used but are the least preferred option should non-native, invasive species require control or elimination. Approval for pesticide use must be given by the Director of Facilities and Operations.

Special effort shall be made to eliminate the use of chemical controls, such as pesticides, herbicides and insecticides within the J. Murray Speirs Ecological Reserve.

Insect infestation or disease will be controlled, if deemed necessary by the Authority, by selective pruning or other mechanical methods. Organic pesticide use and other biological controls will be considered as in the case of controlling such problems as gypsy moth defoliation.

- No wood chipping is permitted in the J. Murray Speirs Ecological Reserve. In the remainder of the Altona Forest Property, wood chipping would also be discouraged, except where the wood chips are applied to existing trails, due to negative impacts such as noise and damage from equipment movement. As an alternative, it is preferred that plant material be left on site as wildlife habitat.

Where wood chipping is the only option, proper timing of activities will be a priority to avoid disturbance to the ground, vegetation communities and to wildlife, as well as having regard for legislation that prohibits disturbances to wildlife.

- Vehicles needed to assist in the undertaking of the necessary management activities will be limited to the existing trails within the J. Murray Speirs Ecological Reserve and elsewhere, whenever possible. Where maintenance and emergency vehicle use is deemed absolutely necessary, vehicle selection will attempt to use smaller less intrusive vehicles such as balloon tire vehicles, ie. All Terrain Vehicles (ATV). Again, proper timing of activities will be a priority to avoid disturbances to the ground, vegetation communities and to wildlife.

3.3 EDGE MANAGEMENT

As new development occurs adjacent to the Altona Forest Property, an edge management plan shall be prepared by the owner of the development and approved

by the Authority. Detailed guidelines will be given in consultation with the owner at the time of application. The owner will prepare a biophysical inventory that will detail the natural and cultural features of the property to be developed. This information will be used in the preparation of the edge management plan.

Each edge management plan is subject to the environmental evaluation described in section 3.1.1 as well as the following requirements:

Fencing

- to establish the property line, to control and restrict access to the Altona Forest Property, and avoid encroachment in areas identified by the Authority;
- to protect all possible vegetation within the designated edge management area;
- to be constructed as early as possible in the development process to identify the new property boundary;
- to consider alternative types of fencing such as cedar post and rail in areas where chain link fencing may be harmful to the ecosystem and wildlife migration; and
- to meet Authority fencing standards and/or other requirements as determined by the Authority.

Potential Access Points

- Within the Altona Forest Property, public uses must be carefully planned and managed to be ecologically compatible. The need and location of access points will be determined as a result of defining the alignment of future trails. These trails and access points will not be established in areas that would conflict with the goals and objective of this Plan. Specifically, trail linkages will have to be assessed to discourage the public from traversing the J. Murray Speirs Ecological Reserve.

It is the intent of the Authority to prepare a more detailed strategy for public uses within the Altona Forest Property in consultation with the Community Advisory Council. Through this process the trails and access points will be finalized.

In the event that development applications and/or approvals precede the preparation of the Authority's Public Use Strategy for the Property, the proponent/applicant will be required to carry out

surveys, consultations and studies necessary to specifically locate and reserve potential access points that are complimentary to a trail system and do not result in negative impacts to the natural features and ecological functions of the Altona Forest Property including the J. Murray Speirs Ecological Reserve.

Hazard Tree Removal

- to provide a reasonable level of protection to property and human life;
- hazard tree removal is to be completed in two phases. Phase one occurs at the time of fence construction and phase two occurs immediately prior to final registration. This work is to be done in consultation with Authority Staff.

Vegetation Protection/ Regeneration

- to encourage adjacent lot owners to protect and regenerate native vegetation on their private property;
- to permit edge planting on Authority and private property to screen lots, prevent encroachment, and protect the forest interior;
- regenerate vegetation after hazard trees are removed;
- to use native plant material as required for regeneration purposes.

Pre-stressing vegetation

- to gradually expose residual vegetation to altered growing conditions to decrease stress on remaining vegetation.

Salvaging plant material

- to rescue parts of any significant vegetation identified for elimination in developments adjacent to the Altona Forest Property. In cases where severe alteration of the vegetation is to occur adjacent to the Altona Forest Property, the Authority or the Community Advisory Council or other interested groups should be given the opportunity to rescue vegetation from the site for planting elsewhere. Specific agreements will be prepared through discussions with the owner of the adjacent property.

Sediment Control

- to protect topsoil and prevent erosion and sedimentation from negatively impacting Authority owned land or other properties eg. fencing and filter cloth.

Lot Grading and Drainage

- maintain the natural drainage patterns to protect flora and fauna;
- to prevent physical damage such as direct impact, soil compaction, or placement of soil over the root zone of vegetation.

Setbacks of Structures from the Altona Forest Property

- setbacks shall be established to prevent private property uses from conflicting with the permitted uses of the Altona Forest Property.

3.4 WILDLIFE

It is not the intent of this Plan to keep wildlife in the confines of the Altona Forest Property, as some species are only seasonal residents. Wildlife movement may require measures to decrease migration mortality. Other concerns include, domestic pets preying on the wildlife or harassing wildlife, particularly during critical survival periods, such as in the winter or during nesting season. The assistance of the Community Advisory Council could help enhance public awareness of the effect of the adjacent community. With respect to the wildlife, the Authority will manage the Altona Forest Property subject to the following management policies and guidelines.

- Encourage and assist with the healthy perpetuation and diversity of native species. Wildlife populations will be protected from human disturbance through controlled and restrictive access, and proper timing of management activities.
- Protect, maintain and enhance habitat to provide shelter, travel corridors and foraging areas for wildlife.
- Maintain unobstructed wildlife migration corridors. Wildlife movement may need to be discouraged in areas where there is a high incidence of mortality

during migration. If required, the Authority will recommend to the municipality that road signs be posted to warn motorists of wildlife crossing the road. For arterial road construction and widenings, the Authority recommends that such structures provide for unobstructed wildlife and pedestrian movement within the valley and stream corridors wherever possible.

3.5 AQUATIC ECOSYSTEMS

A portion of the Petticoat Creek and its tributary exist within the central portion and along the western edge of the Altona Forest Property. Petticoat Creek is classified by the Ministry of Natural Resources as a warm water fishery. With respect to the aquatic ecosystem, the Authority will manage the Altona Forest Property subject to the following management policies and guidelines.

- Protect and maintain fish habitat, surface and ground water quality and quantity.
- Prohibit stormwater management ponds within the Altona Forest Property.
- Protect, enhance, or restore stream courses, aquatic habitat, riparian zones and wetlands, as determined through inventory and monitoring.
- Protect fish populations and other desired aquatic organisms through proper timing of management activities.
- Native fish species are the preferred choice over non-native species if introducing species.

New studies may be required to better understand and protect the Petticoat Creek watershed in terms of the ground and surface water characteristics of the area. This should be done within the context of a watershed plan for the Petticoat Creek.

3.5.1 DRAINAGE

Except for Petticoat Creek, most of the water movement occurs through groundwater infiltration and percolation in the upper soil layers. Much of the character of the Altona Forest Property is related to the fact that water frequently ponds on the surface, providing temporary habitat opportunities. With respect to the drainage, the Authority will manage the Altona Forest Property subject to the following management policies and guidelines.

- Maintain on-site natural drainage patterns in order to protect the integrity of the forest communities and wildlife species dependent on the existing drainage patterns.
- Review adjacent development proposals to ensure drainage patterns are maintained that do not damage the ecosystem of the Altona Forest Property in terms of changes to the water quality or quantity.

3.5.2 WETLANDS

There are wetlands on the Altona Forest Property. With respect to the wetlands, the Authority will manage the Altona Forest Property subject to the following management policies and guidelines.

- Identify the presence of wetlands, and map and inventory species present,
- Prohibit activities that will reduce the size or function of the wetland areas. Where inventory and monitoring indicate, undertake specific enhancement or regeneration activities,
- Protect, establish, or otherwise manage aquatic vegetation to facilitate all the life stages of fish, other aquatic organisms, and wildlife populations.

Should additional properties be acquired by the Authority, any wetlands, including ponds, would be mapped and managed in accordance with the above goals, objectives, policies and guidelines.

3.6 ARCHAEOLOGY

With respect to the archaeological resources, the Authority will manage the Altona Forest Property subject to the following management policies.

- All archaeological sites (known or unknown) are important cultural resources which must be preserved, either by avoidance or through excavation subject to Authority procedure, when land use modification may occur. Such excavation would be proceeded by notification of appropriate aboriginal groups and agencies. In general, the Authority will preserve all archaeological sites in the Altona Forest Property. It is a management policy of this Plan to recognize that the protection of the natural ecological conditions takes precedence within the Altona Forest Property including the J. Murray Speirs Ecological Reserve.

4.0 PUBLIC USE POLICIES AND GUIDELINES

Presently, passive resource based recreational uses are permitted including wildlife viewing, hiking and photography. Some of the activities that are prohibited are the introduction of invasive species, hunting and the removal of plant material unless authorized by the Authority.

Planning for any future public use, such as a formal trail system or parking area, will involve public consultation and environmental evaluation through the Authority's Public Use Strategy. Such an environmental evaluation should be consistent with section 3.1.1, Access/Fencing. Consideration for the natural environment will be a paramount concern in this process. Formal trail establishment may be developed in response to public demand that is not inconsistent with the goal and objectives of this Plan and subject to availability of additional funding, except within the J. Murray Speirs Ecological Reserve, where new trails are not permitted. The Ecological Reserve shall be kept in a natural state and not developed for any other use. Formal public trails will not penetrate into the J. Murray Speirs Ecological Reserve. Furthermore, trails will be sited to keep pedestrians from affecting the wildlife, particularly the bird communities, within the J. Murray Speirs Ecological Reserve.

Any recreational development would have to be compatible with the ecological function of the Altona Forest Property and the goals and objectives of this Plan.

4.1 TRAILS/ACCESS

- If a more formal trail system is to be established, subject to the above policies and guidelines, it is recommended that the following standards be considered as the upgrade. For hiking trails the tread width should be 0.5 metres wide within a 1.0 metre wide cleared area and a clearing height of 2.5 metres, as per the Authority's Trail Planning and Design Guideline document. The trail would be surfaced with limestone screenings or another porous material. Other aspects to be explored would include interpretive stations, education components and barrier free access. If trail uses are investigated within the Altona Forest Property, public consultation will include representatives knowledgeable about the needs of people with limited physical abilities. The Town of Pickering Wheel Trans Advisory Committee is one group that may provide input.

4.2 POTENTIAL PARKING

- If ecologically appropriate, vehicle parking may be considered (Figure 2), on the western side of the Altona Forest Property after consultation with the

community and other agencies. However, there are no immediate plans to build this parking area. This use will be subject to the policies and program objectives of the Authority and consistent with the requirements of Ontario Regulation 158.

If the parking area is considered, it is envisioned that there could be parking space for 10 vehicles within an area measuring 0.028 hectares. Topsoil would be excavated to permit construction of the parking area surface. The parking surface materials would be compacted granular limestone.

Parking on Authority land will not be considered at any other location. The parking areas proposed for the separate and public school properties on the east side of the Altona Forest Property should be considered as an alternate location for vehicle parking.

- The parking area and access road, if constructed on Authority land, would be bounded by a fence, in accordance with Authority standards. A walk-through gate would be considered at the end of the parking area in order to provide only pedestrian access into the Altona Forest Property.

4.3 ENCROACHMENT

The degree and type of encroachment can vary considerably. With the increase in private lots abutting the Altona Forest Property it is expected that encroachment into the forest may increase. Conflicts can arise if the adjacent owner's feeling of proprietorship towards the Authority owned lands leads to building structures and other unauthorized activities within the Altona Forest Property. The main deterrent against encroachment is public education, which will be part of the strategy in section 5.0, Community Outreach. To compliment the public education program, the identified boundaries of the Altona Forest Property will be surveyed, fenced as required and marked as part of the site securement activities.

- As a matter of policy, the Authority does not permit encroachments onto its lands. Staff are directed to locate and correct existing instances of encroachment. Where structures encroach upon Authority land, their immediate removal will be requested. The adjacent home owners will be notified, and the residence responsible for the encroachment will be required to remove the items found within the Altona Forest Property.
- An inventory of the Altona Forest Property will be carried out annually by Facilities and Operations staff, to identify situations where encroachment is a problem. Any possible offenses or concerns will be reported to the Authority's Property and Administration Section and/or the Enforcement, Safety and Security Section.

5.0 COMMUNITY OUTREACH

This is one of the most important parts of the Altona Forest Environmental Management Plan. Community outreach can be defined as a combination of public information dissemination, consultation, information gathering, education and hands-on participation. It is necessary that adequate time and resources be allocated to this area.

Eventually, much of the Altona Forest Property will be surrounded by residential lots. Residents have their own attitudes and beliefs about woodlands. Many of their actions may have a negative impact on the Altona Forest Property, such as:

- dumping of grass clippings, compost, horticultural debris,
- dumping garbage,
- planting grass or exotic species, some of which are invasive species such as Purple Loosestrife (Lythrum salicaria) and Norway Maple (Acer platanoides),
- permitting pets to roam the Altona Forest Property where they prey on wildlife, particularly cats, as they prey on bird populations, and
- encroachment by neighbours by building structures on the Altona Forest Property or by continuous non-permitted uses.

Encouraging public participation has a number of benefits. Management plans that include a program of building public support and participation are likely to be more successful. They provide a sense of community, often creating a local stewardship reaction that achieves what the agency might accomplish, using fewer resources than the agency. Public participation, such as including the schools in the management of the Altona Forest Property could be consistent with other initiatives, such as, "Adopt-A-Stream" or "Adopt-A-Park" type programs, subject to maintaining the J. Murray Speirs Ecological Reserve in accordance with the goals and objectives of this Plan. It is also recognized that the proposed property management work goes beyond the Authority's present resources and will need the assistance of the public and other agencies to be successful.

A valuable asset to public education is that people who are aware of the Plan and the objectives, in a sense become the Authority's "volunteer stewards". When they see someone doing something within the Altona Forest Property, ie. dumping, digging wildflowers, they are more likely to report or deal with such actions if they themselves have been educated about the impacts these activities have on the Altona Forest Property. Public education will reduce a large percentage of problems.

For the Altona Forest Environmental Management Plan to be successful and for it to reach all the adjacent residents and users, additional avenues of education should also be used, such as pamphlets, direct mailings, signs, and newspaper articles. Funding for some of these projects may be available through environmental funds (ie. Friends of the Environment) or from public donations. Throughout North America, communities

recognized as having successful urban forestry programs, have devoted time and money to public education.

In terms of the Altona Forest Property, it is recommended that the Authority in cooperation with interest groups and government agencies consider the following three initiatives:

1. Develop a pamphlet discussing the benefits of the Altona Forest Property, in addition to the problems it faces ie. encroachment, garbage dumping, pets. Distribute pamphlets to all residents adjacent to the Altona Forest Property.
2. Work with local developers and prepare an information package suitable for distribution to prospective new home buyers regarding the management of the Altona Forest Property.
3. Establish a volunteer Community Advisory Council to participate in:
 - the review of information regarding the locations for trails, access points and fencing and make recommendations to the Authority on these matters,
 - communications with the community regarding the importance and special character of the Altona Forest Property,
 - community fund raising for the Altona Forest Property,
 - the formulation of community action plans,
 - encouraging community participation in events planned to raise awareness of the forest and stewardship practices
 - monitoring of the Altona Forest Property.

The Authority will take the lead in establishing the Council. A pre-meeting will be convened to establish Council membership, issues to be covered in the Terms of Reference and reporting relationship of the Council to the Authority. The Authority will draft a Terms of Reference. An acting Chair will be designated from the Authority staff to assist in the initial creation and implementation of the group. The Authority will consider the provision of administrative support to assist in the implementation of the Community Advisory Council. Once established this Council will finalize the Terms of Reference for Authority review and approval, and select a Chair-person from its membership.

The Community Advisory Council may consist of people from such groups as the Friends of Altona Forest and Petticoat Creek, Pickering Naturalists, University of Toronto, Royal Ontario Museum, local community groups, other agencies and independent citizens.

There are numerous opportunities which exist for volunteers to become involved in managing the Altona Forest Property. Many of the potential projects go beyond traditional activities of picking up garbage and planting trees, to constructing and maintaining trails, closing trails and monitoring work. A Stewardship Program may be a project for the community to sponsor, organize and undertake. While the Plan encourages public

participation, it is imperative that all activities meet and follow the goals, objectives, policies and guidelines established in this Plan.

A myth that needs to be corrected is the idea that woodlands need to be "cleaned up" (the removal of logs, brush, and understorey). This horticultural view attempts to turn a forest into the perfect, clean garden. The removal of this material fails to recognize the immense importance of the decomposers within the natural system. Without the decomposers there is no natural system. For the Plan to be a success, it is imperative that the public be educated about changing management practices, the problems they may be creating, and ecosystem based management of the forest and adjoining lands as a whole.

6.0 CONSULTATION

The Authority will consult with natural heritage groups and the community in addition to the municipal, provincial and federal agencies in the planning and management of the Altona Forest Property. The Friends of the Altona Forest and Petticoat Creek is an example of a local natural heritage group that would be consulted in this instance.

The Community Advisory Council, when established, should report annually to the Authority to discuss the management of the Altona Forest Property.

7.0 MAINTENANCE OF THE PLAN

The term of the Altona Forest Environmental Management Plan is 10 years from 1995 - 2004. Accurate records of work carried out will be kept for general reference and to provide input into the Plan. The evaluation techniques used and data recorded should endeavour wherever possible to measure factors that will address whether the objectives of the Plan are being met. Detailed reports, including maps, will be kept at the Authority and will include information on site securement activities, inventory and monitoring, public consultation and education.

Field studies of the Altona Forest Property will be conducted from time to time to determine whether it continues to fulfil the criteria for designation as part of an Environmentally Significant Area.

If revisions are necessary to protect the natural and cultural values of the Altona Forest Property to reflect changing social, economic, or environmental conditions, it will only be done after consultation with the Community Advisory Council and the public. Revisions to the Plan will be in keeping with the original stated goals and objectives of the Plan and shall not adversely affect the J. Murray Speirs Ecological Reserve.

Appendix A: List of References

- Metropolitan Toronto and Region Conservation Authority, 1991a. Trail Planning and Design Guidelines, 85p.
- 1994b. Environmentally Significant Areas Update, (ESA 95 - Altona Forest)
 - 1994c. Valley and Stream Corridor Management Program, 72p.
 - 1994d. Altona Forest Management Plan.
 - 1995e. The Strategy For Public Use Of Conservation Authority Lands, 27p.
- Michalski, Michael, 1990. The Altona Forest Area Environmental Management Study, Phase One Report, Planning Department, Town of Pickering 91p.
- Ministry of Environment and Energy, 1994. Stormwater Management Practices, Planning and Design Manual, 260p.
- Speirs, Dr.J.Murray, 1994. Birds of Altona Forest Ecological Reserve, independent publication, 38p.