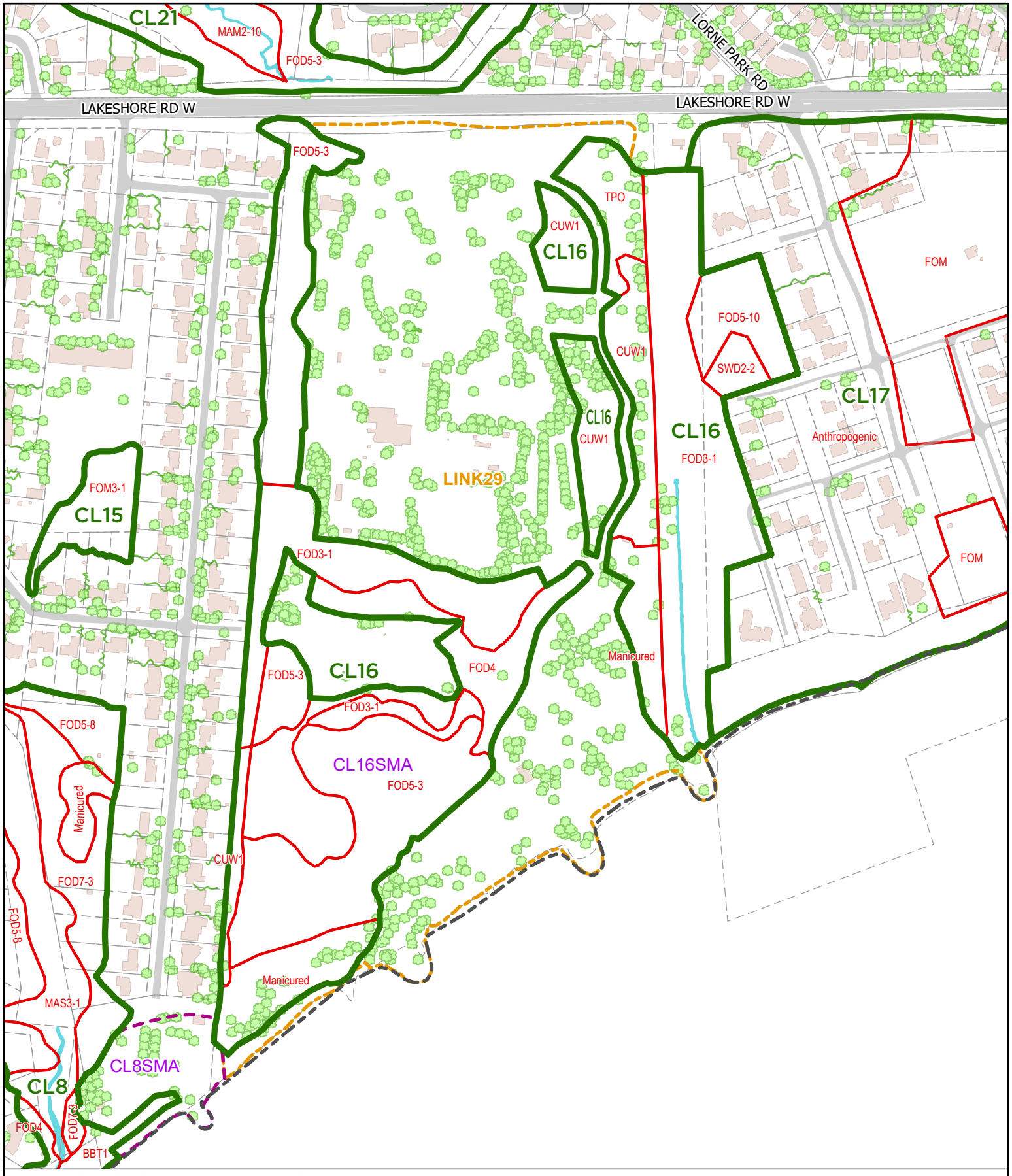

Natural AREAS SYSTEM

2024 NATURAL AREAS UPDATE

SITE CL16

- NATURAL AREAS
- VEGETATION COMMUNITIES
- SPECIAL MANAGEMENT AREAS
- LINKAGES

N

0 25 50 100 150 200

Meters

MISSISSAUGA

Produced by IT-GIS, Client Services

CL16

CLASSIFICATION	Park Name	PLANNING DISTRICT	AREA (Ha)
Significant Natural Area	Jack Darling Park	Clarkson-Lorne Park	18.59

CONSERVATION AUTHORITY	SUBWATERSHED	OWNERSHIP	SURROUNDING LAND USE
CVC	Turtle Creek/Birchwood Creek	City-owned	Residential

GENERAL SUMMARY

Immediately south of Lakeshore Road West and east of Parkland Avenue. The natural areas CL8, CL9, CL15, and CL17 are located within 500 m. Birchwood Creek links this site with natural areas CL42, CL39, and CL21. The site is linked to a number of natural areas by the Lake Ontario shoreline.

PHYSICAL DESCRIPTION

This site is composed of gently sloping hills. Bedrock geology of the site consists of grey shales of the Georgian Bay Formation. These are buried by up to 7.5 m of soils and glacial deposits consisting of well drained Fox sand developed within the Iroquois Sand Plain. An unconfined shallow sand aquifer is associated with the Iroquois Sand Plain. The soil moisture at this site is dry-mesic. This site is located primarily within the Turtle Creek sub-watershed, except for the northeast corner of the site which falls within the Birchwood Creek sub-watershed. Lake Ontario forms the southern boundary to this site.

CONDITION

This site is currently in fair - poor condition. Disturbances include extensive ad-hoc trails, residential encroachment, soil erosion and compaction, garbage, and household dumping along western edge. Surrounding land use is residential.

Invasive plant species are prevalent and include Garlic Mustard (*Alliaria petiolata*), Tartarian Honeysuckle (*Lonicera tatarica*), European Buckthorn (*Rhamnus cathartica*), Woodland Angelica (*Angelica sylvestris*), and Purple Loosestrife (*Lythrum salicaria*).

ECOLOGICAL LAND CLASSIFICATION

Number of Plant Communities

Eight vegetation communities are present at this site that form pockets on the slopes and along the edge of the residences on the west edge of the park (see accompanying figure): cultural woodland (CUW), dry-fresh poplar deciduous forest type (FOD3-1), dry-fresh sugar maple – oak deciduous forest type (FOD5-3), fresh sugar maple - white birch - aspen deciduous forest type (FOD5-10), and fresh-moist willow lowland deciduous forest type (FOD7-3), red / green ash mineral deciduous swamp type (SWD2-2), open tallgrass prairie (TPO), and a manicured park.

Significant Plant Communities

There are no Significant Plant Communities in CL16.

SPECIES RICHNESS

Flora

There are 252 flora species are documented for this site. The native FQI is 53.41 and the native mean coefficient is 4.16, both high values. The native FQI has increased, and the native mean coefficient has deceased from previous values of 50.16 and 4.25, respectively. There are 93 introduced flora species recorded at this site, representing 34.5% of the total flora species present.

Five provincially significant flora species have been documented from this site.

Twenty-one locally significant flora species have been documented at this site.

Seventy-one Credit Valley Conservation flora species of Conservation Concern (Tier 1-3) have been documented at this site.

Fauna

There are a total of 98 fauna species documented for this site: 67 bird, 18 mammal, and 2 amphibian and/or reptile, and 11 odonata and/or lepidoptera species.

Nine provincially significant fauna species have been documented at this site.

Fifty-seven Credit Valley Conservation fauna species of Conservation Concern (Tier 1-3) have been documented at this site.

MANAGEMENT RECOMMENDATIONS

1. The City Park, Jack Darling Park, is included within this natural area.
2. A few of the floral species (Big Bluestem, Indian Grass, Virginia Mountain Mint, and Sassafras) suggest various prairie elements. This is consistent with the well-drained soils and proximity to other prairie remnants elemental to the Lorne Park area. Management of the site to preserve and increase the prairie component of this site are recommended.
3. At present, the area that has been seeded with grassland species and the area south of the tennis courts where the Big Bluestem occurs are being left un-mowed. This has resulted in the proliferation of prairie species (both planted and naturally occurring) in these locations. Consideration should be given to annual burning to improve the prairie habitat.
4. Consideration should be given to planting more of the manicured areas of Jack Darling Park with prairie species to increase the coverage of this community on site.
5. Due to the large amount of ash (*Fraxinus spp.*) dieback, time should be spent re-delineating/classifying ELC communities and assessing the overall health of the ecosystem.

REFERENCES

Baker Salmona Associates Ltd (undated)

Brownell (1993)

City of Mississauga (1978b)

Fahey (1997)

HBT AGRA Limited (1993)

ECOLOGICAL LAND CLASSIFICATION

Cultural Woodland (CUW)

Black Walnut (*Juglans nigra*), Weeping Willow (*Salix* x *pendulina*), and Black Locust (*Robinia pseudoacacia*) dominate the canopy (10-15 m tall; 25-60% cover). Sub-canopy is Black Locust, Freeman's Maple (*Salix* x *freemanii*), and Green Ash (1-2 m tall; 25-60% cover). Staghorn Sumac (*Rhus typhina*), Morrow's Honeysuckle (*Lonicera morrowii*), and European Buckthorn (*Rhamnus cathartica*), growing in at 0.5 to 1 m tall dominates the shrub layer (25-60% cover). Ground cover is dominated by Kentucky Bluegrass *(Poa pratensis*) and Perennial Ryegrass (*Lolium perenne*), with Canada Goldenrod (*Solidago canadensis*), Wild Carrot (*Daucus carota*), and Japanese Hedge-Parsley (*Torilis japonica*) as common associates. Ground cover is less than half a metre in height and covers greater than 60%.

Dry-fresh Poplar Deciduous Forest Type (FOD3-1)

The poplar forest is dominated by scattered Eastern Cottonwood (*Populus deltoides*), Large Tooth Aspen (*Populus grandidentata*), and Weeping Willow (*Salix* x *pendulina*). These canopy trees cover greater than 60% of the forest and are generally 10-25 m in height. The sub-canopy is dominated by Eastern Cottonwood, Trembling Aspen, Manitoba Maple (*Acer negundo*), and Balsam Poplar (*Populus balsamifera*). The sub-canopy is 2-10 m in height and covers greater than 60% of the forest. The understory is dense with Tartarian Honeysuckle (*Lonicera tatarica*), European Buckthorn, Woodland Angelica (*Angelica sylvestris*) and Riverbank Grape (*Vitis riparia*). Understory vegetation is 1-2 m in height and covers greater than 60% of the community. The ground layer is dominated by Canada Goldenrod (*Solidago canadensis*) and Spotted Jewelweed (*Impatiens capensis*) that is 0.2-1 m in height and covers 25-60% of the community.

Dry-fresh Sugar Maple – Oak Deciduous Forest Type (FOD5-3)

The Sugar Maple – Red Oak community is a narrow strip of forest located along the western boundary of the site. The canopy of this forest is dominated by Sugar Maple (*Acer saccharum*) and Red Oak (*Quercus rubra*) with Red Maple (*Acer rubrum*), Black Cherry (*Prunus serotina*), and American Beech (*Fagus grandifolia*) as associates. Canopy trees are 10-25 m in height and cover greater than 60% of the community. The sub-canopy contains a variety of tree species which predominantly include Sugar Maple, Black Cherry, Red Oak, Sassafras (*Sassafras albidum*), and Paper Birch (*Betula papyrifera*). There is greater occurrence of Paper Birch trees in this forest adjacent to the open meadow community. The sub-canopy trees are 2-10 m in height and cover greater than 60% of the community. The understory is composed of dense Chokecherry (*Prunus virginiana*), Round-leaved Dogwood (*Cornus rugosa*), Witch-hazel (*Hamamelis virginiana*), Maple-leaved Viburnum (*Viburnum acerifolium*), Sugar Maple saplings, and European Buckthorn (*Rhamnus cathartica*). Understory vegetation is 0.5-2 m in height and covers greater than 60% of the forest. Large patches of non-native Tartarian Honeysuckle, European Barberry (*Berberis vulgaris*), and Garlic Mustard also occur in this community. The ground layer consists primarily of Garlic Mustard (*Alliaria petiolata*), Yellow Avens (*Geum aleppicum*), and False Solomon's-seal (*Maianthemum racemosum*). The ground layer is 0.2-0.5 m in height and covers greater than 60% of the community. Quite a few large serviceberry (*Amelanchier* sp.) and Eastern Hemlocks (*Tsuga canadensis*) are present.

Fresh Sugar Maple - White Birch - Aspen deciduous forest type (FOD5-10)

This community is inaccessible due to private property. It has not been directly surveyed.

Red / Green Ash Mineral Deciduous Swamp Type (SWD2-2)

This community is inaccessible due to private

property. It has not been directly surveyed.

Tallgrass Prairie (TPO)

Previously there was an initiative in the northeast part of the site to restore native prairie vegetation. Several beds have been planted with native grassland forbs and grasses, and a large open area has been seeded. These species are now reproducing naturally have spread to cover a larger area than originally planted.

Species composition includes Big Bluestem (*Andropogon gerardii*), Indiangrass (*Sorgastrum nutans*), Virginia Mountain Mint (*Pycnanthemum virginianum*), Kentucky Bluegrass, and Redtop (*Agrostis gigantea*). There are several scattered young Red Maples creating a sparse canopy (1-10% coverage, 2-10 m tall).

Dry-fresh Deciduous Forest (FOD4)

An old field has succeeded into a deciduous forest. The canopy is dominated by Black Locust (*Robinia pseudoacacia*), with Black Walnut (*Juglans nigra*) as an associate.

Manicured Parkland (Manicured)

There are several treed manicured areas within the site. These areas had large, 25 m tall, Weeping Willow and Freeman's Maple covering >60% of the area. The ground was mowed grass.