

Current Study - Train Storage Facility Environmental Project Report Addendum

Between 2009 and 2010, following MOE approval of the Yonge Subway Extension TPAP, the TTC reviewed the Yonge Subway rail yard requirements to the year 2030 and recognized a need for a 14-car Train Storage Facility (TSF) in the vicinity of the Richmond Hill Centre. This facility would allow for overnight storage, light cleaning and repairs of the trains. Three alignment alternatives were developed for detailed assessment. The preferred option includes three, side-by-side underground train tracks located west of the surface CN / GO rail tracks and extending 831 m from just north of High Tech Road to the north section of Coburg Crescent. At the north end of the TSF are above ground features including a utility building that provides access to the underground tracks and a parking lot with 25-30 spaces. This option would require a subsurface easement to address encroachment on the current CN right-of-way.

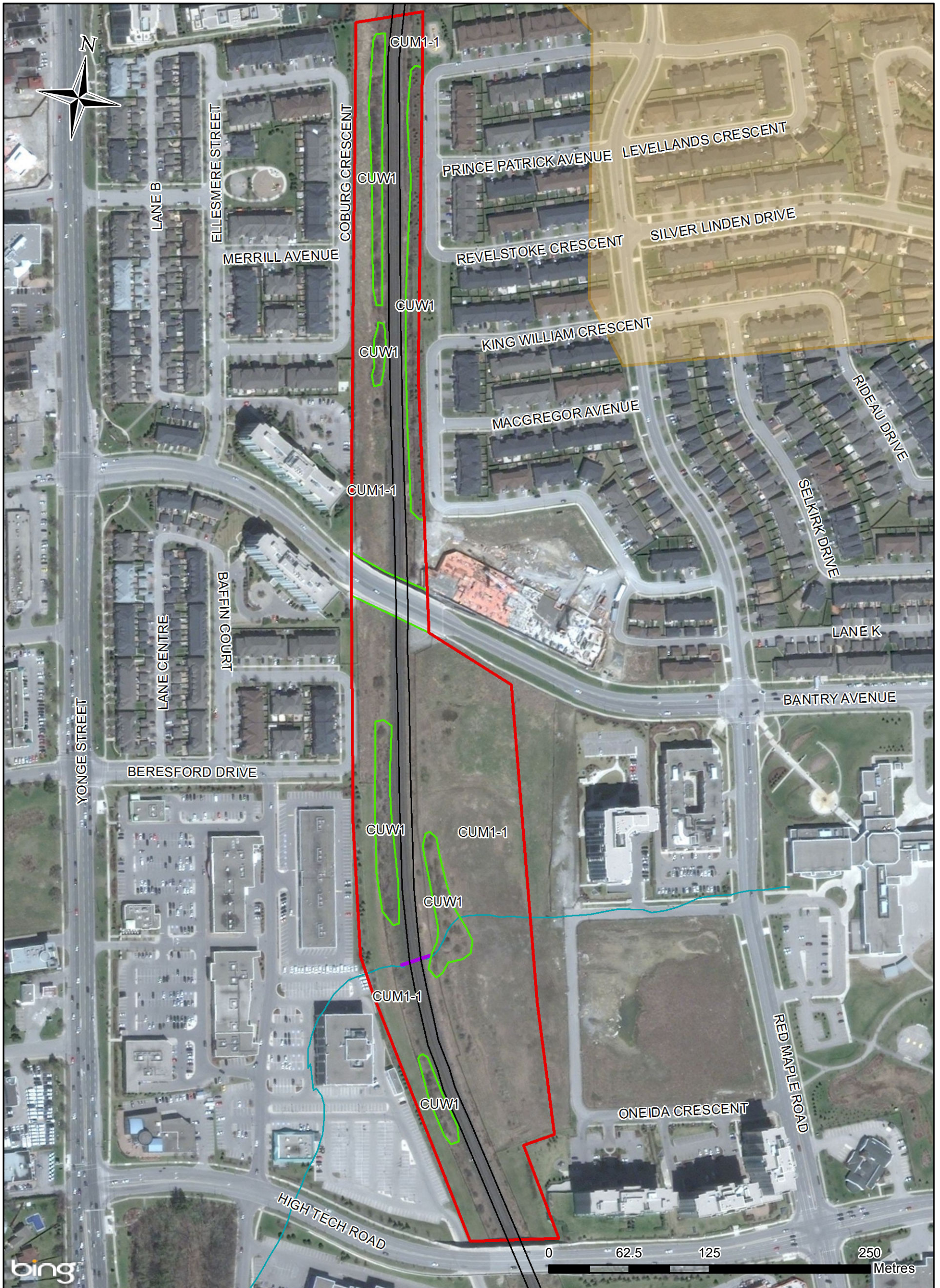
The addition of the TSF to the Yonge Subway Extension plan warranted the preparation of an Environmental Project Report Addendum. This memo updates the natural environment section of the 2009 EPR to address the addition of the TSF and associated impacts.

Background Information and Existing Conditions

The study area for the 2009 Natural Environment Report was approximately 500 m on either side of Yonge Street between Finch Avenue and Carrville Avenue/16th Avenue. A report completed by LGL Limited in 2005 provided background information for the 2009 Natural Environment Report. Field surveys carried out in support of the 2009 Natural Environment Report on October 9, 2008 provide an update to surveys conducted by LGL in 2003. These surveys occurred on lands generally within 100 m of Yonge Street (MMM Group, formerly Ecoplans, 2009).

No Species at Risk (SAR) were observed within the TPAP study area during the 2003 and 2008 surveys. Much of the vegetation identified was anthropogenic in origin and the communities observed included cultural meadow, cultural woodland, coniferous plantation, deciduous plantation, and two types of lowland deciduous forest. The plant species list resulting from the 2003 and 2008 field surveys included 177 plant species, 20 of which were considered uncommon, rare or species of concern in the Greater Toronto Area, York Region or TRCA (Ecoplans 2009). Results of the 2003 and 2008 surveys for wildlife reported habitat suitable for species tolerant of human disturbance. A total of 13 mammal species and 37 bird species were observed in between 16th Avenue and Steeles Avenue during the 2003 surveys. Twelve of the birds were considered local species of concern. There were records of Species at Risk (SAR) designated under the provincial *Endangered Species Act (ESA)* and federal *Species at Risk Act (SARA)* including Redside Dace (*Clinostomus elongates*), Northern Brook Lamprey (*Ichthyomyson fossor*) and Milksnake (*Lampropeltis triangulum triangulum*) in the vicinity of the study area, but not within it.

M:\Ecology Group\Jobs\2013\3277670.000.800.091 - Yonge-Hwy 7 Addendum\Mapping\MXD\2013 05\Figure 1 - ELC Communities.mxd



Legend

- Study Area
- ELC Communities
- Floodline (Approximate Location)
* based on TRCA Flood Plain Mapping Program - 2010-06-28
- Rail Corridor
- Pomona Mills Creek (Underground Pipe)
- Culvert

ELC Code

- CUM1-1 Dry - Moist Old Field Meadow Type
- CUW1 Mineral Cultural Woodland Ecosite

Client: **TORONTO TRANSIT COMMISSION AND YORK REGION RAPID TRANSIT CORPORATION**

Title: **Yonge Subway Train Storage TPAP Addendum Natural Environment Features**

Prepared by: **MMM GROUP**

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Scale as Shown

Review: PM

Date: May 2013

Figure: 1

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Barn Swallow (*Hirundo rustica*), a species that was subsequently designated a SAR (Threatened), was observed outside the TPAP study area during the LGL surveys (Ecoplans 2009).

This memo has been prepared using information from the 2009 Natural Environment Report as context: For this update, a review of provincial (MNR's Natural Heritage Information Centre [NHIC] database), regional and local on-line data; and site-specific field surveys (2013) were carried out. An effort was made during the 2013 surveys to remain cognizant of uncommon or rare species, or species of concern, found in the 2009 Natural Environment Report study area. Field observations were limited to vegetation discernible when viewed from the edge of the rail right-of-way (ROW). Incidental wildlife and wildlife signs seen during the vegetation surveys were noted. The study area adopted for this Addendum (Study Area) is a 50 to 100 m wide corridor between High Tech Road and the northern extent of Coburg Crescent (Figure 1). Updated information on SAR and designated natural areas in the vicinity of the Study Area was requested from the Aurora District Office of the Ministry of Natural Resources on May 16, 2013 and a response is pending.

Designated Natural Areas

According to the NHIC database, there are no Provincially Significant Wetlands (PSW), Areas of Natural and Scientific Interest (ANSI), Ecologically Sensitive Areas (ESA) or other designated natural areas within 1 km of the TSF. The Study Area does not fall within the regulated limits of TRCA's Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (TRCA 2010), or within the Greenlands System of York Region (York Region 2013).

Vegetation Communities and Species

Vegetation surveys were carried out on May 21 and 22, 2013. The Study Area contains natural habitat within the rail corridor and in the southeast quadrant, outside the rail corridor where there is open space. Elsewhere outside the rail corridor is private property, which includes warehouses and commercial properties that have some manicured lawn with planted trees. Vegetation communities within the habitat include cultural woodland and cultural meadow, which are described below and displayed in Figure 1.

CUW1: Mineral Cultural Woodland

This ecosite occurs as a narrow band along the east and west sides of the rail tracks and the dominant species vary. The westerly CUW unit contains a row of Black Walnut (*Juglans nigra*) that dominates the canopy, with occasional Green Ash (*Fraxinus pennsylvanica*) and Manitoba Maple (*Acer negundo*). A species of honeysuckle (*Lonicera sp.*) dominates the understory. The canopy of the easterly CUW unit, is dominated by a row of Black Locust (*Robinia pseudo-acacia*) and Siberian Elm (*Ulmus pumila*), while a species of honeysuckle dominates the understory. North of Bantry Avenue, Green Ash is the dominant canopy species on both sides of the track, occurring with an understory of scattered Choke cherry (*Prunus virginiana var. virginiana*) and honeysuckle species on the east side, and with abundant English Hawthorn

(*Crataegus monogyna*), Buckthorn (*Rhamnus cathartica*) and Green Ash on the west side. Nearing the north end of the Study Area, on the west side of the track, American Elm (*Ulmus americana*) becomes abundant in the canopy. On the east side in this area are about 15 Eastern Red Cedar (*Juniperus virginiana*) and one White Spruce (*Picea glauca*), and on the west side, another Eastern Red Cedar. Ground flora species in this narrow community are the same as those occurring in the surrounding meadow, described below. There are also scattered Riverbank Grape (*Vitis riparia*), Garlic Mustard (*Alliaria petiolata*) and European Swallow-wort (*Cynanchum rossicum*) in this woodland.

CUM1-1: Dry-Moist Old Field Meadow

The cultural meadow is dominated by Reed Canary Grass (*Phalaris arundinacea*) and Kentucky Bluegrass (*Poa pratensis ssp. pratensis*). Canada Goldenrod (*Solidago canadensis*) is scattered through much of this area and in some areas forms large dense patches. Dense European Swallow-wort lines the rail track north of Bantry Avenue but is not apparent along the track south of Bantry Avenue. Herbaceous species within this ecosite included Canada Thistle (*Cirsium arvense*), Common Milkweed (*Asclepias syriaca*), Tufted Vetch (*Vicia cracca*), Common Mullein (*Verbascum thapsus*), Common Teasel (*Dipsacus fullonum*), Queen Anne's Lace (*Daucus carota*), and Black Medic (*Medicago lupulina*). Trees and shrubs scattered through the cultural meadow in the open space area and the rail corridor ROW include Manitoba Maple, Eastern Cottonwood (*Populus deltoides ssp. deltoides*), Staghorn Sumac (*Rhus typhina*), Red-osier Dogwood (*Cornus sericea*), Russian Olive (*Elaeagnus angustifolia*) and species of hawthorn and honeysuckle. Small patches of cattail were observed in the railside ditches.

Wildlife

European Starlings (*Sturnus vulgaris*), Rock Doves (*Columba livia*) and House Sparrows (*Passer domesticus*) were observed possibly nesting under the High Tech Road and Bantry Avenue bridges. Other birds observed and/or heard included Red-winged Blackbird (*Agelaius phoeniceus*), Mourning Dove (*Zenaida macroura*), American Robin (*Turdus migratorius*), Common Grackle (*Quiscalus quiscula*), Baltimore Oriole (*Icterus galbula*); Mallard (*Anas platyrhynchos*), Northern Mockingbird (*Mimus polyglottos*) and Gray Catbird (*Dumetella carolinensis*). Two common butterfly species, one Spring Azure (*Celastrina lucia*) and one Cabbage White (*Pieris rapae*), were encountered in the cultural meadow. No mammal species were observed during the survey.

Fish and Fish Habitat

Pomona Mills Creek crosses the Study Area from east to west before it flows outside of the rail ROW to the west and then flows south to join with the East Don River. The channel is piped through the Study Area. A surficial drainage feature appears to remain on site and may take some local surface runoff, which then flows through a culvert beneath the rail line. This feature does not appear to provide either direct or indirect fish habitat. The creek is designated as coldwater (Ecoplans 2009), but does not provide direct fish habitat. If the piped watercourse

still provides coldwater inputs to downstream it may be identified as providing indirect fish habitat.

Species at Risk

No TRCA species of concern were recorded within the Study Area (TRCA 2009). An NHIC search on May 1st, 2013 revealed four provincial species records within about 1 km of the Study Area, including one SAR (Redside Dace, Endangered, last observed May 23, 2000) and three provincially rare wildlife species including one salamander and two dragonflies. Two of the three, Jefferson X Blue-spotted Salamander (Jefferson genome dominates) (*Ambystoma hybrid pop. 1*), last seen in 1978, and Painted Skimmer (*Libellula semifasciata*) are considered imperiled (S2) and the other, Green-striped Darner (*Aeshna verticalis*), is considered vulnerable (S3). A SAR update will be added once additional information is received from MNR. During the 2013 surveys, four species of significance were observed including Eastern Red Cedar (uncommon in Greater Toronto Area and Region of York [Varga et al. 2000]); White Spruce and Gray Catbird (TRCA species of concern); and Northern Mockingbird (Bird Studies Canada species of conservation priority [Couturier 1999]). The Northern Mockingbird is also regarded as provincially uncommon (NHIC 2013).

Impact Assessment

Underground portions of the YSE will be constructed using tunnelling with the tunnel ingress point located at Richmond Hill Centre in the middle of a parking lot. The TSF, however, will be constructed using cut-and-cover construction. Underground structures include the track, and infrastructure services to support the utility building and staff parking lot. Two emergency exit buildings (EEBs) are proposed; one located in the storage facility parking lot and the other beyond the storage facility in a manicured area beyond the rail ROW just south of Coburg Crescent. The surface portions of these structures will therefore not impact natural vegetation communities. Construction of the utility building and staff parking lot would result in the removal of approximately 2000 m² of cultural meadow in the northwest corner of the Study Area. Vegetation to be removed includes common species, many of which are invasive. No plants observed that are considered uncommon, rare or species of concern in Ontario, Greater Toronto Area, York Region or TRCA are within the vegetation clearing zone.

The NHIC records of four provincially significant species (Redside Dace, Jefferson X Blue-spotted Salamander (Jefferson genome dominates), Painted Skimmer and Green-striped Darner) were probably derived from the vicinity of German Mills Creek owing to the aquatic habitat requirements of these species. The likelihood of encountering them in the Study Area is low to nil. The two SAR recorded outside the study area, Barn Swallow and Milksnake, were not observed during the 2013 surveys and are unlikely to occur within the small, urbanized habitat of the Study Area. Impacts to existing wildlife, which are accustomed to dense urban conditions with high levels of noise and light, are expected to be minimal. If construction occurs during the bird breeding season, it may interrupt or curtail nesting efforts.

Pomona Mills Creek as it travels through the study area is contained within a pipe. Therefore it is expected that there will be no interaction between the piped watercourse and the below ground tunneling for the storage facility. The local surficial drainage feature does not appear to provide either direct or indirect fish habitat as it likely contains negligible amounts of water. Tunnelling effects on this surface drainage feature that could occur as the result of a “frac out” is expected to be negligible.

Final Implications/Next Steps

Impacts associated with the TSF are similar to ones described in the 2009 Natural Environment Report and mitigation measures outlined in that report are appropriate for this EPR Addendum. Zones to be cleared of vegetation will be clearly delineated to minimize vegetation impacts and avoid incidental impacts from temporary stockpiling, debris disposal and site access. Since this project is an action undertaken by municipalities, no permit for tree removal will be required under the Town of Richmond Hill’s tree preservation by-law (By-law No. 41-07, Article 3.8).

Vegetation clearing will be conducted outside the breeding bird season (May 1st to July 31st) to avoid removal or destruction of active bird nests and remain consistent with the *Migratory Birds Convention Act (MBCA)*. An avian biologist will conduct a nest survey if vegetation removal is proposed during this period. Wildlife of any species incidentally encountered during construction will not be knowingly harmed. With SAR, locally or regionally rare species not expected in the Study Area, no species-specific measures are proposed.

Groundwater flow to nearby watercourses (East Don River and Pomona Creek) is expected to be maintained at environmentally acceptable levels through dewatering and groundwater inflow measures, and contingency plans developed through additional investigations, detailed design, and continued consultation with the TRCA and MOE regulatory agencies (Ecoplans 2009). It is anticipated that these measures will adequately mitigate groundwater impacts from storage facility construction.

Erosion and sediment impacts from the TSF will be addressed as part of a comprehensive strategy for the entire Yonge Subway Extension project developed during detailed design to meet the requirements, guidelines and design standards provided in TRCA’s 2006 Erosion and Sediment Control Guidelines for Urban Construction.

Impacts from the TSF are expected to cause temporary disturbance that can be managed using appropriate mitigation and restoration measures to be refined based on the final design details. Where there is provincial or federal interest, all works will be completed in accordance with applicable legislation including, but not necessarily limited to, the *Fisheries Act*, *MBCA*, *ESA* and *SARA*.

References:

- Couturier 1999. Conservation Priorities for the Birds of Southern Ontario. Unpublished Bird Studies Canada Report. 17 pp (plus appendices).
<http://www.bsc-eoc.org/conservation/priorlists.html>
- Ecoplans (Limited) 2009. Natural Environment Report. Yonge Subway Extension Conceptual Design and Functional Planning Study. Prepared for York Region Rapid Transit Corporation.
- NHIC 2013. Natural Heritage Information Centre Biodiversity Explorer. Ontario Ministry of Natural Resources. Accessed May 1, 2013.
- TRCA 2009. Don River Watershed Plan - Beyond Forty Steps. Toronto Region Conservation.
<http://www.trca.on.ca/dotAsset/55397.pdf>
- TRCA 2010. T.R.C.A. Flood Plain Mapping Program. Toronto Region Conservation. June 28, 2010.
- TTC-YRRTC (Toronto Transit Commission-York Region Rapid Transit Corporation) 2009. Yonge Subway Extension – Finch Station to Richmond Hill Centre Environmental Project Report. Transit Project Assessment.
- TTC-YRRTC 2012. Yonge Subway Extension Conceptual Design Services. Contract Y85-9. Conceptual Design Report – FINAL March 2012. McCormick Rankin - Hatch Mott MacDonald Joint Venture. Chapter 13.
- Varga, Steve, et al. 2000. Distribution and Status of the Vascular Plants of the Greater Toronto Area. Ontario Ministry of Natural Resources, Aurora District.
- York Region 2013. York Region Official Plan Package - January 14, 2013.
<http://www.york.ca/Departments/Planning+and+Development/Long+Range+Planning/ROP.htm>

Appendix A

Train Storage Facility Lands Plant List (Surveyed May 21-22, 2013)

Common Name	Latin Name	CUW1	CUM1-1
Manitoba Maple	<i>Acer negundo</i>	X	X
Garlic Mustard	<i>Alliaria petiolata</i>	X	
Burdock species	<i>Arctium sp.</i>		X
Common Milkweed	<i>Asclepias syriaca</i>		X
Yellow Rocket	<i>Barbarea vulgaris</i>		X
Weeping Birch	<i>Betula pendula</i>	X	
Smooth Brome	<i>Bromus inermis</i>		X
Canada Thistle	<i>Cirsium arvense</i>		X
Red-osier Dogwood	<i>Cornus sericea</i>	X	X
English Hawthorn	<i>Crataegus monogyna</i>	X	
Hawthorn Species	<i>Crataegus sp</i>		X
European Swallow-wort	<i>Cynanchum rossicum</i>	X	X
Queen Anne's Lace	<i>Daucus carota</i>		X
Common Teasel	<i>Dipsacus fullonum</i>		X
Russian Olive	<i>Elaeagnus angustifolia</i>		X
Green Ash	<i>Fraxinus pennsylvanica</i>	X	X
Black Walnut	<i>Juglans nigra</i>	X	X
Eastern Red Cedar	<i>Juniperus virginiana</i>	X	
Butter-and-eggs	<i>Linaria vulgaris</i>		X
False Gromwell	<i>Onosmodium virginianum</i>	X	
Honeysuckle species	<i>Lonicera sp.</i>	X	X
Apple species	<i>Malus sp.</i>	X	
Black Medic	<i>Medicago lupulina</i>		X
Reed Canary Grass	<i>Phalaris arundinacea</i>	X	X
White Spruce	<i>Picea glauca</i>	X	
Colorado Spruce	<i>Picea pungens</i>	X	
Kentucky Bluegrass	<i>Poa pratensis ssp. pratensis</i>	X	X
Balsam Poplar	<i>Populus balsamifera ssp balsamifera</i>		X
Eastern Cottonwood	<i>Populus deltoides ssp. monilifera</i>		X
Quaking Aspen	<i>Populus tremuloides</i>	X	
Chokecherry	<i>Prunus virginiana var. virginiana</i>	X	X
Buckthorn	<i>Rhamnus cathartica</i>	X	X
Staghorn Sumac	<i>Rhus typhina</i>	X	X
Black Locust	<i>Robinia pseudo-acacia</i>	X	
Rambler Rose	<i>Rosa multiflora</i>	X	
Red Raspberry	<i>Rubus idaeus</i>		X
Black Willow	<i>Salix nigra</i>	X	
Canada Goldenrod	<i>Solidago canadensis</i>	X	X

Common Name	Latin Name	CUW1	CUM1-1
Common Dandelion	<i>Taraxacum officinale</i>		X
American Basswood	<i>Tilia americana</i>	X	
Broad-leaf Cattail	<i>Typha latifolia</i>	X	
Narrow-leaved Cattail	<i>Typha angustifolia</i>	X	
American Elm	<i>Ulmus americana</i>	X	
Siberian Elm	<i>Ulmus pumila</i>	X	X
Common Mullein	<i>Verbascum thapsus</i>		X
Tufted Vetch	<i>Vicia cracca</i>		X
Riverbank Grape	<i>Vitis riparia</i>	X	