

December 18, 2012 BEL 211289

Ms. Stacia Muradali
Planning and Urban Design Department
City of Markham
101 Town Centre Blvd
Markham ON L3R 9W3

Re: Revised Scoped Environmental Impact Study for Stargrande Custom Homes Corp.

Dear Ms Muradali:

At the request of Markham Council, a peer review of the original Scoped Environmental Impact Study (EIS) prepared for Stargrande Custom Homes Corp. for the property at 6330 16<sup>th</sup> Avenue in the City of Markham, prepared by Beacon Environmental (January 2012) was completed by AECOM. This peer review, submitted to the City on December 11, 2012, **concluded that the 10 m buffer applied to the top of bank between the proposed development and Swan Lake is an appropriate buffer**.

Notwithstanding that the peer review supported the conclusion of the Scoped EIS, the Peer Reviewer suggested that Beacon Environmental address the following comments:

- 1) A clear statement indicating that the Species at Risk and their habitat are not present on the site (e.g., Butternut, Bobolink) and a brief explanation of how this as determined (e.g., through field reconnaissance and NHIC [Natural Heritage Information Centre] search);
- 2) A brief explanation for why Swan Lake is not considered significant wildlife habitat for waterfowl stopover and staging;
- 3) A brief description of the sensitivity of fish habitat in Swan Lake; and
- 4) Mitigation measures specifying that native plants should be used for additional plantings and landscaping within the open space buffer, and that disturbed areas should be re-vegetated as soon as possible.

Each of these comments has been fully addressed in Section 4 (items 1-3) and Section 6.1 (item 4) of Beacon's revised Scoped EIS, dated December 2012. A summary of these responses is provided below.



- 1) Species at Risk The most likely Species at Risk to occur in northeast Markham include three grassland/open country bird species: Bobolink, Eastern Meadowlark, and Barn Swallow; Redside Dace, which resides in cool-water streams; and Butternut, a tree often found in hedgerows. An assessment of the likelihood that the subject property provides habitat for these species was conducted. The companion tree report prepared by Schollen & Company (2011) did not record any Butternut on-site and the absence of any cool-water creeks and appropriate nesting structures precludes the possibility that Redside Dace and Barn Swallow, respectively, are using the subject property. The old field meadow that covers the majority of the site does not provide suitable habitat for Bobolink or Eastern Meadowlark, as it is too overgrown and too small in size (approximately 1.6 ha) to provide adequate nesting and foraging habitat for either of these species. This old field is located in a highly urbanized area and is surrounded by roads and residential development. These grassland species are typically found in much larger hayfields in an agricultural, not urban, matrix.
- 2) The Province recommends that an evaluation of Significant Wildlife Habitat be triggered by the planning authority only when lands proposed for development are located <u>beyond</u> the boundary of a settlement area, as defined by the PPS (OMNR 2010). The proposed development is within the urban boundary of the City of Markham and would, therefore, not trigger such an evaluation. Notwithstanding this, there are no portions of the subject property that satisfy the OMNR's criteria to be considered Significant Wildlife Habitat.
- 3) The lake feature is a man-made pond (former gravel pit) with no connections to natural aquatic features. The Toronto and Region Conservation Authority has confirmed that it is not regulated fish habitat. This feature likely provides habitat for common, warmwater, highly tolerant fish species that are found in many stormwater management ponds throughout the Greater Toronto Area. Notwithstanding this, no stormwater runoff from the proposed development will enter the lake and there are no activities associated with the undertaking that are expected to adversely impact the fish that might inhabit the lake.
- 4) The recommendation for plantings in the buffer area has been updated to specify that only native plant material should be used.

We trust that the updated EIS submission, revised with the above summarized comments, adequately addresses the Peer Reviewer and any concerns of Markham staff and Council.

Yours truly,

**Beacon Environmental** 

Donald M. Fraser, M.Sc.

Dues

Principal



GUIDING SOLUTIONS IN THE NATURAL ENVIRONMENT

# Scoped Environmental Impact Study Stargrande Custom Homes Corp.

**Town of Markham** 

Prepared For:

**Greenpark Homes** 

Prepared By:

**Beacon Environmental** 

Date: Project:

December 2012 211289



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#### 1 Introduction

Beacon Environmental has been retained by Greenpark Homes to undertake an Environmental Impact Study (EIS) for a proposed residential development adjacent to Swan Lake. The subject property is approximately 4.17 hectares (10.3 acres) in area and is located on the northeast corner of Williamson Road and 16<sup>th</sup> Avenue in the Town of Markham, Regional Municipality of York (**Figure 1**).

The Town of Markham requires completion of an EIS to confirm an ecologically appropriate buffer of Open Space between the proposed development and the adjacent lake feature, which is identified by the Town in the Official Plan as an Environmental Protection Area (EPA).

The purpose of this report is to provide a background review and description of the physical and ecological characteristics, their functions, significance and the sensitivity of the portion of the subject property adjacent to Swan Lake. The study was completed through a review of background documents and field investigations undertaken in 2011. These data were used in an analysis of natural heritage functions and features and confirmed against the Provincial Policy Statement (2005) and the Official Plans of the Regional Municipality of York and Town of Markham.

This EIS presents the proposed development concept, identifies potential impacts and recommends appropriate mitigation measures for any features that may be impacted. This EIS also recommends an appropriate buffer width to protect the adjacent EPA and its ecological functions.

#### 2 Policy Context

#### 2.1 Provincial Policy Statement

Policy 2.3 of the Provincial Policy Statement (PPS) (MMAH 2005) provides direction to municipalities regarding planning policies for the protection and management of natural heritage features and resources. The PPS defines seven natural heritage features, providing planning policies for each. The *Natural Heritage Reference Manual* (OMNR 1999) is a technical document used to help assess the natural heritage features listed below:

- significant wetlands;
- the habitat of endangered and threatened species;
- fish habitat:
- significant woodlands;
- significant valleylands;
- significant Areas of Natural and Scientific Interest (ANSIs); and
- significant wildlife habitat.



# Proposed Development

Figure 1

Stargrande Custom Homes Corp.

#### Legend

Subject Property

— Development Plan



First Base Solutions Web Mapping Service 2009 UTM Zone 17 N, NAD 83

0 10 20 40 Meters

1:1,250



Project 211289 December 2012



Each of these features is afforded varying levels of protection subject to guidelines, and in some cases, regulations. Of these features, significant wetlands can be designated either by the Ministry of Natural Resources (MNR) and/or the municipality. Significant habitat of Endangered or Threatened species is approved by MNR if a species is identified on a property through site specific investigation or through existing information. Fish habitat is governed by Fisheries and Oceans Canada (DFO), with Conservation Authorities often acting on their behalf. The identification and regulation of the remaining features is the responsibility of the municipality or other planning authority.

#### 2.2 Regional Municipality of York Official Plan (2008)

The Region of York Official Plan (2008) identifies a Regional Greenlands System. The policies detailed in the plan are intended to identify, protect and restore the System as a permanent resource for the region. Lands designated Greenlands in the Region of York Official Plan are subject to development constraints.

Map 2 of the Region of York Official Plan indicates that the subject property is not part of the regional Greenlands System.

#### 2.3 Town of Markham Official Plan (2005)

The Town of Markham Official Plan identifies land use designations to ensure optimum use of the land for all necessary purposes within the environmental constants, while protecting and encouraging restoration and enhancement of natural features.

The majority of the subject property has been identified on Schedule A of the Town's Official Plan as Urban Residential, although Swan Lake is identified as an Environmental Protection Area (EPA). On Schedule I – Environmental Protection Areas an area of Open Space has been mapped between the EPA and the residential area. Swan Lake is identified as a Locally Significant Area Complex (LSCA) known as Reesor Pond/Swan Lake. Also identified on Schedule I are the hedgerows along the north and west property boundaries.

Section 2.2.2.4 "Environmental Protections Areas" of the Official Plan states that each EPA is subject to the buffer requirements of Section 2.2.2.9. Section 2.2.2.9 g) prescribes minimum buffers for an LSAC area in accordance with the following subsections: f) woodlots; c) valleylands; and h) wetlands. Generally, this buffer is a minimum of 10 m from each of these features but may be adjusted based on the results of an Environmental Impact Study. Section 2.2.2.9 m) states that, where an approved Secondary Plan has been adopted prior to the approval of Official Plan Amendment No. 52 (as is the case here), the buffering requirements within the Secondary Plan shall prevail.

Permitted uses for Open Space areas include pedestrian walkways and links (Section 3.9).



#### 2.4 Town of Markham OPA 17 - Swan Lake Secondary Plan (1995)

Schedule AA – Detailed Land Use of the Swan Lake Secondary Plan, designates the Lake as Open Space – Environmentally Significantly Area and the adjacent subject property as Medium Density (Area I) Housing. The Lake is also identified as a former waste disposal site. OPA 17 states that "it is the intent of the Secondary Plan to establish a public edge to the lake permitting full public access and continuous pedestrian movement" within the Open Space area adjacent to Swan Lake (Section 4.4.1) Section 4.4.2 b) of OPA 17 states that, if an EIS is required it "must be completed in accordance with Section 2.2.3 e) of the Official Plan". This Section of the Plan applies only to lands outside the Urban Development Boundary, and therefore does not apply to the subject property.

Section 4.4.1e) of OPA 17 states that the "limit of development surrounding [Swan Lake] will be based on one or more of the following requirements:

- i) Regional Storm Floodline
- ii) Potential erosion or bank failure limit
- iii) Riparian and near shore habitat limits
- iv) The recommendations of the Environmental Impact Study as provided for in Section 4.4.2(b)"

It should be noted that Section 4.4.1 e) of OPA 17 also states that "all development, regardless of type, shall be set back from the edge of the lake in accordance with the development limit determined through an Environmental and Stormwater Management Study (ESMS)".

## 2.5 Town of Markham Environmental Policy Review & Consolidation Background Report and Policy Framework (2009)

The Town of Markham has undertaken the Environmental Policy Review and Consolidation in order to ensure that the environmental and open space policies of the Town are in conformity with the existing Provincial and Conservation Authority policies. It is also intended that the study will develop a strategy that will provide the basis for land use planning in environmental and open space areas over the long term.

The study has developed a Natural Heritage Network that includes a network of lands that include natural heritage features which warrant protection. Section 1.B.2 outlines the process that was used for developing the Natural Heritage Network (NHN). Swan Lake and the associated row of trees on the eastern property boundary fall within the Natural Heritage Network of the Greenway System.

The study currently has no status, but will likely be incorporated during the Town of Markham Official Plan Review. Policies, as they relate to the NHN, would be addressed at that time.



#### 2.6 Endangered Species Act (2007)

Ontario's new *Endangered Species Act, 2007 (ESA)* came into effect on June 30, 2007 and replaced the former 1971 Act. Under the new *ESA* there are 183 species in Ontario that are identified as extirpated, endangered, threatened, or of special concern. Each of these species is afforded different levels of protection under the *ESA*.

#### 3 Methodology

#### 3.1 Background Review and Field Reconnaissance

Background information pertaining to the natural and physical setting of the subject property was gathered and reviewed at the outset of the project. These information sources included:

- Toronto and Region Conservation Authority (TRCA) resource information;
- Ministry of Natural Resources' Natural Heritage Information Centre (NHIC) rare species database;
- Town of Markham Official Plan (2005);
- OPA 17 Swan Lake Secondary Plan (1995)
- Region of York Official Plan (2008); and
- Town of Markham Environmental Policy Review and Consolidation (2008).

Other sources of information, such as aerial photography and topographic maps, and surveyed limits of the water's edge and top of bank of the shoreline were also consulted.

Field reconnaissance was undertaken in September 2011 to assess the portion of the subject property that is adjacent to Swan Lake.

#### 4 Existing Conditions

The subject property is located adjacent to a former gravel pit that is now an anthropogenicallyderived lake used for recreation and as part of a stormwater management system (but not for the proposed development. A heritage house exists on the property near the southeast corner and will be upgraded and maintained as part of the development.

The top of bank of the lake was surveyed in 2011 and is shown in **Figure 2**, as is the surveyed edge of water and Regional Storm Elevation.

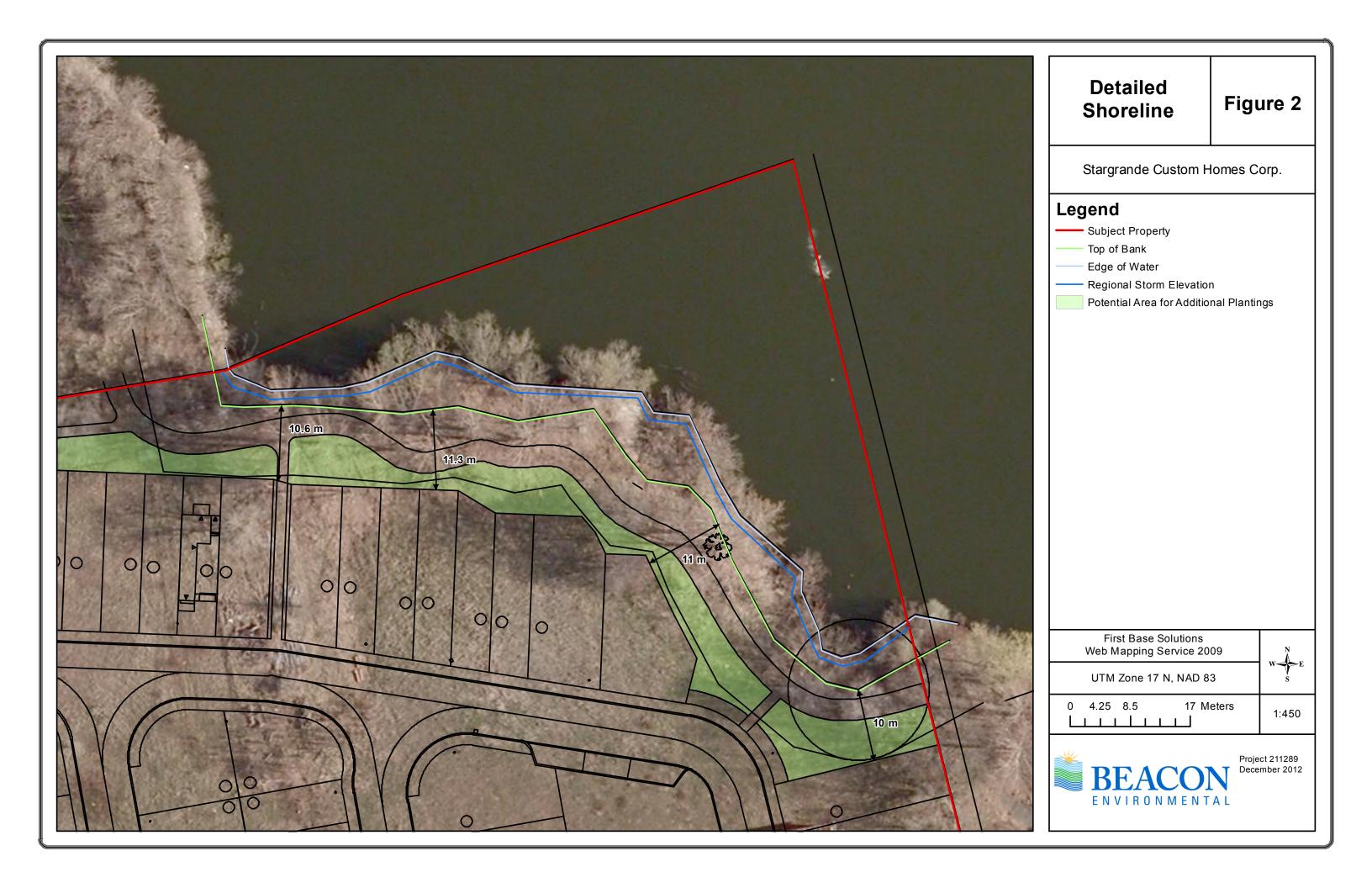


#### 4.1 Vegetation

There are two sparse hedgerows of mostly Black Walnut (*Jugans nigra*) and Manitoba Maple (*Acer negundo*) that run along the northern property boundary and through the middle of the property in a north-south direction. A higher quality hedgerow of Black Walnuts is situated along the eastern property boundary immediately adjacent to the neighbouring retirement complex. The area surrounding the existing heritage house is heavily treed with Norway Spruce (*Picea abies*), a small White Cedar (*Thuja occidentalis*) hedge and more Black Walnut. The remainder of the site consists of a cultural meadow with overgrown grasses and herbaceous weeds. The shoreline consists of low quality vegetation such as Apple trees (*Malus* spp.) and non-native species such as Manitoba Maple and Black Locust (*Gleditsia* spp.). The majority of trees in fair to poor condition will be removed during development (Schollen and Company, 2011).



Photograph 1. Shoreline vegetation







Photograph 2. Tree in poor health, marked for removal

#### 4.2 Significant Wildlife Habitat

The lake acts as a local staging area for migratory waterfowl and common nesting birds and as fish habitat. The Province recommends that an evaluation of Significant Wildlife Habitat be triggered by the planning authority when lands proposed for development are located <u>beyond</u> the boundary of a settlement area, as defined by the PPS (OMNR 2010). The subject property and Swan Lake are located within the urban boundary of Markham, as depicted on Schedule A of the Official Plan as "Urban Residential". Because the subject property is located within a settlement area, an evaluation of Significant Wildlife Habitat is not required in this case.

#### 4.3 Fish Habitat

Swan Lake is not a natural feature and has no aquatic connections to any natural features (i.e., no inlet or outlet). The "lake" was originally a quarry, which has subsequently been "naturalized" and made into the aquatic feature it is today. It is a shallow, warmwater pond located adjacent to residential development and a proposed active park. Although fish surveys were not conducted, and there is no existing information available regarding the fish community in the pond, it is likely inhabited by very common, tolerant warmwater species that are found in most stormwater management ponds in the Greater Toronto Area, such as Pumpkinseed (*Lepomis gibbosus*), Brown Bullhead (*Ameiurus*)



nebulosus), and cyprinids such as Goldfish (*Carassius auratus auratus*) and Carp (*Cyprinus carpio*). The Toronto and Region Conservation Authority (TRCA) do not regulate the lake feature.

#### 4.4 Endangered Species Habitat

Although the original scope of the EIS did not require the completion of a breeding bird survey, an assessment of the likelihood that the subject property provides habitat for endangered or threatened species was carried out. An inquiry was made to the Ontario Ministry of Natural Resources (Aurora District office) as to whether MNR had any records of Species at Risk on the subject property. Confirmation was received on December 11, 2012 that the OMNR has <u>no</u> records of any Species at Risk on or in the vicinity of the subject property, nor are there any natural features of note.

There are several Species at Risk in the GTA that are protected under the provincial *Endangered Species Act* (ESA 2007) which, although listed as provincially Threatened or Endangered, are still quite common in rural areas. The most likely species to occur in northeast Markham include three grassland/open country bird species: Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Dumetella magna*), and Barn Swallow (*Hirundo rustica*); Redside Dace (*Clinostomus elongatus*), which resides in cool-water streams; and Butternut (*Juglans cinerea*), a tree often found in hedgerows.

In the opinion of Beacon Environmental, none of the above Species At Risk occur on the subject property, nor is habitat for these species present. The companion Tree Inventory (Schollen & Company, 2011) did not record any Butternuts on the subject property, and given the lack of any watercourses on the subject property, there is no possibility of the presence of Redside Dace.

There are no barns on the subject property, nor any other structures that may provide nesting habitat for Barn Swallows, as the existing heritage house is fully closed, preventing access for this species.

Bobolink and Eastern Meadowlark are both open grassland species. However, the old -field that occupies the western portion of the subject property is far too overgrown with forbs (e.g., goldenrod, aster) to provide suitable nesting habitat for Bobolink which prefer grassy hayfields and grazed pastureland. The Eastern Meadowlark is a songbird that typically breeds in larger (i.e., > 10 ha) patches of contiguous grasslands or in old fields with tall lush forb vegetation, and has a tolerance for some shrubs. However, the minimum territory size for Eastern Meadowlark is generally 7 to 8 ha, and the species is rarely found in patches smaller than this. The old field on the subject property is only approximately 1.6 ha, well below the minimum size threshold for meadowlark.

#### **5 Proposed Development**

The subject property is located on the north side of 16<sup>th</sup> Avenue and on the east side of Williamson Road. Existing residential development in the form of a retirement community and senior's residence abuts the property to the east, and an empty lot, proposed for a park, abuts the property to the north.



The proposed plan includes 160 residential town homes and 41 visitor parking spaces (**Figure 1**). The development will be accessed to the south from 16<sup>th</sup> Avenue and to the west from Williamson Drive.

The area of open space that will act as a buffer to Swan Lake will contain a 3 m-wide pedestrian trail which will serve as a westerly continuation of the present trail constructed on the adjacent land to the east. The trail system will be constructed in consultation with the Town of Markham, per the requirements set out in the Official Plan.

A Stormwater Management (SWM) and Servicing compliance letter was completed by SCS Consulting Group Ltd. (2011). All stormwater runoff from the proposed development will be conveyed via existing storm sewers to a pre-existing SWM pond located on the west side of Williamson Road, north of 16<sup>th</sup> Avenue. SCS Consulting Group Ltd. concluded that there is sufficient capacity in the existing stormwater infrastructure adjacent to the subject property to accommodate the proposed development. No treated stormwater from this proposed development will be discharged to the lake.

#### 6 Impact Assessment

Background review and field investigations on the subject property did not identify any significant natural heritage features or functions on the subject property. The subject property consists primarily of old field habitat that has been disturbed by human development. The proposed residential footprint will require the removal of vegetation within the cultural meadow community.

While the proposed development will not directly impact the Swan Lake EPA adjacent to the subject property, the potential effects of the proposed residential development could include the following:

- direct loss of tableland vegetation;
- increased run-off from paved surfaces;
- soil compaction;
- garbage/composting in the open space and shoreline areas; and
- trampling and cutting of vegetation.

However, given the small scale of the proposed development, the impacts are anticipated to be minimal. There are several hazard trees within the buffer that have been identified for removal due to their poor health and condition (Schollen and Company 2011). As noted, no stormwater runoff from the developed portion of the property will be directed to the lake. All residential lots backing onto the buffer strip adjacent to the lake will be fenced, thereby eliminating the potential for the extension of rear yards lakeward and associated vegetation removal. Furthermore, with the lots being fenced and a clear demarcation of a buffer zone containing a public trail, there is a reduced likelihood that lawn clippings and other yard waste will be disposed of in the buffer. Soil compaction and vegetation trampling is not expected to be an issue since pedestrian traffic through the buffer will follow the trail.



#### **6.1 General Mitigation Measures**

#### **Buffer to the Swan Lake EPA**

Within the Open Space buffer area to Swan Lake, additional plantings should be incorporated to assist in screening between the rear of residential lots and the pedestrian trail.

The Tree Inventory and Preservation Plan has made provisions for the retention of a number of healthy tree species within this Open Space area, and all necessary protections for mature tree species will be put in place. This EIS recommends supplemental landscaping of low native shrubs and scattered native deciduous trees within that portion of the buffer area between the rear lot fences and the trail. These plantings would provide a visual screen between rear yards and the adjacent trial, as well as an additional ecological benefit. Landscaping of the disturbed areas should be undertaken as soon as possible after construction.

#### **Construction Recommendations**

All construction and development related activities should be confined to the established limit of development.

Construction fencing installed between the rear yards and the edge of the lake should be regularly inspected and maintained in good working order throughout the construction period. If grades need to be re-established, a second silt fence should be placed down slope at the limit of proposed re-grading to ensure that erosion and sediment movement does not occur during construction.

#### **Timing**

The federal *Migratory Bird Convention Act* (1994) protects the nests, eggs and young of most bird species from harm or destruction. As the breeding bird season in southern Ontario is generally from mid-April to mid-July, the clearing of vegetation should occur outside of these periods. For any proposed clearing of vegetation within these dates, or where birds may be suspected of nesting outside of typical dates, an ecologist should undertake detailed nest searches immediately prior to site alteration to ensure that no active nests are present.

The absence of any direct connection to regulated fish habitat precludes the need for the fisheries timing window.

#### **Sediment Control**

Construction works such as grading, grubbing and excavation can cause the movement of sediment into the adjacent water body. As a result, a sediment control plan should be prepared for the



construction phase of the development, prior to the start of construction works to the standard of "Erosion and Sediment Control Guideline for Urban Construction (December 2006)".

Silt fencing should be installed at the top of bank adjacent to the shore of the lake to minimize the potential for any sediment to leave the site during construction. This silt fencing should not be removed until all development work is completed and any exposed soils stabilized.

#### 7 Policy Conformity

#### 7.1 Provincial Policy Statement (2005)

No natural heritage features as outlined by the Provincial Policy Statement were identified on or adjacent to the subject property.

#### 7.2 Endangered Species Act (2007)

No threatened or endangered species as regulated by the *Endangered Species Act* (2007) or their habitats are known to occur on or adjacent to the subject property.

#### 7.3 Regional Municipality of York Official Plan (2008)

The subject property is not part of the Regional Greenlands System.

#### 7.4 Town of Markham Official Plan (2005) and OPA 17 (1995)

The Open Space area adjacent to the EPA is designed to act as a buffer to protect the EPA, in this case, Swan Lake. Typically, as per Section 2.2.2.9 of the Town of Markham Official Plan (2005), a 10 m buffer is applied to most features. In the absence of prescribed buffer widths for an EPA, it is our opinion that a 10 m buffer should be applied to the top of bank of Swan Lake. A 10 m buffer from the top of bank would respect all requirements stated in Section 4.4.1e) of OPA 17, including regional storm floodline, potential erosion and riparian habitat. It should also be noted that with the current development design, a buffer from the top of bank would provide for a minimum of 10 m, but in many areas, the buffer would exceed that width (**Figure 2**).

As all stormwater will be directed off-site to an existing pond situated to the west, so no surface runoff from the developed portion of the property to Swan Lake will occur. Therefore, the buffer area adjacent to the lake will not be required to accommodate any SWM infrastructure such as an outfall structure. Although there will be some natural overland flow from the Open Space area and the proposed trail to the lake, as exists currently, riparian plantings in this buffer area will provide sufficient erosion and sedimentation control.



#### 8 Summary and Recommendations

A background review and field investigations were undertaken on the subject property as part of this development application. An analysis of features and functions was undertaken and potential impacts were identified. During the development of the proposed plan, changes were made to ensure the integrity of the adjacent Environmental Protection Area

A mitigative approach was designed and applied that relied on conformity with existing natural heritage policies and regulations as set out by the Town of Markham.

No intrusion of development or development effects are expected to occur to the Swan Lake EPA as the proposed development has provided a minimum 10 m buffer to the feature, which is in conformity with the existing policies of the Town of Markham. This separation distance will adequately protect the feature and its functions.

Net effects to natural heritage functions and features as a direct result of the proposed undertaking are expected to be limited to the loss of a small number of common or abundant flora and fauna presently using the disturbed cultural meadow that comprises the footprint of the proposed development on the subject property.

#### 9 References

Canadian Wildlife Services. 1994.

Migratory Bird Convention Act.

Greater Golden Horseshoe Conservation Authorities. 2006.

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Regional Municipality of York. 2002.

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Schollen & Company Inc. and Carl Hills Horticultural Services. 2011.

Tree Inventory and Analysis Report and Tree Preservation Plan. Prepared for Stargrande Custom Home Inc. 30 pp.

SCS Consulting Ltd. 2011.

Servicing Compliance Letter. Greenpark, Stargrande. Town of Markham. 5 pp. + attachments.

Report prepared by, **Beacon Environmental** 

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