

Terraprobe

Consulting Geotechnical & Environmental Engineering
Construction Materials Inspection & Testing

September 21, 2023

File No. 3-21-0151-54

Brampton Office

Huntingwood Trails (Collingwood) Ltd.

243 Hurontario Street,
Collingwood, ON

Attention: Mr. Edward Weisz

D4 LANDFILL IMPACT ASSESSMENT UPDATE PART OF LOTS 47, 48 AND 49 CONCESSION 12, TOWN OF COLLINGWOOD, COUNTY OF SIMCOE, ON – EAST PROPERTY

To Mr. Weisz:

Terraprobe Inc. is pleased to provide Huntingwood Trails (Collingwood) Ltd. with a D4 Landfill Impact Assessment Update Letter for the proposed residential subdivision development (East Property) located at 5 Silver Creek Drive, Collingwood, Ontario (the “Property”).

1.0 INTRODUCTION AND BACKGROUND

The Property is located between Highway 26 and the Georgian Trail in the Town of Collingwood, Ontario. The location is legally described as Part of Lots 47, 48, and 49, Concession 12, Town of Collingwood, County of Simcoe, Ontario. The municipal address of the Property is 5 Silver Creek Drive, Collingwood, Ontario. The East Property is an irregularly shaped parcel of approximately 66.8 acres (27 ha) and is mostly undeveloped land covered with natural vegetation, woodland and wetlands (Environmental Protection Area approximately 59 acres (23.9 ha)).

The Property is located within the residential developed areas of Collingwood. It is proposed to be developed as a residential subdivision consisting of detached dwellings and street townhouses on the southern portion of the East Property, with a street connecting the East Property to the West Property. The remaining area is an environmental protection reserve.

The Property is located approximately 350 m northeast of a closed Collingwood Incinerator and Ash Disposal Sites (Site #33 and X4117). The East Property is separated from the landfill sites by the West Property and a landfill contaminant attenuation zone (CAZ).

Terraprobe completed a D-4 Landfill Impact Assessment in January 2011, according to the Ministry of the Environment, Conservation and Parks (MECP) D-4 Guideline.

Greater Toronto

11 Indell Lane
Brampton, Ontario L6T 3Y3
(905) 796-2650 Fax: 796-2250

Hamilton – Niagara

903 Barton Street, Unit 22
Stoney Creek, Ontario L8E 5P5
(905) 643-7560 Fax: 643-7559

Terraprobe Inc.

Central Ontario

220 Bayview Drive, Unit 25
Barrie, Ontario L4N 4Y8
(705) 739-8355 Fax: 739-8369

Northern Ontario

1012 Kelly Lake Rd., Unit 1
Sudbury, Ontario P3E 5P4
(705) 670-0460 Fax: 670-0558

www.terraprobe.ca

The County requires the D-4 Landfill Impact Assessment Update (D-4 Assessment Update) in connection with the application for approval of the proposed development plan. The general location of the East Property is presented in Figure 1, and the Property information is provided below.

2.0 SCOPE OF WORK

The D-4 Assessment Update consists of the following:

- A desktop review of background information for the East Property and surrounding areas, available reports on the landfill prepared for the Town of Collingwood/ County of Simcoe and results of the previous D-4 Assessment report completed by Terraprobe.
- A review of the monitoring and background information associated with the closed landfill, including risks associated with ground water flow direction, methane gas generation, and related environmental issues.
- A detailed site inspection of the East Property and surrounding properties to determine the current condition of the Property and the waste management landfill site. The inspection was conducted on October 20, 2021.

3.0 REVIEW OF PREVIOUS REPORTS

Previously, the following D-4 Assessment was completed for the East Property, as summarized below.

3.1 Landfill Impact Assessment (January 2011)

Report Title	Landfill Impact Assessment, Residential Development, Lots 47, 48 And 49 Concession 12, Town of Collingwood, Ontario
Report Date	January 11, 2011
File No.	3-10-6143
Prepared By	Terraprobe Inc.
Prepared For	Huntingwood Developments Ltd. c/o D.C. Slade Consultants Inc.

- The D-4 Assessment was completed for the Property by Terraprobe in accordance with the Ministry of the Environment, Conservation and Parks (MECP) D-4 Guideline.
- The East Property was undeveloped land covered with vegetation used for cattle pasturing and forested land.
- The landfill site is approximately 190 metres above surface level (masl). Grades fall gently towards Nottawasaga Bay. Silver Creek divides the parcel.
- Both shallow groundwater associated with the sand overburden and deeper groundwater in the bedrock flow towards the north.
- The landfill site (Site #33 and X4117) situated southwest of the Property ceased operation in February 1990. No activity occurred at the site between 1990 and 2004, and the landfill closure

work commenced in 2004. As a part of the closure plan, all the wastes located on Site X4117 were removed and relocated to Site #33 in 2007. In addition, GENIVAR Inc. (GENIVAR) was retained to conduct an annual groundwater and gas monitoring at the site in 2009.

- Based on the reported closure dates of the landfill and the annual report by GENIVAR (2009), methane migration and production was not considered a concern.
- Based on the reported closure dates of the landfills and the annual report by GENIVAR (2009), it is unlikely that any migration of leachate had occurred towards the northeast from the landfills' boundaries within the shallow groundwater in the overburden soil. There is no measurable landfill influence at the perimeter, and natural attenuation within the landfill and attenuation zone is considered adequate.
- Surface water sampling completed by GENIVAR showed no potential impact to the East Property from surface runoff that was associated with the previous landfill waste. GENIVAR reported that the onsite surface water sampling location indicated no exceedances. Offsite water quality samples from Silver Creek at the landfill site complied with the Provincial Water Quality Objectives at the surface water stations except for immobile total phosphorus and iron in two locations located offsite. As such, surface water sampling indicated that there is no potential impact to the East Property from surface runoff associated with the previous landfill waste.
- The East Property was not located on the landfill area and was not prone to differential settlement issues associated with the degradation of loose and/or organic fills. Any future settlement and/or ponding of the landfill area will have no effect on the proposed residential development.
- The proposed development site was protected by an attenuation zone comprised of a significant visual buffer of grass/treed land that separates the East Property from the landfill site.
- Due to its characteristics, the landfill site's closure date and location will not impact the proposed residential development.
- The D4 Assessment concluded that no further investigation is required for the proposed development and that no control measures related to the closed landfill site are required prior to the development of the East Property.

4.0 D4 LANDFILL IMPACT ASSESSMENT UPDATE

4.1 SITE INSPECTION

A visual inspection of the East Property and surrounding area was carried out by Terraprobe staff on October 20, 2021. The site inspection included a walking tour through the East Property, as well as compiling written and photographic records. The majority of the East Property is covered with mature trees (pine, maple, spruce, etc.) and wetlands. Silver Creek flows from south to north through the

southwestern portion of the East Property. There was no snow cover on the East Property at the inspection time, and no stressed vegetation or stockpiled fill material was observed. The landfill site is located southwest of the East Property, and no waste or garbage was observed at the landfill site. The landfill is located at a grade higher in elevation than the East Property and slopes gently down in a north-northeast direction. However, the East Property is located cross-gradient with respect to the landfill. The East Property and adjoining property uses are presented in Figure 1, and Site photographs are provided in Appendix A.

4.2 Surrounding Properties

The surrounding areas were similar to those described in the January 2011 report completed by Terraprobe. The surrounding property uses were:

Direction	Land Uses
North	Highway 26
East	Residential area and Golf course
South	Georgian Trail
West	Agricultural and naturally vegetated lands

4.3 Change from the Previous Assessment

The D4 Impact Assessment completed in January 2011 indicated that the East Property was undeveloped vacant land covered with grass and trees. The latest inspection completed at the East Property in October 2021 indicated the presence of a wooden barn located in the southwestern corner of the adjacent West Property. Other parts of the Property are noted to be of similar condition to those described in the January 2011 D4 Assessment report by Terraprobe.

5.0 DISCUSSIONS

- The Property is currently classified as having two residential zoning areas, one located on the West Property and a small area towards the southeast corner on the East Property, and the majority (approximately 88 of 120 acres) being open environmental protection land covered with trees and wetlands, partly classified as provincially significant. No wastes were observed during the site visit.
- The landfill site is approximately 190 masl and slopes to the north-northeast towards the East Property.

- The East Property is separated from the landfill site by a contaminant attenuation zone (CAZ). The landfill sites are currently unused vacant land, and the attenuation zone is undeveloped grass/treed land.
- According to Terraprobe's 2011 Landfill Assessment, the monitoring associated with the closed landfill sites indicated no measurable influence downgradient of the landfill. Combustible gas is not a concern due to high groundwater tables.
- Terraprobe's understanding is that no further dumping has been permitted since the closure of the landfill in 1990.
- The annual monitoring report by GENIVAR (2009) confirmed that both the production and migration of methane and migration of leachate towards the northeast from the landfills' boundaries within the shallow groundwater in the overburden soil are not a concern to the East Property. Natural attenuation within the landfill and attenuation zone is considered adequate. There were no further monitoring reports available for review at the time of this study.
- Although the D-4 Assessment Area is located cross-gradient of the landfill site, the surface water sampling location upstream of the D-4 Assessment indicated no exceedances. As such, no potential impact is expected from the surface runoff from the landfill site.
- As the D-4 Assessment Area is not directly located on the landfill material, it is not expected to experience any ground settlement that is generally associated with the degradation of loose and/or organic fill material.

6.0 CONCLUSIONS

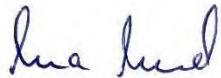
Based on the review conducted with respect to the previous D4 Assessment report detailing the condition and potential impact of the landfill site on the East Property and the previous site inspection of the East Property, the site is not anticipated to pose an environmental risk for the East Property. As such, no further investigation is recommended.

7.0 CLOSURE

We trust this information is sufficient for your present purposes. Should you have any questions concerning the above, please do not hesitate to contact the undersigned.

Yours truly,

Terraprobe Inc.



Muna Mirghani P.Eng.
Project Manager



Samuel Oyedokun, P.Eng, PMP, QP_{ESA}
Associate

Enclosures:

Figure 1 – Site Location Plan

Figure 2 – Landfill Location Plan

Figure 3 – Groundwater Flow Regime

Appendix A – Site Photographs

LIMITATIONS AND TERMS OF USE

This report was prepared for the exclusive use of Huntingwood Trails (Collingwood) Ltd. and is intended to provide D4 Landfill Impact Assessment Update on the Property located at Lots 47, 48 And 49 Concession 12 in the Town of Collingwood Ontario (D4 Assessment Area).

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Terraprobe Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report, including consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The assessment should not be considered a comprehensive audit that eliminates all risks of encountering environmental problems. The information presented in this report is based on information collected during the completion of the D4 Landfill Impact Assessment Update by Terraprobe Inc. It was based on the conditions on the D4 Assessment Area at the time of the site inspection supplemented by a review of historical information to update the D4 assessment, as reported herein.

Sampling and analysis of soil, ground water or any other material was not carried out as part of this assessment. Consequently, the presence and/or extent of any adverse environmental impact cannot be verified. The potential for environmental liability and/or environmental impact is an opinion that has been arrived at within the scope of this update.

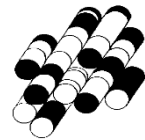
In assessing the environmental conditions/history of the D4 Assessment Area, Terraprobe Inc. has relied in good faith on information provided by others, as noted in this report, and has assumed that the information provided by those individuals is factual and accurate. Terraprobe Inc. accepts no responsibility for any deficiency, misstatement or inaccuracy in this report resulting from the information provided by those individuals.

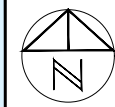
There is no warranty expressed or implied by this report regarding the environmental status of the D4 Assessment Area. Professional judgement was exercised in gathering and analysing information collected by our staff, as well as that submitted by others. The conclusions presented are the product of professional care and competence, and cannot be construed as an absolute guarantee.

In the event that during future work new information regarding the environmental condition of the D4 Assessment Area is encountered, or in the event that the outstanding responses from the regulatory agencies indicate outstanding issues on file with respect to the D4 Assessment Area, Terraprobe Inc. should be notified in order that we may re-evaluate the findings of this update and provide amendments, as required.

ENCLOSURES

Terraprobe Inc.





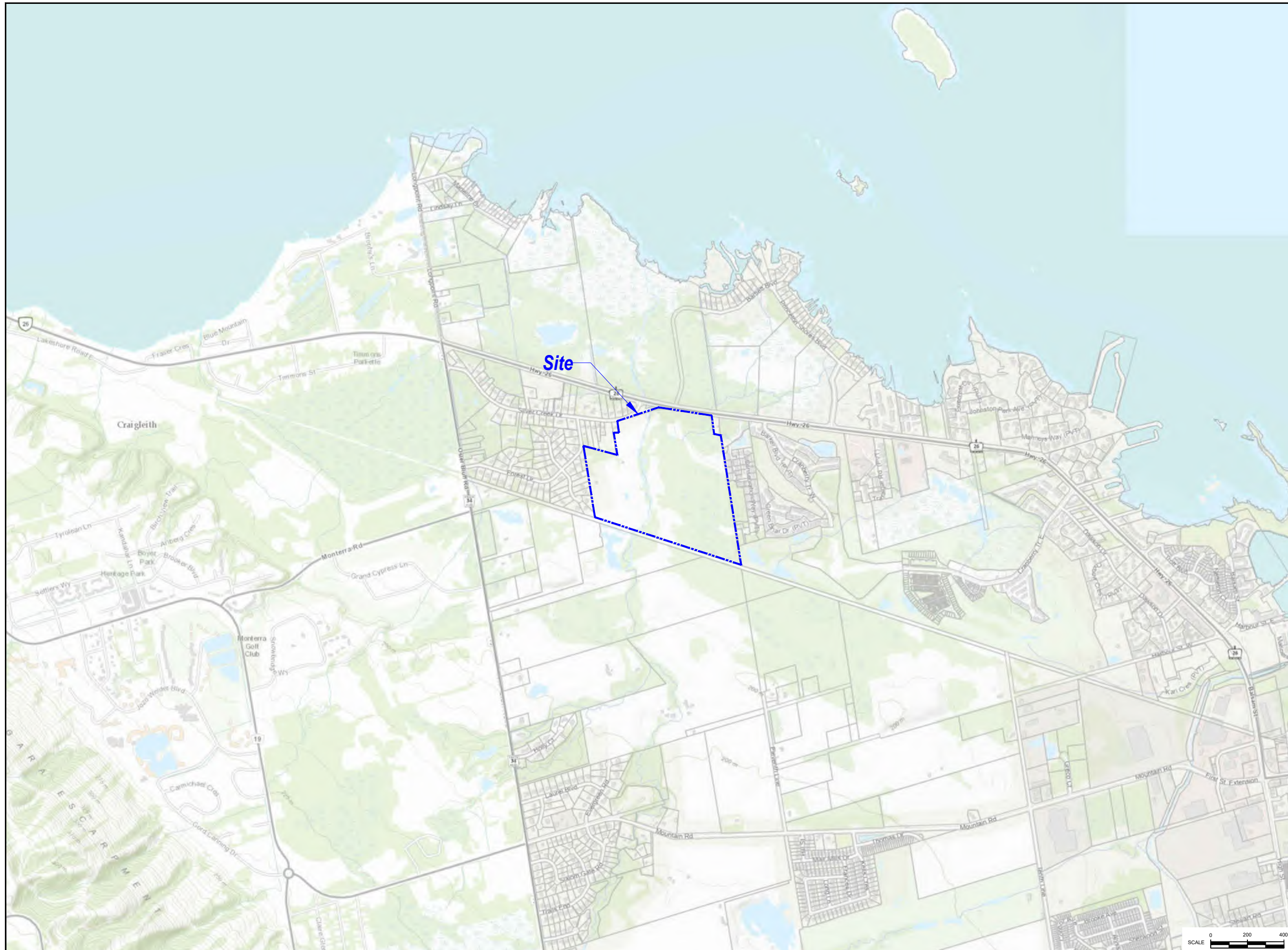
Reference:

Simcoe Interactive Maps

Notes:

Legend:

Site Boundary



Project Title:

Phase One Environmental Site Assessment

Site Location:

Lots 47, 48, and 49, Concession 12,
Town of Collingwood, Ontario

Figure Title:

Site Location Plan

Designed By:

SA

File No.:

3-21-0151-54

Drawn By:

SSK

Scale:

As Shown

Reviewed By:

BW

Figure No.:

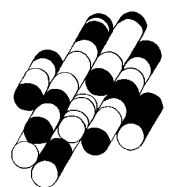
1

Date:

November 2021

APPENDIX A

TERRAPROBE INC.





Photograph 1

Location: 5 Silver Creek Drive,
Collingwood (The Property)

Viewing: South

Description: Viewing South to the property at
5 Silver Creek Drive,
Collingwood



Photograph 2

Location: Site Entrance at 5 Silver
Creek Drive, Collingwood

Viewing: East

Description: Viewing East from Silver
Creek Drive, at the entrance to
the (the Property)



Photograph 3

Location: 5 Silver Creek Drive,
Collingwood

Viewing: South

Description: Viewing Silver Creek at the
north of the Property





Photograph 4

Location: 5 Silver Creek Drive,
Collingwood

Viewing: Northeast

Description: Viewing the barn located at the
west of the Property



Photograph 5

Location: East of The Property

Viewing: North

Description: Viewing the site located at 5
Silver Creek Drive, Collingwood



Photograph 6

Location: Closed Site (Collingwood
incinerator Site#33)

Viewing: Southwest

Description: Viewing Closed landfill located
southwest of the Property





Photograph 7

Location: Monitoring wells at landfill site, southwest of The Property

Viewing: Southwest

Description: Viewing the landfill site, southwest the Property located at 5 Silver Creek Drive, Collingwood

