



Terraprobe

*Consulting Geotechnical & Environmental Engineering
Construction Materials Inspection & Testing*

**LANDFILL IMPACT ASSESSMENT
RESIDENTIAL DEVELOPMENT
LOTS 47, 48 AND 49 CONCESSION 12
TOWN OF COLLINGWOOD,
FORMERLY TOWNSHIP OF NOTTAWASAGA
COUNTY OF SIMCOE, ONTARIO**

Prepared for: Huntingwood Developments Ltd.
c/o D.C. Slade Consultants Inc.
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Attention: Mr. Andrew Pascuzzo, Planner

**File No. 3-10-6143
January 11, 2011
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- Figure 1: Site Location Plan
2: Landfill Location Plan
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EXECUTIVE SUMMARY

Terraprobe was retained to carry out a D4 Landfill Impact Assessment for an approximate 146 acre (59ha) residential land parcel proposed for subdivision development on Lots 47, 48 and 49, Concession 12, Town of Collingwood, County of Simcoe (see Figure 1).

The subject lands are within a 500m zone from a closed landfill site. The subject lands are within approximately 125m of closed Collingwood Incinerator and Ash Disposal Site 33 and Site X4117, (private lands abutting the incinerator/ash disposal site; waste has been relocated to Site #33) within the Town of Collingwood. This site is known as Site 33 and is located on Part Lot 48, Concession 12, Town of Collingwood, County of Simcoe. The site is 10.1 ha, 1.8 ha are licensed for landfilling. A review of the "Closed Collingwood Incinerator and Ash Disposal Site 2009 Annual Monitoring Report" prepared by GENIVAR for the County of Simcoe has provided the following information.

The site commenced operations when the Town of Collingwood obtained the lands in 1968. The landfill site's previous private owner's had used the site as a landfill prior to the Town's ownership. The County took over the landfill site in 1991. The site was then used as an incinerator and ash disposal site in 1970. The Town of Collingwood ceased incinerator operations in 1990. No waste has been accepted at the site since the incinerator operations were ceased.

The site was licensed in 1980 under C of A A250401. Waste located on the previously private owned portions of land (X4117) was removed and relocated to the waste footprint on the designated landfill site in 2007.

No activity had occurred on the site until 2004 when closure works commenced.

The overburden in the area is approximately 2m in depth. Bedrock consists of limestone and shale. Shale is petroliferous/oil shale which is reported to contain soluble petroleum hydrocarbons. The groundwater in the area is therefore, naturally degraded.

Both shallow and deep groundwater is flowing in a northerly direction. Leachate impacted groundwater is also noted to be moving in a northerly direction.



There is no measurable landfill influence at downgradient perimeter monitors except for a possible minor influence at Location 24 (northeastern limit). Please see Figure 3 for GENIVAR's borehole/monitoring well location plan.

Combustible gas was not detected within gas monitors located downgradient of the landfill. Combustible gas is noted to not be of concern due to high groundwater tables and the lack of enclosed structures on/near the waste.

The refuse is approximately 7 - 12m in depth and capped with clay.

An existing residential subdivision is located to the north of the landfill site.

There is a noted downward vertical hydraulic gradient; leachate is noted to migrate into the shallow and deep groundwater table and travel north.

GENIVAR has noted that there is no noted measurable landfill influence at the perimeter monitoring locations; therefore natural attenuation is adequate. The possibility of a minor influence at location 24 has been noted and requires further monitoring. A contaminate attenuation zone (CAZ) is owned by the Town associated with this landfill closure (see Appendix).

The subject lands are located in excess of 570m northwest of closed Simcoe County Landfill No. 2 (Collingwood Landfill). As such, no study is required for this landfill.

The subject lands are also located in excess of 500m northwest of closed historic Landfill Site A25043, located on Lot 44, Concession 9. As such this landfill was also not part of this study. Please see Figure 2 for the Landfill location plan.

This D4 Study has been carried out for Huntingwood Developments Ltd., c/o D. C. Slade Consultants Inc. for lands located at Lots 47, 48 and 49, Concession 12, Town of Collingwood, located approximately 125m from closed incinerator and ash/landfill Site 33. Using information from GENIVAR's report, the MOE and a site visit to the subject lands and the potential landfill location, a D4 Study has been conducted in accordance with the guidelines presented by the Ministry of the Environment.



Our conclusion is that the previous landfill site is not impacting the residential subdivision development, proposed to have full services, of Lots 47, 48 and 49, Concession 12, Town of Collingwood.





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*Consulting Geotechnical & Environmental Engineering
Construction Materials Inspection & Testing*

January 11, 2011

File No. 3-10-6143

Huntingwood Developments Ltd.
c/o D.C. Slade Consultants Inc.
243 Hurontario Street
Collingwood, ON
L9Y 2M1

Attention: Mr. Andrew Pascuzzo, Planner

**RE: LANDFILL IMPACT ASSESSMENT
RESIDENTIAL DEVELOPMENT
LOTS 47, 48, AND 49, CONCESSION 12
TOWN OF COLLINGWOOD, FORMERLY TOWNSHIP OF
NOTTAWASAGA
COUNTY OF SIMCOE, ONTARIO**

Dear Sir:

We are pleased to provide our assessment of the potential impact from the closed Collingwood Incinerator and Ash Disposal Site (Site #33) on a proposed residential subdivision and development located on Lots 47, 48 and 49, Concession 12, Town of Collingwood, County of Simcoe, Ontario (see Figure 1). The subject lands are within 500m of closed Collingwood Incinerator and Ash Disposal Site (Site #33). Therefore, an assessment with respect to MOE Guideline D-4 has been requested by the County of Simcoe/Town of Collingwood.

The purpose of the assessment undertaken was to characterize the local and regional geologic and hydrogeologic conditions around the proposed residential subdivision development site and determine the likelihood of any adverse effect particularly with respect to leachate generation and/or methane gas generation impacting the proposed works.

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1. BACKGROUND

The residential subdivision development site is to be located on the south side of Highway 26, east of Simcoe Road 34 and is legally described as Lots 47, 48, and 49, Concession 12, Town of Collingwood, County of Simcoe, as shown on Figures 1 and 2.

The proposed residential subdivision development will be serviced with municipal water and sewage. The site is currently vacant residential land/undeveloped land in a developed, residential area. There are no fixed plans for the proposed development. Our understanding is the parcel is to undergo residential subdivision development. Silver Creek divides the parcel.

It has been identified that the closed Collingwood Incinerator and Ash Disposal Site, indicated in the Ministry of Environment Registry is located within 500m of the proposed development.

The site commenced operations/Town of Collingwood obtained the lands in 1968. The landfill sites previous private owner's had used the site as a landfill prior to the Town's ownership. The County took over the land landfill site in 1991. The site was then used as an incinerator and ash disposal site in 1970. The Town of Collingwood ceased incinerator operations in 1990. No waste has been accepted at the site since the incinerator operations were ceased.

The site was licensed in 1980 under C of A A250401. Waste located on the previously private owned portions of land (X4117) was removed and relocated to the waste footprint on the designated landfill site in 2007.

No activity had occurred on the site until 2004 when closure works commenced.

The landfill site is potentially up gradient from the subject lands; the subject lands are located northeast of the landfill site. The subject lands are separated from the landfill sites by a landfill contaminant attenuation zone, (CAZ) which abuts the southwest corner of the subject lands (see Appendix).



2. LANDFILL SITE SETTING

Correspondence with Simcoe County, and MOE officials for the site in question as well as review of GENIVAR's 2009 Annual Report was undertaken by Terraprobe as part of this assessment. The municipal landfill deposit in question was initially placed on one parcel of land prior to the Township operating the waste incinerator. The site was later subdivided, leaving municipal waste on three (3) separate properties.

It is our understanding that the County of Simcoe have prepared a final closure of the site regarding the correction of physical deficiencies at the site in order to satisfy an appropriate closure plan. All waste formerly located on private property/landfill X4117 have been moved onto Site #33's landfill footprint.

It is reported by Ainley and Associates that in 1970 the incinerator was constructed and began operation. The facility was used for the incineration of household waste as well as commercial waste and cardboard from the industrial sector of the Town of Collingwood. The site was also licenced for disposal of the incineration ash products until its closure in February, 1990. No activity occurred on the site until 2004 when closure works commenced.

The contour base mapping indicates that site grades for the landfill site are higher in elevation than the subject property. Grades in the area slope gently down to the north-northeast towards Nottawasaga Bay.

The MOE was contacted for further information. The MOE indicated that there are a total of four (4) landfill sites in the area. Two (2) are associated with the historic Collingwood Incinerator and Ash deposit landfill (Site #33 and X4117; the properties associated with Site 33 which formerly had waste, now relocated onto Site #33), Simcoe County Landfill Site #2 and a historic waste disposal located on Lot 44, Concession 9. Site #33/X4117 are the only landfills located within 500m of the subject lands. As such, this report focuses on Site #33 (all waste from X4117 has been moved onto Site #33's footprint as part of the closure plan).



3. SUBSURFACE CONDITIONS

The subsurface conditions encountered in the Simcoe Lowlands are well documented. The subject lands are located within the Nottawasaga Basin. The subject lands are situated on a lacustrine deposit characterized by sand, gravelly sand and gravel; near shore and beach deposits.

The landfill site is approximately 190masl. Grades fall gently towards Nottawasaga Bay. Silver Creek divides the parcel.

As reported by GENIVAR, this site is situated on a beach deposit comprised of shallow sand over a shale dominant bedrock. The refuse and ash are on the sand. The groundwater table is naturally near ground surface. The shallow groundwater flow system associated with the sand and upper portion of the bedrock in 2009 was consistent with previous data and interpretations. Groundwater quality in the bedrock is naturally degraded. The amount of degradation increases with depth at the monitor locations.

The overburden in the area is approximately 2m in depth. Bedrock consists of limestone and shale. Shale is petroliferous/oil shale which is reported to contain soluble petroleum hydrocarbons. The groundwater in the area is therefore, naturally degraded.

Both shallow and deep groundwater is flowing in a northerly direction. Leachate impacted groundwater is also noted to be moving in a northerly direction.

Extensive leachate and landfill gas monitoring has been conducted within the landfill site's boundaries. Monitoring was not conducted by Terraprobe however, a review of GENIVAR's 2009 Annual Report was undertaken. The subject lands are separated from the landfill site by the attenuation zone which abuts the southwest corner of the subject lands. Shallow and deep groundwater flow is expected to be towards the north placing the subject lands potentially downgradient from a groundwater flow perspective. The site is situated to the northeast of the landfill site; leachate migration is not anticipated to impact the subject lands. GENIVAR has indicated groundwater flow is in a north, not northeasterly direction.



4. REVIEW

Terraprobe has undertaken the following; correspondence with Simcoe County and MOE officials as well as a review of GENIVAR's 2009 Annual Monitoring Report for the site in question was undertaken by Terraprobe as part of this assessment. Terraprobe initially contacted Simcoe County for information regarding Site #33. Correspondence with the MOE has confirmed that closed local/private landfill sites #33 and X4117 are located within 500m of the subject lands.

The MOE was contacted for further information. The MOE indicated that there are a total of four (4) landfill sites in the area. Two (2) are associated with the historic Collingwood Incinerator and Ash deposit landfill (Site #33 and X4117; the properties associated with Site 33 which formerly had waste, now relocated onto Site #33), Simcoe County Landfill Site #2 and a historic waste disposal located on Lot 44, Concession 9. Site #33/X4117 are the only landfills located within 500m of the subject lands. As such, this report focuses on Site #33 (all waste from X4117 has been moved onto Site #33's footprint as part of the closure plan).

Based on the above correspondence, our review of geologic and topographic mapping and our review of previous records/monitoring reports for the closed landfill in relation to the subject property, coupled with a site visit to the subject lands and landfill location, we provide the following observations/summary points of interest;

- As reported by GENIVAR, this site is situated on a beach deposit comprised of shallow sand over a shale dominant bedrock. The refuse and ash are on the sand. The groundwater table is naturally near ground surface. The shallow groundwater flow system associated with the sand and upper portion of the bedrock in 2009 was consistent with previous data and interpretations. Groundwater quality in the bedrock is naturally degraded. The amount of degradation increases with depth at the monitor locations.
- The overburden in the area is approximately 2m in depth. Bedrock consists of limestone and shale. Shale is petroliferous/oil shale which is reported to contain soluble petroleum hydrocarbons. The groundwater in the area is therefore, naturally degraded.
- Both shallow and deep groundwater is flowing in a northerly direction. Leachate impacted groundwater is also noted to be moving in a northerly direction.



- Extensive leachate and landfill gas monitoring has been conducted within the landfill site's boundaries. Monitoring was not conducted by Terraprobe however, a review of GENIVAR's 2009 Annual Report was undertaken. The subject lands are separated from the landfill site by the attenuation zone which abuts the southwest corner of the subject lands. Shallow and deep groundwater flow is expected to be towards the north placing the subject lands potentially downgradient from a groundwater flow perspective. The site is situated to the northeast of the landfill site; leachate migration is not anticipated to impact the subject lands. GENIVAR has indicated groundwater flow is in a north, not northeasterly direction.
- It is our understanding that the County of Simcoe has prepared a final closure of the site regarding the correction of physical deficiencies at the site in order to satisfy an appropriate closure plan. All waste formerly located on private property/landfill X4117 have been moved onto Site #33's landfill footprint.
- It is reported by Ainley and Associates that in 1970 the incinerator was constructed and began operation. The facility was used for the incineration of household waste as well as commercial waste and cardboard from the industrial sector of the Town of Collingwood. The site was also licenced for disposal of the incineration ash products until its closure in February, 1990. No activity occurred on the site until 2004 when closure works commenced.
- The contour base mapping indicates that site grades for the landfill site are higher in elevation than the subject property. Grades in the area slope gently down to the north-northeast towards Nottawasaga Bay.
- There is no measurable landfill influence at downgradient perimeter monitors except for a possible minor influence at Location 24 (northeastern limit). Please see Figure 3 for GENIVAR's borehole/monitoring well location plan.
- Combustible gas was not detected within gas monitors located downgradient. Combustible gas is noted to not be of concern due to high groundwater tables and the lack of enclosed structures on/near the waste.



- The refuse is approximately 7 - 12m in depth and capped with clay.
- A residential subdivision is located to the north of the landfill site.
- There is a noted downward vertical hydraulic gradient; leachate is noted to migrate into the shallow and deep groundwater table and travel north.
- GENIVAR has noted that there is no noted measurable landfill influence at the perimeter monitoring locations; therefore natural attenuation is adequate. The possibility of a minor influence at location 24 has been noted and requires further monitoring.
- The proposed residential subdivision development will be serviced with municipal water and sewage. The site is currently vacant residential land/undeveloped land in a developed, residential area. Plans for the proposed development are evolving. Our understanding is the lot is to undergo residential subdivision development.



5. DISCUSSION WITH RESPECT TO MOE GUIDELINE D4 (Land Use On Or Near Landfills And Dumps)

The D4 Guideline is essentially intended to protect the health, safety, convenience and welfare of residences from potential adverse effects from landfills and dumps by restricting or controlling land use in their facility. Since the subject property is within 500m of a closed landfill site, some form of assessment is warranted.

The 500m distance is somewhat arbitrary but has been adopted as a reasonable conservative zone of influence in most cases.

In reference to Section 4 “Environmental Conditions”, the existing site, would be categorized as indicated in 4.2 as a “non-operating” site. Correspondence with the MOE and a review of GENIVAR’s 2009 Annual Monitoring Report has confirmed the landfills to have been closed between 1968 (X4117) and 1990. The guidelines suggest that in these circumstances it is important to consider ground and surface water contamination by leachate, surface runoff, ground settlement, visual impact, soil contamination and hazardous waste and landfill generated gases.

In particular, attention needs to be given to the production and migration of methane gas at the site.

Based on the age of the landfills, anticipated groundwater flow direction, the prevalence of residential development to the north/upgradient and the conclusions of GENIVAR’s 2009 Annual Monitoring Report it is reasonably assumed that methane migration and production is not occurring and will not adversely affect the subject lands.

With respect to Guideline D-4, the factors discussed above have been assessed for this site addressing potential adverse effect including; a hazard or health/safety risk; a nuisance to man; and/or degradation of the natural environment.

- A. Landfill gas is a by-product of decomposing organic matter. Methane moves readily through porous, granular soils such as those encountered at the site. Boundaries to methane migration include saturated zones and improvisations layers such as frozen ground. Based on the reported closure dates of the landfills and GENIVAR’s 2009 Annual Monitoring Report methane migration and production are not considered a concern.



- B. Based on the reported closure dates, anticipated shallow groundwater flow and results from the 2009 Monitoring Report, it is unlikely that any migration of leachate has occurred towards the northeast from the landfills' boundaries within the shallow groundwater in the overburden soil; there is a minor influence at monitoring well 24 but the 2009 report concludes there is no measurable landfill influence at the perimeter. Natural attenuation within the landfill and attenuation zone is considered adequate.
- C. Surface runoff from the landfill site will be in a northerly direction following surface topography. Silver Creek intersects the subject lands and a tributary of Silver Creek intersects the northern portion of the landfill site and the attenuation zone. The subject property is located downgradient of the landfill site. Water quality complied with the Provincial Water Quality Objectives at the surface water stations except as follows.
- ▶ SW3: Total phosphorus in May 2009
 - ▶ SW5: Total phosphorus and iron in May 2009

Water quality complied with the trigger parameter concentrations in 2009 with the exception of copper and iron at Station SW2B in May 2009. It is noted that the water sample collected at SW2B in May represents ponded water conditions. Both SW3 and SW5 are located offsite. Onsite surface water sampling location indicated no exceedances. There is no potential impact from surface runoff from this landfill to the subject property associated with the previous landfill waste. Please see appendix for surface water monitoring locations.

- D. The potential for ground settlement is also addressed as part of a D4 assessment. The subject property is not located on the landfill material and is therefore not prone to settlement issues associated with 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.



- E. The proposed development site is currently protected by a significant visual buffer of trees from the landfill site. The landfill site is currently vacant, unused land. The attenuation zone separates the subject lands from the landfill site. The attenuation zone is undeveloped grassland/treed.

In summary, it is our opinion that the landfill site, due to its characterization, closure and location, will not impact the proposed residential development located downgradient of the landfills boundary lines.

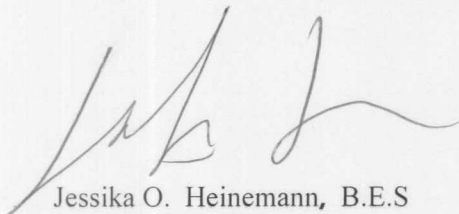
It is also important to indicate that this is a closed landfill. Therefore, further dumping or disposal will not be permitted. Thus, there is no concern with respect to the possible placement of additional landfill materials closer to the subject property at a later date.

We trust that this report adequately summarizes our recent assessment of the potential impact of the landfill site on the subject property and demonstrates that this site poses acceptable environmental risk for the proposed development of the subject lands. In accordance with the MOE Guideline D4 (Land Use on or Near Landfills and Dumps), we submit that no further investigation is required for the proposed development and that no control devices or facilities relating to the closed landfill site are required prior to development of the subject property.

If you should have any questions, or need further assistance, please do not hesitate to contact the undersigned.

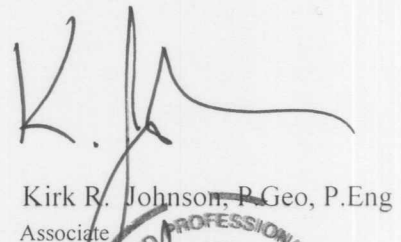
Sincerely,

Terraprobe Inc.

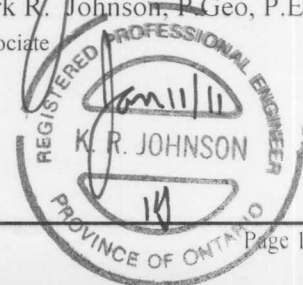


Jessika O. Heinemann, B.E.S

JOH/ct
Barrie Office



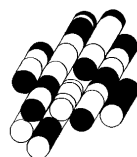
Kirk R. Johnson, P.Geo, P.Eng
Associate



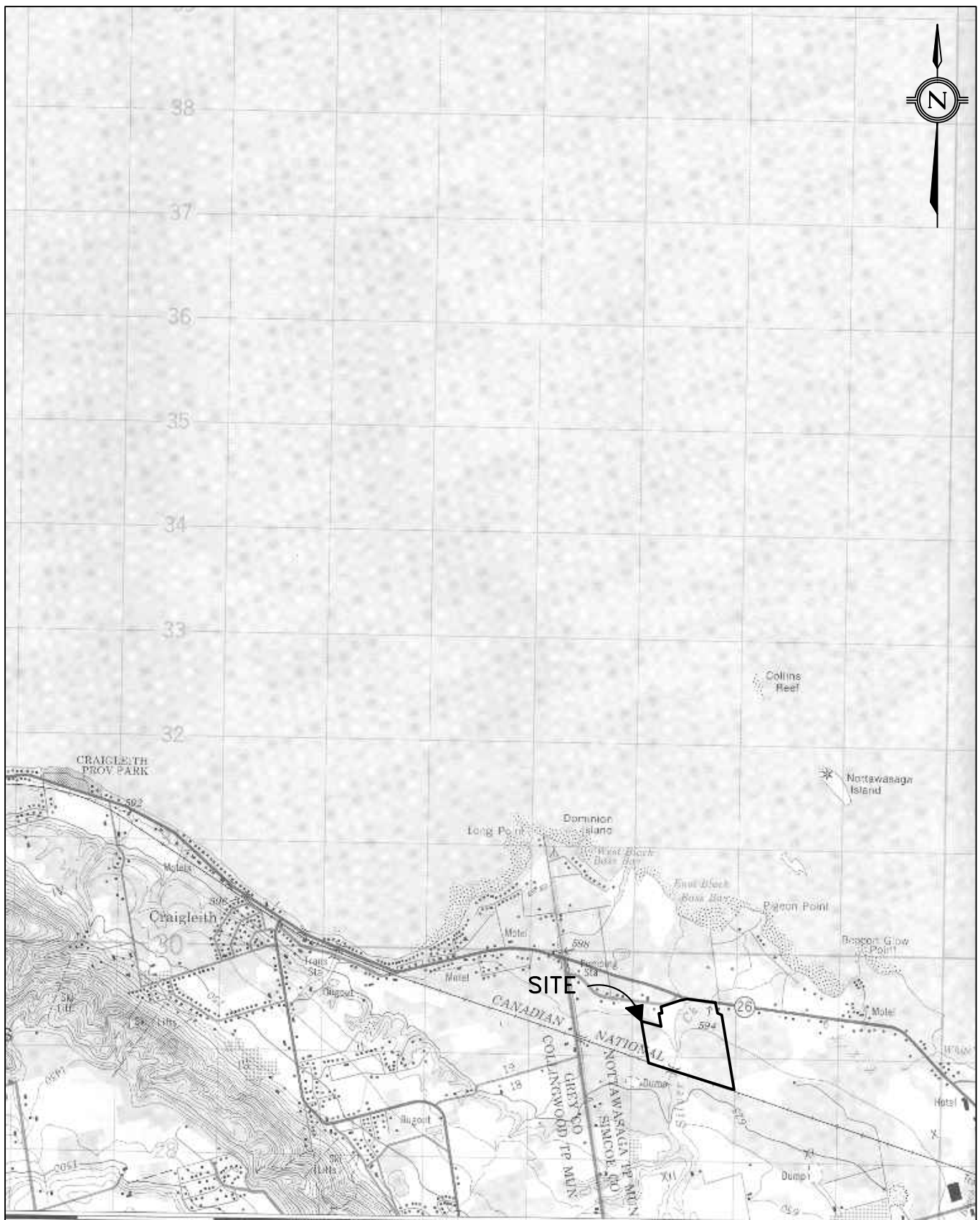
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Page 10

FIGURES



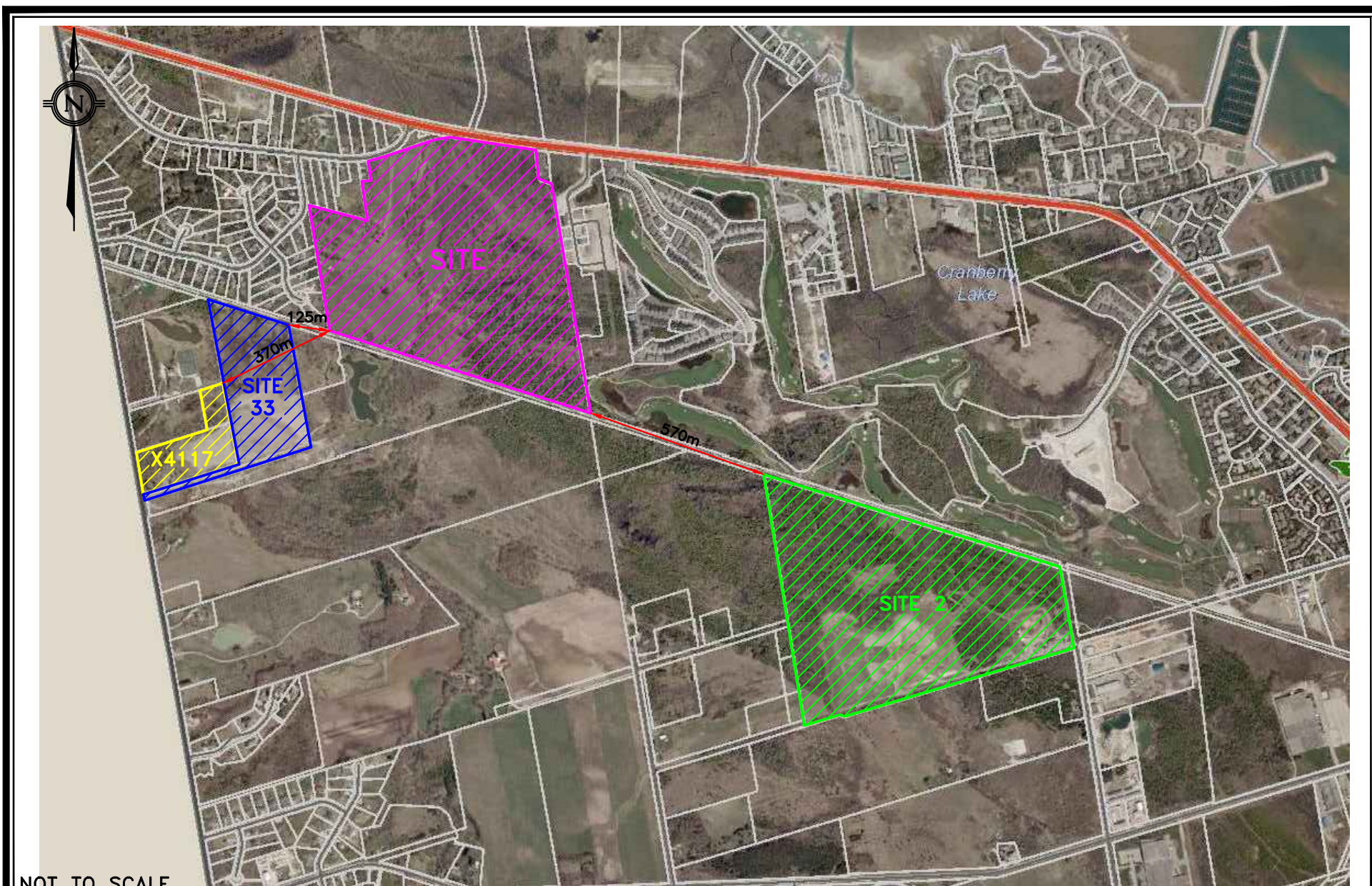
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DECEMBER 2010

SITE LOCATION PLAN

3-10-6143

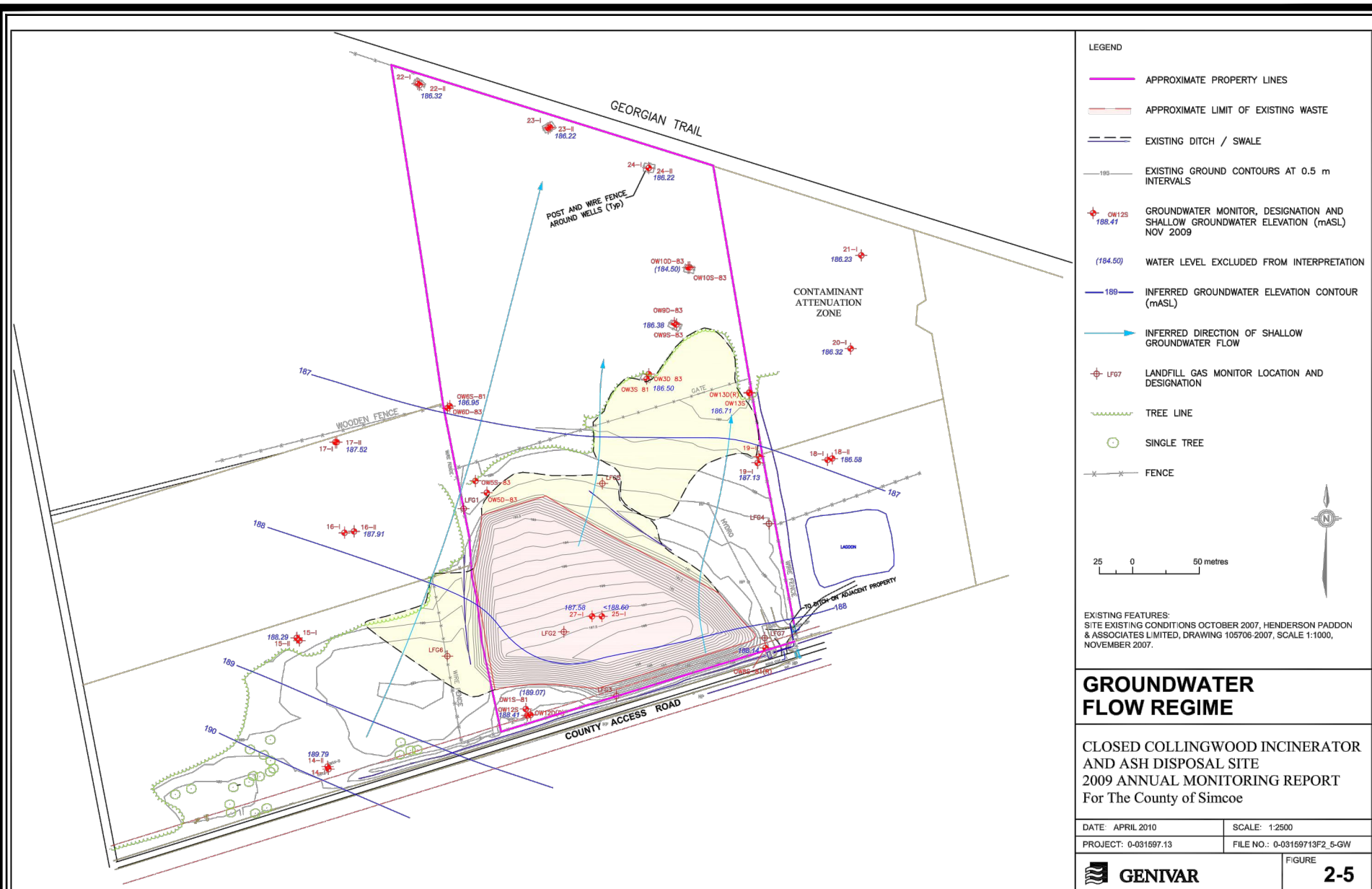


NOT TO SCALE.

DECEMBER 2010

LANDFILL LOCATION PLAN

3-10-6143

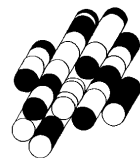


DECEMBER 2010

SITE FEATURES PLAN

3-10-6143

APPENDIX A



Terraprobe Inc.

Executive Summary

The Closed Collingwood Incinerator and Ash Disposal Site, also known as Site 33 (site), is located in part of Lot 48, Concession 12, in the Town of Collingwood. The site is 10.1 hectares (ha) in size, of which 1.8 ha are licensed for landfilling.

This site is situated on a beach deposit comprised of shallow sand over a shale dominant bedrock. The refuse and ash are on the sand. The groundwater table is naturally near ground surface. The shallow groundwater flow system associated with the sand and upper portion of the bedrock in 2009 was consistent with previous data and interpretations. Groundwater quality in the bedrock is naturally degraded. The amount of degradation increases with depth at the monitor locations.

Based on organic and inorganic chemical parameters, there is leachate impacted groundwater migrating northerly from the landfill in both the shallow and deep systems. There was no overall change in the quality in 2009. No measurable landfill influence is exhibited at the downgradient perimeter monitors at the present time, with the exception of a possible minor influence at Location 24. Further monitoring is recommended to confirm this interpretation.

There does not appear to be a measurable influence from the landfill site on the surface water downstream of the site. Although the copper and iron concentrations at one on-site surface water station exceeded the trigger concentration for the stormwater management system in May 2009, the exceedances are attributed to the formation of copper and iron oxides in the ponded water located in the perimeter drainage ditch.

Combustible gas was not detected within the gas monitors on the site in 2009 with the exception of several events at the gas monitor located within the refuse. Combustible gas is not considered a concern at this site due to the naturally high groundwater table and the absence of enclosed structures on and near the waste. The combustible gas detected at the eastern gas monitor in 2008 was not detected in 2009.

We recommend the continuation of the monitoring program in 2010 as per Section 5.0 of the report.

The results of the 2010 monitoring program should be assessed and the findings documented in an annual report and submitted to the Ministry of the Environment by April 30, 2011 per Condition 10 of Provisional Certificate of Approval No. A250401, and Condition 6 of Certificate of Approval No. 0100-73PL7Z.

6. Conclusions and Recommendations

Based on the study findings, we conclude the following.

- The configuration of the shallow groundwater flow regime in 2009 was generally consistent with historic patterns.
- Consistent with historic results, downward vertical hydraulic gradients were generally present across the site in 2009.
- Groundwater quality in the bedrock is naturally poor and becomes increasingly degraded with depth.
- Leachate mounding was not present in the refuse at the location of Monitor 25-I in 2009.
- Landfill impacted groundwater in the groundwater flow system is generally migrating in a northerly direction. There was no overall change in the chemistry of the groundwater in 2009 compared to the 2008 results.
- Elevated iron and manganese concentrations at the reference monitors screened in the overburden are attributed to natural reducing conditions present in the shallow groundwater.
- Concentrations of leachate indicator parameters at Monitor 6S-83 have decreased since the waste was removed from the properties abutting the west side of the site. Similar decreases were not measured at deeper Monitors 5D-83 or 6D-83, which indicates that water quality at these two lower bedrock monitors was not impacted by the former waste.
- Elevated concentrations of some parameters at Borehole Locations 16 and 17 may be attributed to an alternate source based on the groundwater flow regime. Any impacts at these locations that may be related to the waste, which was removed from the properties that abut the west side of the site, appear to be attenuating.
- The sludge lagoon located on the property which abuts the east side of the site may be impacting the groundwater at Monitors 18-I, 18-II, 20-I, and 21-I.
- Surface water quality downstream of the site, at Stations SW5, SW3, and SW4, does not show a measurable landfill influence. Surface water quality generally complies with the Provincial Water Quality Objectives.

- Surface water quality at compliance Stations SW1, SW2A, SW2B, SW2C, and SW3 satisfied the trigger parameter concentrations with the exception of copper and iron at Station SW2B in May 2009; however, it is noted that the exceedances are attributed to the formation of copper and iron oxides in the drainage ditch. The elevated copper and iron concentrations are, therefore, not attributed to the landfill.
- With the exception of refuse Monitor LFG2, combustible gas was not detected at the site in 2009. This pattern indicates that landfill gas is not migrating laterally from the landfill site toward the north, south, east, or west.

Guideline B-7 will not apply to the perimeter of the site until December 1, 2012. Therefore, the following conclusions do not relate to compliance of the landfill site with the Provisional Certificate of Approval.

- Several exceedances of the Ontario Drinking Water Quality Standards were observed at the groundwater monitors in 2009. A greater number of exceedances were observed at the downgradient monitors compared to the reference monitors, and in the deep groundwater flow system compared to the shallow system.
- No measurable landfill influence is exhibited at the downgradient perimeter Locations 21, 22, or 23. The natural attenuation of impacted groundwater migrating toward these downgradient north perimeter monitors is therefore adequate. There may be a minor landfill influence at Location 24, although additional monitoring is required to confirm this interpretation.
- Concentrations of benzene, toluene, ethylbenzene, xylenes, and other volatile organic compounds were detected in the groundwater across the site. There is an interpreted natural impact from the shale bedrock, but localized landfill effects also appear to be present. Although volatile organic compound concentrations were detected at source Monitor 27-I in May 2009, it is noted that Monitor 27-I is screened in the lower bedrock below the refuse, and therefore may not be indicative of leachate quality. The landfill effects will be re-evaluated in the future when additional groundwater samples are collected from source Monitors 25-I and 27-I.
- Concentrations of several PAH parameters were detected at select monitors in November 2009. Detected PAH parameters satisfied the ODWQS.

We respectfully submit the following recommendations for your consideration.

- PAH monitoring should be continued in 2010, including sampling at select reference monitors to confirm the 2009 results.
- There are no recommendations related to monitor repairs, security of the site, remedial works, or contingency measures.
- The water and gas monitoring program should be continued in 2010 as outlined in Section 5.0. Upon the review of the 2010 data, it should be determined if an amendment to the monitoring program is recommended.

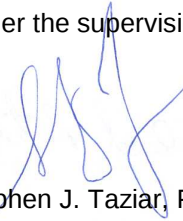
- This report should be submitted to the Ministry of the Environment by April 30, 2010.

Respectfully Submitted,
GENIVAR Consultants LP

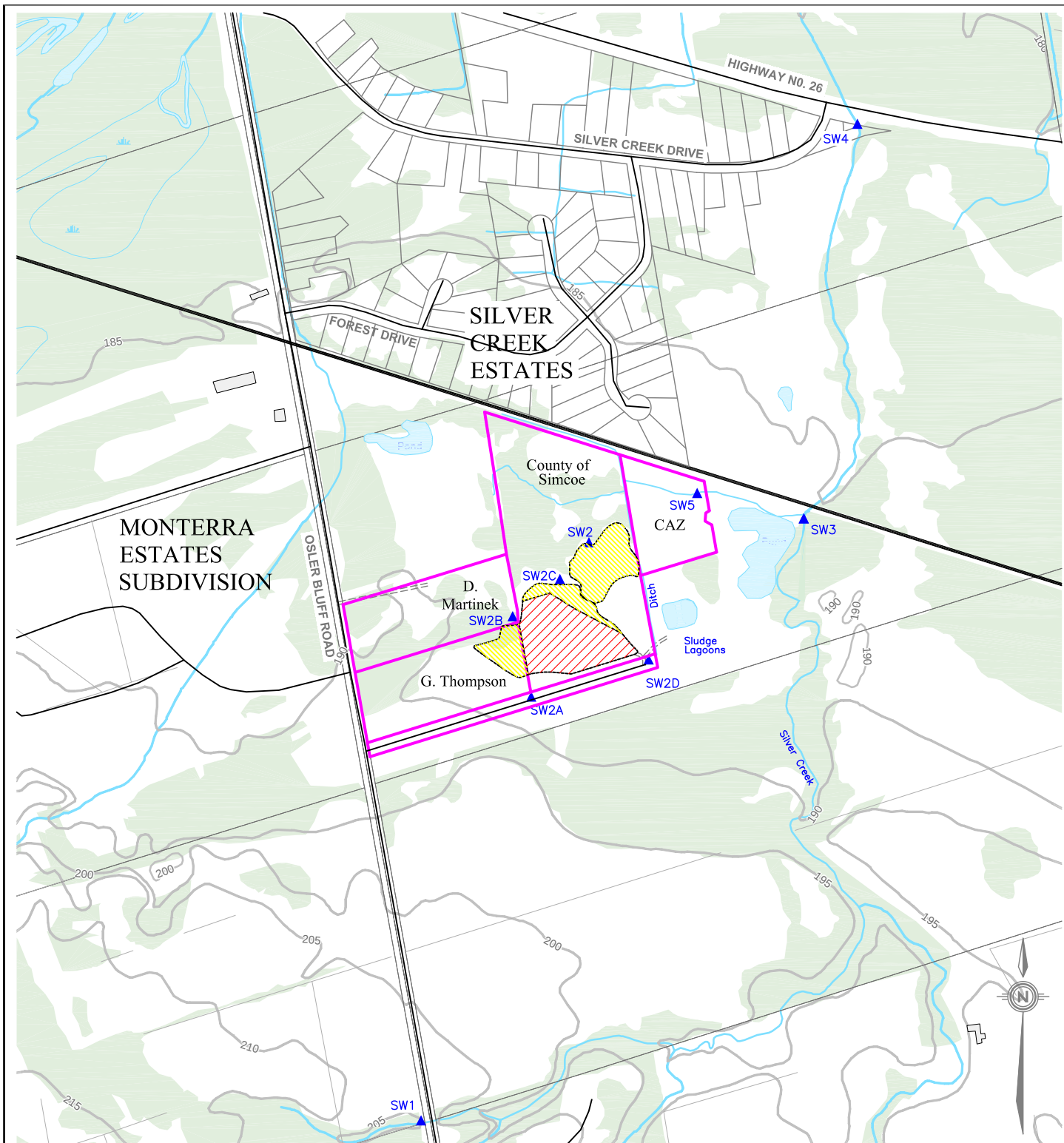


Greg R. Siiskonen, P.Eng.
Project Engineer

Under the supervision of



Stephen J. Taziar, P.Eng.
Senior Project Engineer



LEGEND

- APPROXIMATE PROPERTY LINES
- ▲ SW2 SURFACE WATER STATION LOCATION AND DESIGNATION
- APPROXIMATE AREA OF EXISTING WASTE
- APPROXIMATE AREA OF FORMER WASTE
- WATER COURSE

0 100 200 m

NOTES:

1. LOT PLANS FOR MONTERRA ESTATES WERE NOT AVAILABLE.
2. BASE MAP FOR OBM 1:10,000 SHEET 10 17 5550 49250.
3. CAZ - CONTAMINANT ATTENUATION ZONE.

AREA PLAN

CLOSED COLLINGWOOD INCINERATOR
 AND ASH DISPOSAL SITE
 2009 ANNUAL MONITORING REPORT
 For The County of Simcoe

DATE: APRIL 2010

SCALE: 1:10000

PROJECT: 0-031597.13

REF. NO.: 0-03159713F1_2-SP



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FIGURE

1-2