Prepared By:





Phase One Environmental Site Assessment 1131 Gordon Street, Guelph

GMBP File: 116030

March 4, 2016



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PHASE ONE ENVIRONMENTAL SITE ASSESSMENT

1131 GORDON STREET, GUELPH

MR. YOUNG YOOL KIM

MARCH 4, 2016

GMBP FILE: 116030

1. INTRODUCTION AND BACKGROUND INFORMATION

GM BluePlan Engineering Limited (GM BluePlan) was retained by Mr. Young Yool Kim (hereafter referred to as the "Client") to undertake a Phase One Environmental Site Assessment (ESA) of the property located at 1131 Gordon Street, Guelph, Ontario (hereafter referred to as the Phase One Property). The location of the Phase One Property is presented in Figure 1.

The Phase One Property is currently owned by 1876698 Ontario Ltd. The Phase One Property is approximately 1,975 metres² (0.49 acres) in area and is located in the east half of Lots 4 and 5, Concession 7 of the geographic township of Puslinch. The Phase One Property is in a residential area and is immediately bounded to the north, west, and south by residential properties and to the east by the Gordon Street right-of-way.

The Phase One ESA was undertaken to identify potential and/or actual environmental concerns or risks associated with the Phase One Property resulting from current and/or historical land uses on the property and neighbouring properties. It is our understanding that this Phase One ESA is being conducted for due diligence purposes in support of the development process, and that it is not required to support a Record of Site Condition (RSC) under Ontario Regulation (O. Reg.) 153/04 (as amended).

2. METHODOLOGY

The Phase One ESA was conducted in general accordance with the guidelines of the Canadian Standards Association (CSA) as presented in Report No. Z768-01, Phase I Environmental Site Assessment (November 2001). The purpose of the Phase One ESA is to identify actual or potential environmental concerns or risks associated with the Phase One Property that would result from current or historical land uses on the Phase One Property and on adjacent lands.

Background physiographic, geological, hydrogeological, and topographical information for the Phase One Property and surrounding area was assembled from several sources including the Grand River Conservation Authority (GRCA) Geographic Information System (GIS), the Ministry of Environment and Climate Change (MOECC) Water Well Information System, the Atlas of Canada Toporama GIS, and publications from the Ontario Geological Survey.

Aerial photographs of the Phase One Property and surroundings were obtained from the National Air Photo Library for the years 1930, 1964, 1972, 1981, 1990, and from the GRCA GIS for the year 2010. Aerial photographs were analyzed for evidence of historical land uses and identification of relevant land features. Copies of these photos are provided in Appendix A.

A 2016 tax bill for the Phase One Property was provided by the owner as evidence of ownership. The provided documents are included in Appendix B.

An environmental risk report was requested from EcoLog ERIS (ERIS report) to review multiple relevant historical and environmental databases and provide information on reported spills, registered waste



generators, environmental compliance and convictions, and more. The ERIS report covered a search area of an approximately 250 m radius from the approximate centre of the Phase One Property. The complete ERIS Report is provided in Appendix C.

The Fire Insurance Plans (FIPs), available at the Guelph Public Library, for the property and surrounding area for the year 1960 were reviewed. The Phase One Property and surrounding areas were not covered in the FIPs reviewed.

City Directory records for the City of Guelph, available at the Guelph Public Library, were reviewed to ascertain occupancy for the Phase One Property and surrounding properties within an area within an approximate 250 m radius from the centre of the Phase One Property. The City Directory search may also provide evidence of historic land uses.

The MOECC Waste Disposal Site Inventory (MOE 1991) was reviewed to identify closed and active waste disposal sites in the vicinity of the Phase One Property.

A Freedom of Information Request was filed with the MOECC to identify any active orders, Certificates of Approval, environmental concerns, spills, formal complaints, or MOECC issued permits or licenses associated with the Site. The local District Office of the MOECC was also contacted for review of their records pertaining to the Phase One Property. At the time of issue of this Phase One ESA report, the responses from the MOECC had not yet been received. If the response from the MOECC identifies any potential environmental concerns, the information will be forwarded under separate cover. The MOECC request documents are included in Appendix D.

The Fuels Safety Division of the Technical Standards and Safety Association (TSSA) was contacted for review of their records on underground and aboveground fuel storage tanks on the Phase One Property and on select neighbouring properties. The TSSA response is included in Appendix D.

Zoning by-laws for City of Guelph were reviewed for the Phase One Property and surroundings. Applicable zoning maps and zone descriptions from the City of Guelph Zoning By-Law for the Phase One Property and surroundings are enclosed in Appendix E.

A recent geotechnical report completed on the Phase One Property in February/March 2016 was reviewed. A copy of the draft document is provided in Appendix F.

The MOECC Brownfield Site Registry was reviewed to determine whether the Phase One Property or any of its neighbouring properties have been listed as a "brownfield" by the government of Ontario. A "brownfield" is a site that was once used for industrial purposes and, as such, may be contaminated.

The National Pollutant Release Inventory 2014 data was searched for any recorded pollutant releases to land, air, or water, or for any disposal events or material transfers in the vicinity of the Phase One Property.

Reconnaissance of the Phase One Property was completed on March 1, 2016 by Mr. Cory Young, C.Tech. of GM BluePlan. Photographs of the Phase One Property and surrounding properties were taken during the reconnaissance and select photographs are included in Appendix G.

3. FINDINGS

The findings from the records search and site reconnaissance were compiled and are presented here. For the purpose of clarity in discussion, the direction north shall be taken to be along Gordon Street toward Heritage Drive. The records search was applied to the area within 250 m of the Phase One Property boundaries: the total area will be referred to as the Phase One Study Area.

3.1 Location and Legal Description of the Site

The Phase One Property is located at the civic address of 1131 Gordon Street Guelph, Ontario in a residential area and is immediately bounded to the north by a commercial/professional office building, to the west by



residential, to the east by Gordon Street, and to the south by Lowes Road. The location of the Phase One Property is shown in Figure 1.

3.2 Setting and Description of a Site

The Phase One Property is in neighbourhood dominated by residential uses with some commercial developments.

Geologically, the Phase One Property is located in a physiographic region known as the "Guelph Drumlin Field," which is centred on the City of Guelph (Chapman and Putnam 1984). The local soils in this area generally consist of stony tills and deep gravel terraces typical of drumlins and melt water spillways (Chapman and Putnam, 1984). Based on the available physiographic mapping (Chapman and Putnam 2007), the Phase One Property itself is located on a drumlin landform. Drumlins are features created by the historic deposition of the material by the movement of glacial ice. Consequently, the soils of the Phase One Property are likely to be fine to medium textured, containing higher relative proportions of silt and clay and lower proportions of coarse materials (i.e. sand and gravels).

In terms of surficial geological materials, the Phase One Property lies on sandy silt to silty sand (Ontario Geological Survey 2010). Provincial records for water wells at nearby properties show surficial soils of "clay," "sand," which corroborate the findings in the available physiographic and surficial geology maps.

The bedrock in the Guelph area is the Guelph Formation, which is composed of siltstone, sandstone, and dolostone (Ontario Geological Survey 2011). Water well records from properties within the Search Area indicate that the upper surface of bedrock is approximately 12 to 14 metres below ground surface (mbgs) and that the bedrock is "grey limestone" (MOECC 2016a).

Hydrologically, there is a small stream and associated wetland area approximately 200 m to the west of the Phase One Property as indicated on the geographic information systems of the Grand River Conservation Authority (GRCA 2015). This stream flows southerly before turning westward, ultimately draining into the Speed River approximately 4 km west of the Phase One Property. In terms of groundwater flow, shallow groundwater flow often correlates to topographical features and typically flows towards nearby lakes, streams, and wetlands. Based on this, it is inferred that the groundwater in the vicinity of the Phase One Property flows toward the west, roughly corresponding with the slope of the terrain and the direction to the wetland and stream noted above.

3.3 History of Property Ownership

The Phase One Property is currently owned by 1876698 Ontario Limited as reported on the 2016 Interim Tax Bill that was provided by the Client to GM BluePlan. A review of the city directories at the Guelph Public Library revealed that the Phase One Property was under residential occupancy from the earliest record in 1968 until recent 2013 records. Prior to 1968 the records for the City of Guelph directories only include addresses up to 250 Gordon Street (approximately 500 m north of the Phase One Property) which at the time was the reported city limit.

3.4 Historic Land Uses of the Phase One Property and Surroundings

Information about the historic land use of the Phase One Property was gathered from several sources as mentioned in the Methodology section of this report. The findings from each of these sources will be presented in turn to illustrate the historic land use of the Phase One Property and its surroundings to aid in the identification of any areas of potential environmental concern.

3.4.1 Aerial Photographs

A set of aerial photographs of the Phase One Property were obtained for the years 1930, 1964, 1972, 1981, 1990, and 2010. The photos, which are included in Appendix A, were analyzed to document the apparent changes in land use with time. Due to the scale and limited resolution of the earlier photographs, the analysis only provides information regarding general activity.



1930: The Phase One Property appears to be developed with at least one building. The immediate surrounding area is of inferred agricultural land uses. The only building in the immediate area of the Phase One Property appears to be related to homestead farms.

1975: The Phase One Property and neighbouring properties to the south, west and southeast appear to be developed for residential land uses. Properties further to the west, southwest and north appear to remain under agricultural land uses.

1981: Overall land use appears consistent with that observed in the 1975 aerial photo. Additional residential developments are visible further to the northwest.

1990: Overall land use appears consistent with that observed in the 1981 aerial photo. Additional residential developments are visible further to the north.

2010: The Phase One Property is clearly developed for residential land use with the visible presence of a residence. Neighbouring properties to the west, south, east and north are also under residential land uses. Further to the north along Gordon Street is a large square building not previously observed in the 1990 aerial photograph.

3.4.2 ERIS Report

The Ecolog Environmental Risk Information System (ERIS) report compiles information from various databases relevant to environmental risk. A report was requested for a search of eight databases applied over the area within a 250 m radius from the approximate center of the Phase One Property. The eight databases selected were: Certificates of Approval; List of TSSA Expired Facilities; TSSA Fuel Storage Tank Database; TSSA Fuel Storage Tank (Historic) Database; TSSA Historic Incidents; Ontario Regulation 347 Waste Generators Summary; TSSA Historic Incidents; Inventory of PCB Storage Sites and the Ontario Spills Database. The ERIS Report is provided in Appendix C.

Of the seven records contained in the ERIS Report, none of the records were attributed to the Phase One Property itself. The seven reported records were for the sole property located at 1099 Gordon Street (Gilbert MacIntyre & Son Funeral Home and Chapel) and all records were for the registration of the generation of pathological wastes for the years 2004 to 2015.

Based on the distance of this registered waste generator to the Phase One Property (approximately 90 m), the nature of the waste being generated (pathological wastes) and the inferred hydraulically cross to up gradient position, this property is considered to pose a low environmental risk to the Phase One Property.

3.4.3 Fire Insurance Plans

The Goad Fire Insurance Plans for the year 1960, available at the Guelph Public Library (main branch), were found and reviewed in an attempt to gather information about the Phase One Property. No information specific to the Phase One Property could be found as no Fire Insurance Plans were found for the portion of Guelph south of Stone Road.

3.4.4 City Directory Search

City directories can be used to find historic tenants at addresses and may also give evidence of land uses. The present city directory search was performed by reviewing copies of Vernon's City of Guelph Directory available at the Guelph Public Library (main branch). Editions from the years 2013, 2000, 1990, 1980, 1970, 1968, and 1966 were reviewed for information about the occupants within the search area on the following streets: Gordon Street, Hart's Lane, and Landsdown Drive.

The city directory search indicated that the properties within the search area were generally used for residential purposes, though there were a few notable exceptions:

- 1099 Gordon Street: Gilbert MacIntyre and Son Funeral Home (circa 2000 to 2013)
- 1131 Gordon Street: Wm. Davidson residence and Davidson Water Pumping (circa 1980 to 2000)



The occurrence of a business concurrently with a personal residence at the Phase One Property's address during the noted timeframe should not be interpreted as an ongoing commercial operation. The reported business at the Phase One Property's address is understood to be a "home based business" and is not considered to be a risk to the property's environmental standing.

3.4.5 Waste Disposal Site Inventory

A search of the Waste Disposal Site Inventory (1991) indicates that the nearest waste disposal site is the County of Wellington Aberfoyle Landfill, which is a closed disposal site approximately three kilometres to the north of the Phase One Property beyond the Eramosa River.

3.4.6 Zoning

As indicated by the City of Guelph zoning by-law Defined Area Map 32 (amended 2014), the Phase One Property is currently zoned as R.1B, which is a residential zoning designation. Bordering the Phase One Property to the north and west are other properties with the same R.1B zoning designation.

City of Guelph Zoning Map 32 is included in Appendix E.

3.4.7 TSSA Fuel Safety Division Database

An inquiry was put to the Technical Standards and Safety Authority regarding the presence of underground and aboveground fuel storage tanks at select addresses within the search area. The e-mail query and response from TSSA are included in Appendix D. The TSSA contained no records of fuel storage tanks at the addresses searched.

3.4.8 Brownfield Site Registry

The Ontario Brownfield Site Registry was searched on March 3, 2016 for properties that have had filed a Record of Site Condition (RSC). At the time of search, there were no properties with a Record of Site Condition within the 1 km search radius from the Phase One Property and the property itself was not in the registry database.

3.4.9 National Pollutant Release Inventory

The data contained in the National Pollutant Release Inventory indicates that for the year 2014 there were no registered or reported pollutant releases, disposal events, or material transfers within 250m of the Phase One Property (Environment Canada 2013). The nearest site registered with NPRI is approximately two kilometres north of the Phase One Property.

3.5 **Previous Reports**

A draft geotechnical report on the Phase One Property was provided to GM BluePlan for review. The report entitled "DRAFT – Geotechnical Investigation, Townhouse Development, 1131 Gordon Street South, City of Guelph, Ontario, Reference No. G3712-6-3" dated March 2016 was completed by V.A. Wood (Guelph) Inc.

The geotechnical investigation reportedly advanced two boreholes on the Phase One Property on February 23, 2016. The borehole logs provided in the report indicate that topsoil on the property was between 250 and 460 millimetres (mm) in thickness. Below the topsoil in the borehole to the east of the residence (BH1) was a reported deposit of sand and gravel fill that extended to an approximate depth of 2.3 mbgs. Beneath the topsoil of borehole BH2 to the west of the residence was a reported layer of silty gravelly sand fill to a reported depth of 1.5 mbgs. Underlying the fill in each borehole was inferred native silt and sand. No groundwater was encountered in the boreholes to the maximum advanced depth of five mbgs. A copy of the draft geotechnical report is included in Appendix F.

There was no reported observations of staining, odours or deleterious fill (refuse, industrial based fill: foundry sands, ash, cinder, etc.) in the areas investigated.



3.6 Reconnaissance

A site reconnaissance was conducted by Mr. Cory Young of GM BluePlan on March 1, 2016. Mr. Young was unaccompanied during the site reconnaissance. The weather was overcast with light snow falling and a temperature of -8°C. Select photos from the site reconnaissance are included in Appendix H.

3.6.1 Observations of the Phase One Property

As previously mentioned the Phase One Property contains a single detached two-storey residential house with an attached two car garage and a wood storage shed located in the rear yard.

Residential Building

The building is constructed on a mix of stone, concrete block and poured concrete foundations suggesting that following the original construction inferred to be prior to 1930, additions were later added to the structure. The main structure of the house is wood framed with interior finishes of plaster walls and ceilings in some of the rooms. Other ceilings in the house are finished with 12"x12" ceiling tiles of varying textures. Flooring within the house is a combination of wood flooring, painted wood flooring and vinyl sheeting and tiles. The basement floor appeared to be un-finished exposed soil.

The exterior of the main portion of the house appears to be sided with cement board, while the exterior of the garage is sided with metal siding.

During the site reconnaissance poor interior lighting in the basement area prevented the observation of water supply pipes. Located on the basement level is a natural gas fired forced-air furnace and hot water heater. Within the basement and on the exterior of the building there were no indications (pipe penetrations, staining, odours) of previous fuel oil tanks being located either within the basement or on the exterior of the building that would suggest a historic use of fuel oil to heat the building.

The sewer drain pipes were observed to exit the stone foundation in the south corner of the house to an area where an inferred septic tank is possibly located. Municipal services (water and sewer) are reportedly available at the property line on Gordon Street.

During the site reconnaissance there were no wells observed on the Phase One Property. However, it is inferred that the property is serviced with a domestic water well. Should a domestic well be located on the Phase One Property and is not planned for future use, the well should be decommissioned per the requirements of Ontario Regulation 903/90 (as amended).

Detached Storage Shed

The storage shed in the backyard was of simple wood construction and contained scrap wood panelling and refuse paper products. There were no unusual odours or staining noted.

Phase One Property

The areas in front (east) and behind (west) of the house consist of un-manicured grassed areas with a mix of deciduous and coniferous trees interspersed along the property boundaries. To the rear of the house the grounds slope slightly downward towards the west. The Phase One Property was observed to be at grade with the neighbouring properties and adjacent roadway.

There were no indications of previous deposition of fill materials (mounding, unnatural areas) and no stained or stressed vegetation was observed through the light covering of snow.



3.6.2 Neighbouring Properties

The properties bordering the Phase One Property will be described here.

<u>North</u>

The northern boundary of the Site is bordered by residential property located at 1119 Gordon Street, beyond which is the Hart's Lane West right-of-way. Beyond Hart's Lane West is the Gilbert MacIntyre & Son Funeral Home located at 1099 Gordon Street (approximately 90 m to the north).

<u>East</u>

The Phase One Property is bound to the east by the Gordon Street right-of-way, beyond which are residential properties fronting along Gordon Street.

<u>South</u>

To the south of the Phase One Property is a residential townhouse development located at 1155 Gordon Street.

<u>West</u>

To the west of the Phase One Property are residential properties fronting along Hart's Lane West.

4. ASSESSMENT FOR AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

The information gathered from the site reconnaissance and the historical records search was assessed to identify any Areas of Potential Environmental Concern (APECs) associated with the Phase One Property.

4.1 Designated Substances: Asbestos Containing Materials (ACMs), Urea Formaldehyde Foam Insulation (UFFI), Leaded Paint, Ozone Depleting Substances (ODS), Polychlorinated Biphenyls (PCBs)

Ontario Regulation (O. Reg.) 278/05 under the Occupational Health and Safety Act, 1990, defines asbestos containing materials (ACMs) as materials that contain 0.5 per cent or more of asbestos by dry weight. Federal and provincial occupational health and safety acts, and the Workplace Hazardous Materials Information System (WHMIS), identify asbestos as a carcinogenic health hazard, which is regulated in all jurisdictions. Because of these regulations, the use of asbestos in construction has been widely discontinued since the mid-1970s. Based on the age of the on-site buildings (pre-1930s) ACMs or UFFI are considered to potentially be present in the on-site buildings. Potential ACMs identified during the site reconnaissance include the cement siding on the exterior of the main house, vinyl flooring, plaster walls, duct insulation and ceiling tiles. To confirm presence or absence of ACMs and other designated substances, a Designated Substance Survey would be required prior to any planned demolition of the residence.

Lead was used as an additive in paints prior to 1960 to make paint wear well and dry quickly and evenly. Leaded paint is a potential source of environmental impact or risk primarily if it is in poor condition and flaking. Most indoor and outdoor paints produced before 1950 contained substantial amounts of lead. Since 1976, the amount of lead in interior paint has been limited by law. Although the lead content of exterior paint is not regulated, Canadian paint manufacturers have voluntarily ensured that no lead is intentionally added to paint products. Exterior paint with lead carries a warning label. Flaking paint was observed on the interior walls and flooring of the residence. The residence is of the age where leaded paint may have been used.

Between 1920 and 1978, polychlorinated biphenyls (PCBs) were used extensively as a dielectric fluid in electrical transformers, motor capacitors, and fluorescent light ballasts. Although current legislation prohibits the manufacture and sale of new equipment containing PCBs since 1980, the ongoing operation of equipment containing PCBs is permissible. It is not certain if fluorescent lighting is present in the private residence or the barn. Should during future demolition/renovation activities, potential PCB-containing equipment be observed, the equipment should be disposed of in the appropriate manner.



Potential designated substances in the form of asbestos containing building materials and lead containing paints have been identified. Should future demolition of the residence be planned it is recommended that a Designated Substance Assessment should be completed to ensure compliance with O. Reg. 278/05 (as amended).

4.2 Fuel Storage Tanks

No evidence of fuel storage tanks was observed on the Phase One Property, or on adjacent properties.

The TSSA reported no records of fuel storage tanks on the Phase One Property or at selected surrounding properties.

4.3 Waste Disposal Sites

The Ontario Ministry of Environment Waste Disposal Site Inventory indicates that the nearest waste disposal site is over 5km away from the Phase One Property. As such, the environmental risk to the Phase One Property due to nearby waste disposal sites is considered to be low.

4.4 Imported Fill Materials

The geotechnical report identified the presence of fill material in the two boreholes advanced on the property. The Phase One Property is generally at grade with the surrounding properties and has been under agricultural and residential land use since original development. The presence of deleterious fill was not reported to have been observed within the boreholes which suggests that the reports of fill material (i.e. previously disturbed soil) may originate from the original excavation for the basement of the residence.



5. SUMMARY OF FINDINGS AND ASSESSMENT

The prominent findings of the Phase One ESA at the property Phase One Property located at 1131 Gordon Street are summarized as follows:

- The Phase One Property is approximately 1,980 metres² (0.49 acres) in area and is located in the southern portion of the City of Guelph.
- The property had historically been used for agricultural purposes until being developed for residential use sometime prior to the 1930s.
- Neighbouring properties surrounding the Phase One Property have been predominantly used for residential or agricultural uses.
- The neighbouring properties are predominantly used for residential land uses of medium density residential or suburban residential, though there are some commercial developments north of the Phase One Property on Gordon Street. This closest commercial land use is a funeral home that is approximately 90 metres north of the Phase One Property.
- From the data collected, there is no evidence of there being, or having been, any fuel tanks on-site, on the immediate neighbouring properties, or within 250m of the Phase One Property.
- The Phase One Property is currently occupied by a two-storey vacant residential residence with an attached two car garage that was built circa 1930 and updated through several additions.
- Potential ACMs identified within the residence include vinyl flooring, ceiling tiles, plaster walls and ceiling, insulation on the duct work and exterior siding.
- Based on the age of the residence (prior to 1930) the potential for lead based paints to exist within the building exist.
- A geotechnical investigation completed on the Phase One Property in February/March 2016 indicated that fill material (sand and gravel and silty gravelly sand) is present on the property.
- There were no reported observations of staining, odours or deleterious material within the observed fill materials.

Based on these findings, no Areas of Potential Environmental Concern have been identified.

6. CONCLUSIONS AND RECOMMENDATIONS

This Phase One ESA was completed to identify potential and/or actual environmental concerns associated with the Phase One Property resulting from land use activities, whether current or historical and whether those occurred on-site or on nearby lands. It is our understanding that this Phase One ESA was conducted for duediligence purposes and to support the development permitting/subdivision process.

It is noted that based on the age and construction of the building, the potential for designated substances is considered to exist.

Based on the findings of the Phase One ESA, the potential for environmental impact, or risk to the soil and/or groundwater on, or under, the Phase One Property is considered to be low and no Areas of Potential Environmental Concern have been identified. Consequently, no further investigation is recommended at this time.



7. REFERENCES

7.1 List of Reference Materials

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7.2 Contacts with Agencies

Fuels Safety Division

Technical Standards and Safety Authority 14th Floor, Centre Tower 3300 Bloor Street West Toronto, ON M8X 2X4 Attn: Ms. Sarah Quibell Tel: 877-682-8772

National Air Photo Library Tel: 613-995-0947

Ministry of Environment and Climate Change Freedom of Information and Protection of Privacy Office 12th Floor 40 St. Clair Avenue West Toronto, ON M4V 1M2 Tel: 416-314-4075 Fax: 416-314-4285

7.3 Contacts with Private Companies

EcoLog Environmental Risk Information Service (ERIS) Limited

12 Concorde Place, Suite 800 Toronto, ON M3C 4J2 Tel: 416-510-5204 / 877-512-5204 Fax: 416-510-5133 E-mail: <u>info@ecologeris.com</u>



8. STATEMENT OF LIMITATIONS

The information presented in this Phase One ESA report is intended for the use by Mr. Young Yool Kim. GM BluePlan Engineering Limited accepts no liability for use of this information by third parties. Any decisions made by third parties on the basis of information provided in this report are made at the sole risk of the third parties.

The scope of this Phase One ESA was limited to a review of the background history of the Phase One Property, a review of available regional mapping and background reports/information and surface/topographic features, contact with relevant regulatory agencies, review of available historical records and reports and a site reconnaissance completed on March 1, 2016. This Phase One ESA assumes that a Record of Site Condition (RSC) under O. Reg. 153/04 (as amended) is not required to be filed.

The scope of this Phase One ESA was limited to investigating the actual or potential sources of environmental impact or environmental risk and does not include full confirmation of actual environmental impact or environmental risk. While comments have been made regarding the perceived risks of potential environmental concerns to soil and groundwater at the Phase One Property from on-site or off-site sources, confirmatory sampling of soil and groundwater is beyond the scope of this assessment. GM BluePlan Engineering Limited cannot guarantee the accuracy or reliability of information provided by others or presented in reports available for the property. GM BluePlan Engineering Limited does not accept liability for unknown, unidentified, undisclosed or unforeseen surface or sub-surface contamination that may be later identified. This report is believed to provide documentation of site conditions as of March 1, 2016.



9. QUALIFICATIONS OF ASSESSORS

Phase One ESA research and site reconnaissance were performed by Mr. Cory Young, B.Sc.-Env.Sc., C.Tech.. under the direct supervision of Mr. Matthew Nelson, M.Sc., P. Eng., P. Geo.

Mr. Young is an Environmental Technologist with over nine years of experience in environmental investigations. Mr. Young has been involved in conducting field activities, performing data analysis and report writing for numerous Phase One and Two Environmental Site Assessments, site remediation projects, and is routinely engaged in environmental investigations for residential, commercial and industrial properties.

Mr. Nelson, M.Sc., P. Eng., P. Geo. is an Environmental Engineer/Hydrogeologist with over thirteen years of experience with environmental, hydrogeological, and remedial investigations. Mr. Nelson has experience preparing numerous Phase One and Phase Two Environmental Site Assessments, environmental investigations, and the completion of Phase Three site remediation projects. Mr. Nelson has been involved with detailed environmental site investigations for several large commercial and industrial properties in Canada and the United States of America.

GM BluePlan Engineering Limited has completed numerous Phase One Environmental Site Assessments, which also include follow-up Phase Two Environmental Site Assessments. GM BluePlan Engineering Limited has also been involved with the remediation of several sites (Phase Three ESAs), and with the preparation of a Record of Site Condition for residential, commercial and industrial properties.

All of which is respectfully submitted.

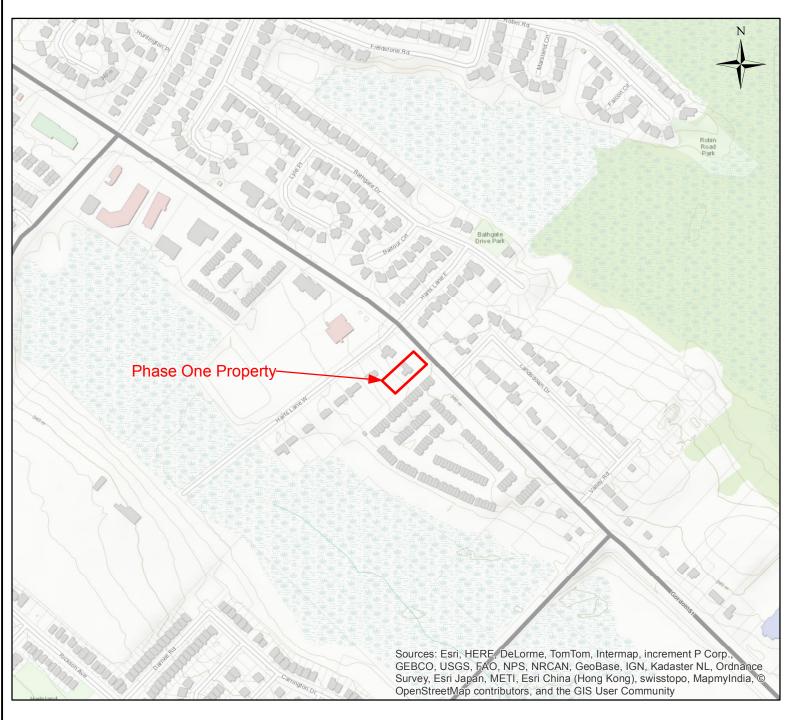
GM BluePlan Engineering Limited Per:

Contras

Cory Young, B.Sc.-Env.Sc., C.Tech.

Matthew Nelson, P.Eng., P.Geo.

FIGURES



> Scale: 1: 6,000 February, 2016 Site Location Figure 1





Scale: 1: 1,000 February, 2016 Site Plan and Surrounding Properties Figure 1

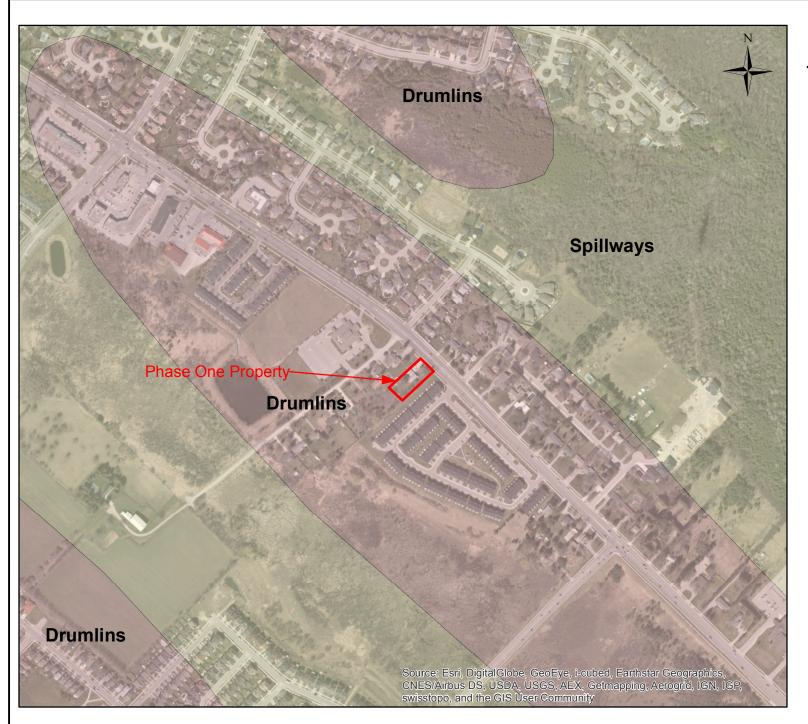




Surficial Geology of Ontario

- Lacustrine, kame and outwash, Sand Kames and
 - eskers, Sand and gravel
- Outwash, Gravel
- Wentworth Till, Buff or pink sandy till
- Scale: 1: 6,000 February, 2016 Surficial Geology Figure 3





> Physiography of Southern Ontario

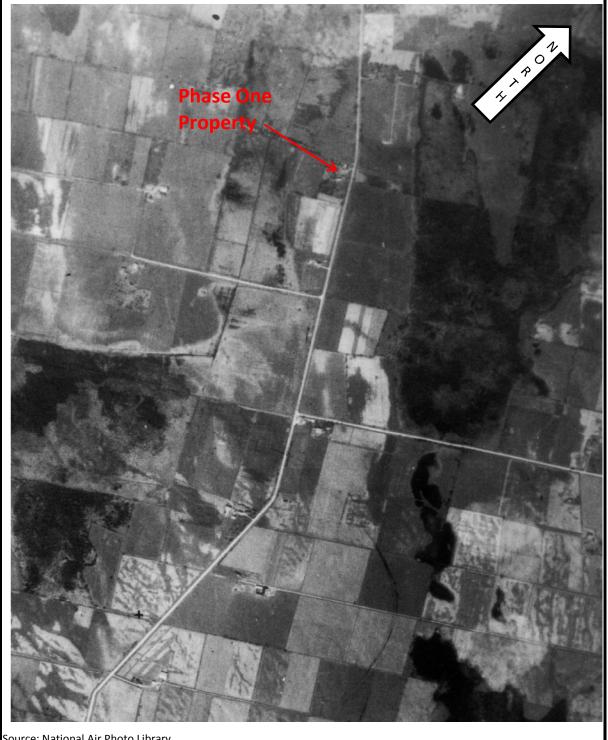
Spillways

Scale: 1: 6,000 February, 2016 Physiography Figure 4



APPENDIX A: AERIAL PHOTOGRAPHS

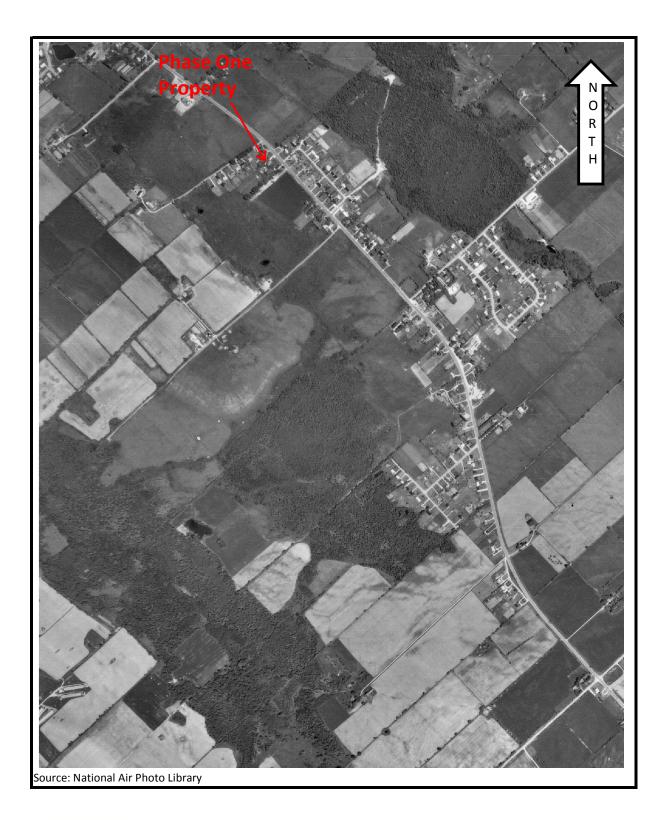
Aerial Photograph - 1930 116030 - Phase One Environmental Site Assessment 1131 Gordon Street Guelph, Ontario



Source: National Air Photo Library

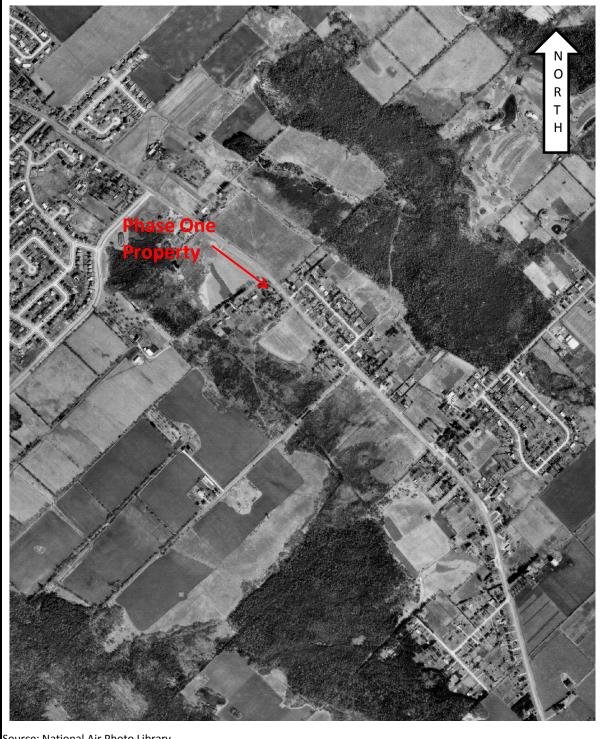


Aerial Photograph - 1975 116030 - Phase One Environmental Site Assessment 1131 Gordon Street Guelph, Ontario





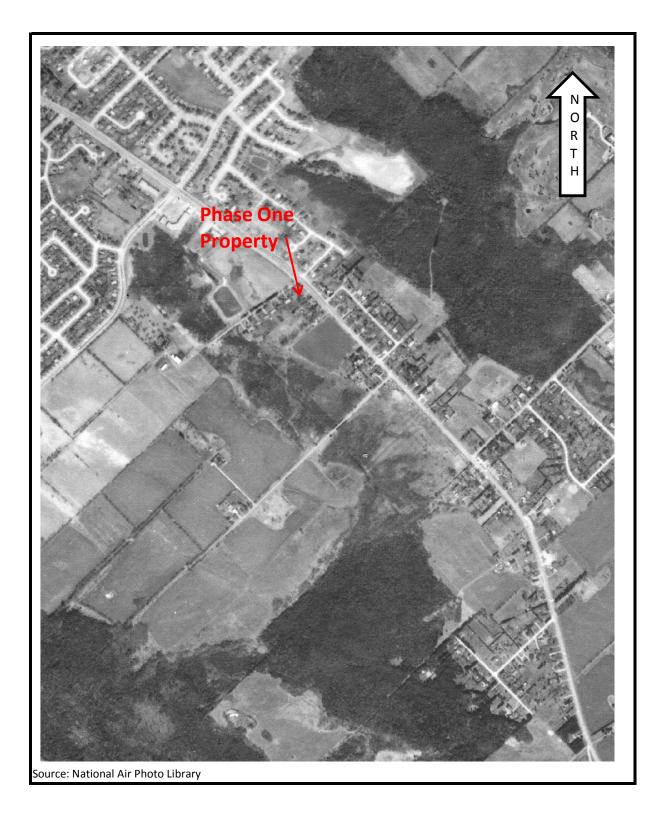
Aerial Photograph - 1981 116030 - Phase One Environmental Site Assessment 1131 Gordon Street Guelph, Ontario



Source: National Air Photo Library



Aerial Photograph - 1990 116030 - Phase One Environmental Site Assessment 1131 Gordon Street Guelph, Ontario





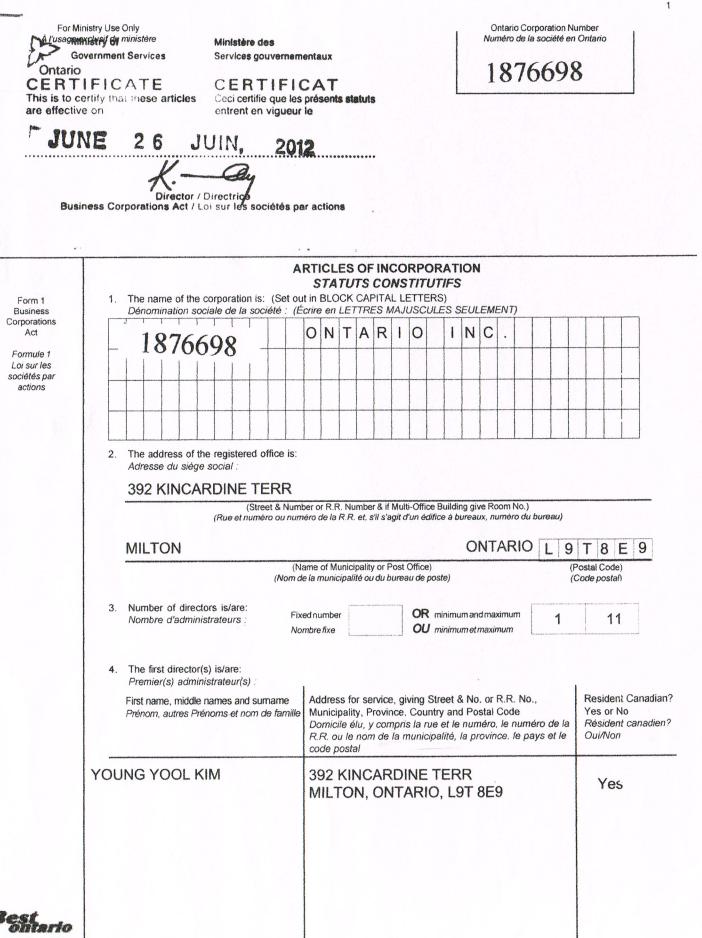
Aerial Photograph - 2010 116030 - Phase One Environmental Site Assessment 1131 Gordon Street Guelph, Ontario





APPENDIX B: OWNERSHIP DOCUMENTS

#80569 -1284 RC000 |



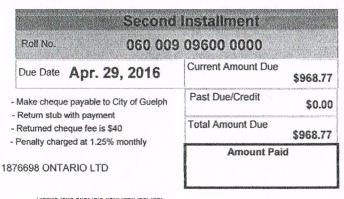
© Copyright 1999~2008 Best Ontario Inc. BCA 1

Guelph	THE CITY OF GUELPH-FINANCE D City Hall, 1 Carden Street Guelph, Ontario N1H 3A1 tax@guelph.ca T(519)837-5605	You can receive you City of Guelph tax I EPT Online through epos Sign up on epost.c					
Roli No.	060 009 09600 0000	Group Code					
Mortgage Company		Mortgage Account #					
Mailing Information 1876698 ONTAF 392 KINCARDIN MILTON ON L9	ETERROCE	Legal Owner and Legal Description	1876698 ONTARIO LTD 1131 GORDON ST PUSLINCH CON 7 PT LOTS 4 AND 5 REG 19844.00SF 90.02FR 220.44D				
Assessments Tax Class RTEP	Value Municipal Levies City The Interim Tax Levy has been	Municipal	e previous year's tax levy.				
Tax Class	City		e previous year's tax levy.				
Tax Class	City		e previous year's tax levy.				
Tax Class	City		e previous year's tax levy. 1,936.77 Education Levy	0.00			
Tax Class RTEP	City The Interim Tax Levy has been	n calculated as 50% of the		0.00			
Tax Class RTEP Sub Totals	City The Interim Tax Levy has been	n calculated as 50% of the Municipal Levy	1,936.77 Education Levy	0.00			
Tax Class RTEP Sub Totals	City The Interim Tax Levy has been	n calculated as 50% of the Municipal Levy	1,936.77 Education Levy SUMMARY				
Tax Class RTEP Sub Totals	City The Interim Tax Levy has been	n calculated as 50% of the Municipal Levy	1,936.77 Education Levy SUMMARY Tax Levy Sub-total (Municipal + Education)	1,936.77			
Tax Class RTEP Sub Totals	City The Interim Tax Levy has been	n calculated as 50% of the Municipal Levy	1,936.77 Education Levy SUMMARY Tax Levy Sub-total (Municipal + Education) Special Charges/Credits	1,936.77			



THE CITY OF GUELPH-FINANCE DEPT City Hall, 1 Carden Street Guelph, Ontario N1H 3A1 tax@guelph.ca T(519)837-5605

- Credit cards now accepted online visit guelph.ca/tax or by telephone @ 1-855-288-5239
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APPENDIX C: ECOLOG ERIS REPORT



DATABASE REPORT

Project Property:

Project No: Report Type: Order No:

Requested by:

Date Completed:

Phase One ESA 1131 Gordon S Guelph ON 116030

Standard Select Report

20160216129 GM BluePlan Engineering Limited February 19, 2016

Ecolog ERIS Ltd.

Environmental Risk Information Service Ltd. (ERIS) A division of Glacier Media Inc. P: 1.866.517.5204 E: info@erisinfo.com

www.erisinfo.com

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Definitions	

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Executive Summary

Property Information:

Project Property:	Phase One ESA
	1131 Gordon S Guelph ON

116030

1,115 FT

339.87 M

Coordinates:

Project No:

Latitude:	43.518906
Longitude:	-80.206568
UTM Northing:	4,818,746.81
UTM Easting:	564,124.56
UTM Zone:	UTM Zone 17T

Elevation:

Order Information:

Order No: Date Requested: Requested by: Report Type: 20160216129 February 16, 2016 GM BluePlan Engineering Limited Standard Select Report

Additional Products:

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Within 0.25 km	Total
AAGR	Abandoned Aggregate Inventory	Ν	-	-	-
AGR	Aggregate Inventory	Ν	-	-	-
AMIS	Abandoned Mine Information System	Ν	-	-	-
ANDR	Anderson's Waste Disposal Sites	Ν	-	-	-
AUWR	Automobile Wrecking & Supplies	Ν	-	-	-
BORE	Borehole	Ν	-	-	-
CA	Certificates of Approval	Y	0	0	0
CFOT	Commercial Fuel Oil Tanks	Ν	-	-	-
CHEM	Chemical Register	Ν	-	-	-
COAL	Inventory of Coal Gasification Plants and Coal Tar Sites	Ν	-	-	-
CONV	Compliance and Convictions	Ν	-	-	-
CPU	Certificates of Property Use	Ν	-	-	-
DRL	Drill Hole Database	Ν	-	-	-
EASR	Environmental Activity and Sector Registry	Ν	-	-	-
EBR	Environmental Registry	Ν	-	-	-
ECA	Environmental Compliance Approval	Ν	-	-	-
EEM	Environmental Effects Monitoring	Ν	-	-	-
EHS	ERIS Historical Searches	Ν	-	-	-
EIIS	Environmental Issues Inventory System	Ν	-	-	-
EMHE	Emergency Management Historical Event	Ν	-	-	-
EXP	List of TSSA Expired Facilities	Y	0	0	0
FCON	Federal Convictions	Ν	-	-	-
FCS	Contaminated Sites on Federal Land	Ν	-	-	-
FOFT	Fisheries & Oceans Fuel Tanks	Ν	-	-	-
FST	Fuel Storage Tank	Y	0	0	0
FSTH	Fuel Storage Tank - Historic	Y	0	0	0
GEN	Ontario Regulation 347 Waste Generators Summary	Y	0	7	7
HINC	TSSA Historic Incidents	Y	0	0	0
IAFT	Indian & Northern Affairs Fuel Tanks	Ν	-	-	-
INC	TSSA Incidents	Ν	-	-	-
LIMO	Landfill Inventory Management Ontario	Ν	-	-	-
MINE	Canadian Mine Locations	Ν	-	-	-
MNR	Mineral Occurrences	Ν	-	-	-
NATE	National Analysis of Trends in Emergencies System (NATES)	Ν	-	-	-
NCPL	Non-Compliance Reports	Ν	-	-	-
NDFT	National Defence & Canadian Forces Fuel Tanks	Ν	-	-	-

Database	Name	Searched	Project Property	Within 0.25 km	Total
NDSP	National Defence & Canadian Forces Spills	Ν	-	-	-
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Ν	-	-	-
NEES	National Environmental Emergencies System (NEES)	Ν	-	-	-
NPCB	National PCB Inventory	Ν	-	-	-
NPRI	National Pollutant Release Inventory	Ν	-	-	-
OGW	Oil and Gas Wells	Ν	-	-	-
OOGW	Ontario Oil and Gas Wells	Ν	-	-	-
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
ORD	Orders	Ν	-	-	-
PAP	Canadian Pulp and Paper	Ν	-	-	-
PCFT	Parks Canada Fuel Storage Tanks	Ν	-	-	-
PES	Pesticide Register	Ν	-	-	-
PINC	TSSA Pipeline Incidents	Ν	-	-	-
PRT	Private and Retail Fuel Storage Tanks	Ν	-	-	-
PTTW	Permit to Take Water	Ν	-	-	-
REC	Ontario Regulation 347 Waste Receivers Summary	Ν	-	-	-
RSC	Record of Site Condition	Ν	-	-	-
RST	Retail Fuel Storage Tanks	Ν	-	-	-
SCT	Scott's Manufacturing Directory	Ν	-	-	-
SPL	Ontario Spills	Y	0	0	0
SRDS	Wastewater Discharger Registration Database	Ν	-	-	-
TANK	Anderson's Storage Tanks	Ν	-	-	-
TCFT	Transport Canada Fuel Storage Tanks	Ν	-	-	-
VAR	TSSA Variances for Abandonment of Underground Storage	Ν	-	-	-
WDS	Tanks Waste Disposal Sites - MOE CA Inventory	Ν	-	-	-
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Ν	-	-	-
WWIS	Water Well Information System	Ν	-	-	-
		Total:	0	7	7

Executive Summary: Site Report Summary - Project Property

Мар Кеу	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
-					• •	

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding *Properties*

Мар Кеу	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
<u>1</u>	GEN	Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON N1G 4X9	W/176.5	-4.87	<u>11</u>
<u>1</u>	GEN	Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON N1G 4X9	W/176.5	-4.87	<u>11</u>
1	GEN	Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON	W/176.5	-4.87	<u>11</u>
1	GEN	Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON	W/176.5	-4.87	<u>11</u>
1	GEN	Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON	W/176.5	-4.87	<u>12</u>
<u>1</u>	GEN	Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON N1G 4X9	W/176.5	-4.87	<u>12</u>
<u>1</u>	GEN	Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON	W/176.5	-4.87	<u>12</u>

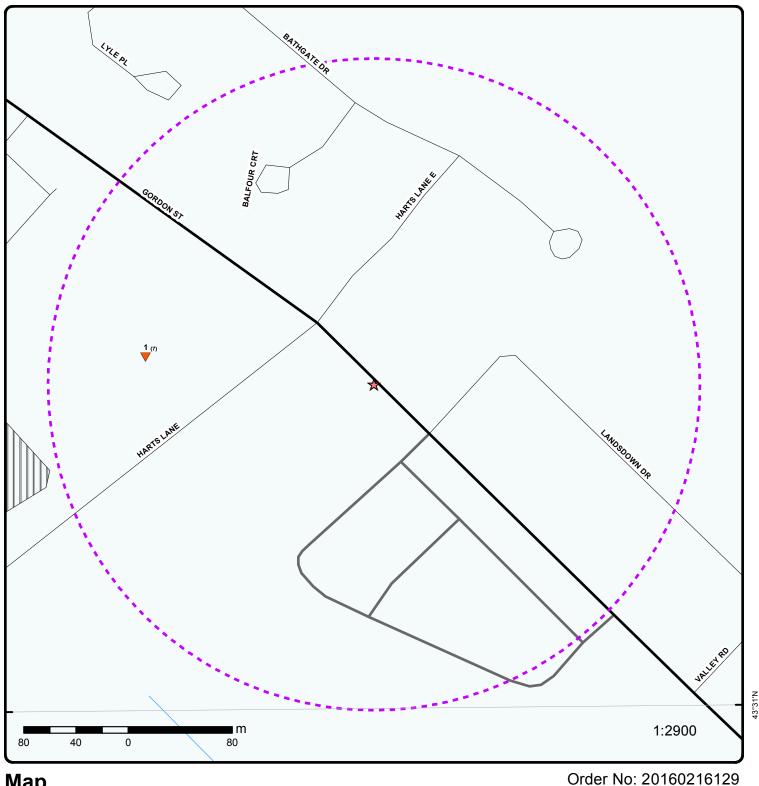
Executive Summary: Summary By Data Source

<u>GEN</u> - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-May 2015 has found that there are 7 GEN site(s) within approximately 0.25 kilometers of the project property.

Equal/Higher Elevation	<u>Address</u>	Direction	<u>Distance (m)</u>	<u>Map Key</u>
Lower Elevation	<u>Address</u>	Direction	<u>Distance (m)</u>	<u>Map Key</u>
Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON N1G 4X9	W	176.51	<u>1</u>
Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON N1G 4X9	W	176.51	<u>1</u>
Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON	W	176.51	<u>1</u>
Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON	W	176.51	<u>1</u>
Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON	W	176.51	<u>1</u>
Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON N1G 4X9	W	176.51	1
Gilbert MacIntyre & Son Funeral Home and Chapel	1099 Gordon St. Guelph ON	W	176.51	<u>1</u>

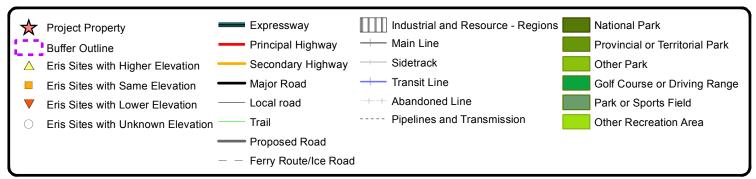
8



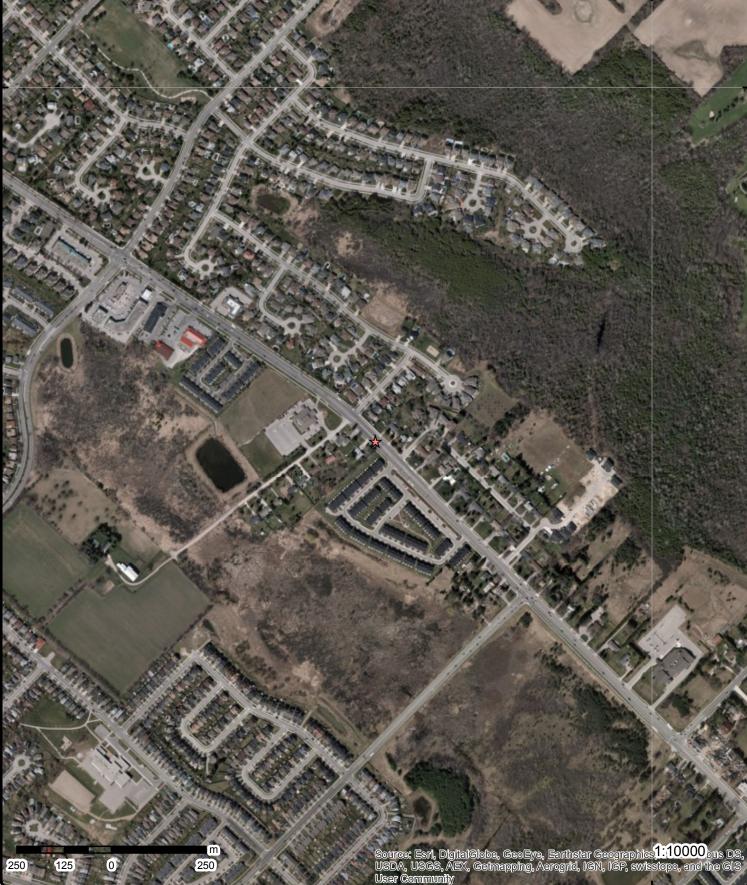
Мар

43°31'N

Address: 1131 Gordon S, Guelph, ON



80°12'W



Aerial

Order No: 20160216129

Address: 1131 Gordon S, Guelph, ON

Detail Report

Records	Direction/ Distance (m)	Elevation (m)	Site	DE
<u>1</u> 1 of 7	W/176.5	335.0	Gilbert MacIntyre & Son Funeral Home and Chapel 1099 Gordon St. Guelph ON N1G 4X9	GEN
Generator #: Approval Yrs: SIC Code: SIC Description:	ON5496976 04,05,06 812210 Funeral Homes			
Details Waste Code: Waste Description:	312 PATHOLOGICAL	WASTES		
<u>1</u> 2 of 7	W/176.5	335.0	Gilbert MacIntyre & Son Funeral Home and Chapel 1099 Gordon St. Guelph ON N1G 4X9	GEN
Generator #: Approval Yrs: SIC Code: SIC Description:	ON5496976 As of May 2015			
Details Waste Code: Waste Description:	312 Pathological was	tes		
<u>1</u> 3 of 7	W/176.5	335.0	Gilbert MacIntyre & Son Funeral Home and Chapel 1099 Gordon St. Guelph ON	GEN
Generator #: Approval Yrs: SIC Code: SIC Description:	ON5496976 2009 812210 Funeral Homes			
Details Waste Code: Waste Description:	312 PATHOLOGICAL	WASTES		
<u>1</u> 4 of 7	W/176.5	335.0	Gilbert MacIntyre & Son Funeral Home and Chapel 1099 Gordon St. Guelph ON	GEN

Мар Кеу	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
Approval Y SIC Code: SIC Descrip		2010 812210 Funeral Homes			
Details - Waste Co Waste De		312 PATHOLOGICAL	WASTES		
1	5 of 7	W/176.5	335.0	Gilbert MacIntyre & Son Funeral Home and Chapel 1099 Gordon St. Guelph ON	GEN
Generator Approval Y SIC Code: SIC Descrij	'rs:	ON5496976 2011 812210 Funeral Homes			
Details - Waste Co Waste De		312 PATHOLOGICAL	WASTES		
1	6 of 7	W/176.5	335.0	Gilbert MacIntyre & Son Funeral Home and Chapel 1099 Gordon St. Guelph ON N1G 4X9	GEN
Generator a Approval Y SIC Code: SIC Descrij	rs:	ON5496976 2012 812210 Funeral Homes			
Details - Waste Co Waste De		312 PATHOLOGICAL	WASTES		
<u>1</u>	7 of 7	W/176.5	335.0	Gilbert MacIntyre & Son Funeral Home and Chapel 1099 Gordon St. Guelph ON	GEN
Generator a Approval Y SIC Code: SIC Descrij	rs:	ON5496976 2013 812210			
Details - Waste Co Waste De		312 PATHOLOGICAL	WASTES		

Unplottable Summary

Total: 30 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
СА	UNIVERSITY OF GUELPH	GORDON STREET	GUELPH CITY ON	
СА	UNIVERSITY OF GUELPH	GORDON STREET	GUELPH CITY ON	
СА	GUELPH CITY	GORDON STREET	GUELPH CITY ON	
СА	UNIVERSITY OF GUELPH	GORDON STREET/LOT 8, CONC. 2	GUELPH CITY ON	
CA	The Corporation of the City of Guelph	Gordon St (from Clair Avenue to approximately 350 metres south of Clair Avenue)	Guelph ON	
СА	UNIVERSITY OF GUELPH	GORDON ST.	GUELPH CITY ON	
CA	UNIVERSITY OF GUELPH - NEW LAB.BLDG.	GORDON ST., NOT. DT. 29-4-92	GUELPH CITY ON	
СА	GUELPH CITY	GORDON ST., PINERIDGE SUBD.	GUELPH CITY ON	
СА	UNIVERSITY OF GUELPH	80RDON ST., ROOM #350	1081PH CITY ON	
СА	University of Guelph	McNaughton Building No. 73, Gordon Street	Guelph ON	
СА	UNIVERSITY OF GUELPH	GORDON ST.	GUELPH CITY ON	
СА	CITY	GORDON ST.	GUELPH CITY ON	
СА	CITY	GORDON ST.	GUELPH CITY ON	
CA	University of Guelph	MacNaughton Building No. 73, Gordon Street	Guelph ON	
CA	The Corporation of the City of Guelph	Bathgate Drive & Landsdown Drive	Guelph ON	
GEN	UNIVERSITY OF GUELPH	GORDON STREET	GUELPH ON	
GEN	UNIVERSITY OF GUELPH	MAIN CAMPUS/GORDON STREET	GUELPH ON	N1G 2W1

GEN	UNIVERSITY OF GUELPH	Main Campus Gordon Street	GUELPH ON	N1G 2W1
GEN	UNIVERSITY OF GUELPH	Main Campus Gordon Street	GUELPH ON	N1G 2W1
GEN	GUELPH, CORPORATION OF THE CITY OF	GORDON STREET RECYCLING DEPOT SOUTH OF WELLINGTON STREET	GUELPH ON	
GEN	GUELPH, CORPORATION OF THE CITY OF	GORDON STREET RECYCLING DEPOT SOUTH OF WELLINGTON STREET, GORDON ST.	GUELPH ON	
GEN	UNIVERSITY OF GUELPH	Main Campus Gordon Street	GUELPH ON	N1G 2W1
GEN	UNIVERSITY OF GUELPH	Main Campus Gordon Street	GUELPH ON	
GEN	UNIVERSITY OF GUELPH 39-068	MAIN CAMPUS GORDON STREET	GUELPH ON	N1G 2W1
GEN	UNIVERSITY OF GUELPH	Main Campus Gordon Street	GUELPH ON	
GEN	UNIVERSITY OF GUELPH	MAIN CAMPUS GORDON STREET	GUELPH ON	N1G 2W1
GEN	UNIVERSITY OF GUELPH	MAIN CAMPUS/GORDON STREET	GUELPH ON	N1G 2W1
GEN	UNIVERSITY OF GUELPH	Main Campus Gordon Street	GUELPH ON	
GEN	UNIVERSITY OF GUELPH	Main Campus Gordon Street	GUELPH ON	
SPL		Gordon St, Waterloo and Yorkshire	Guelph ON	

Unplottable Report

Site: UNIVERSITY OF GUELPH GORDON STREET GUELPH CITY ON

Certificate #: 8-2236-94-Application Year: 94 1/26/1995 Issue Date: Industrial air Approval Type: Status: Cancelled Application Type: Client Name: **Client Address:** Client City: **Client Postal Code: Project Description:** EXH. FAN/STACK FH-104 FOR AXELROD BLDG. Contaminants: **Emission Control:**

UNIVERSITY OF GUELPH Site: GORDON STREET GUELPH CITY ON

Certificate #: Application Year: Issue Date: Approval Type: Status: Application Type: Client Name:	8-2243-92- 92 11/26/1992 Industrial air Approved
Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control:	NEW CHEM. FUMEHOOD NO. FH-112 IN RM. 318 Phenol, Chloroform, Ethyl Acetate, Methyl Alcohol, Acetone, Toluene(Pentyl Methane)(Methyl Benzene) No Controls

Site: **GUELPH CITY** GORDON STREET GUELPH CITY ON

Certificate #: **Application Year:** 86 9/18/1986 Issue Date: Approval Type: Status: Approved Application Type: Client Name: **Client Address: Client City: Client Postal Code: Project Description:**

7-1127-86-Municipal water

erisinfo.com | EcoLog ERIS Ltd. Phase One ESA 1131 Gordon S Guelph ON Database: CA

Database: CA

Database: CA

16

<u>Site:</u>	UNIVERSITY OF GUE GORDON STREET/LC	ELPH OT 8, CONC. 2 GUELPH CITY ON	Database: CA
Applie Issue Appro Status Applie Client Client	oval Type: 5: cation Type: Name: Address: City:	8-2004-92- 92 2/10/1992 Industrial air Approved	
Projec Conta	Postal Code: ct Description: minants: sion Control:	INSTALL 2 NEW CHEMICAL FUMEHOODS Acetone, Methylene Chloride, Formaldehyde, Hydrogen Chloride, Xylene, Toluene(Pe Methane)(Methyl Benzene), Methyl Alcohol, Formic Acid, Sulphuric Acid, Acetic Acid No Controls	ntyl

The Corporation of the City of Guelph <u>Site:</u> Gordon St (from Clair Avenue to approximately 350 metres south of Clair Avenue) Guelph ON

Database: СА

Certificate #: Application Year: Issue Date: Approval Type: Status: Application Type: Client Name: **Client Address: Client City: Client Postal Code: Project Description:** Contaminants: **Emission Control:**

2238-7UFKWY 2009 8/4/2009 Municipal and Private Sewage Works Approved

UNIVERSITY OF GUELPH <u>Site:</u> GORDON ST. GUELPH CITY ON

Certificate #:	3-0825-89-
Application Year:	89
Issue Date:	8/10/1989
Approval Type:	Municipal sewage
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	
Contaminants:	
Emission Control:	

<u>Site:</u> UNIVERSITY OF GUELPH - NEW LAB.BLDG. GORDON ST., NOT. DT. 29-4-92 GUELPH CITY ON

Certificate #: Application Year: Issue Date: Approval Type: Status: Application Type: Client Name: Client Address: Client City: Client Postal Code:	8-2165-90- 90 3/13/1991 Industrial air Approved in 1991
Project Description: Contaminants:	LAB EXHAUST Nitrilotriacetic Acid, Sulphuric Acid, Sodium Hydroxide, Phenol, Methylene Chloride, Methyl Alcohol, Hexane, Hydrogen Chloride, Hydrogen Peroxide, Acetic Acid
Emission Control:	No Controls

<u>Site:</u>	GUELPH CITY	
	GORDON ST., PINERIDGE SUBD.	GUELPH CITY ON

Certificate #:	3-1575-95-006
Application Year:	95
Issue Date:	11/23/95
Approval Type:	Municipal sewage
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	
Contaminants:	
Emission Control:	

<u>Site:</u> UNIVERSITY OF GUELPH 80RDON ST., ROOM #350 1081PH CITY ON

Certificate #: 8-2224-93-**Application Year:** 93 11/8/1993 Issue Date: Approval Type: Industrial air Status: Approved Application Type: Client Name: Client Address: Client City: **Client Postal Code:** EXHAUST FAN/STACK FOR RESEARCH LAB. **Project Description:** Hexane, Ethyl Acetate, Methylene Chloride, Ethyl Ether, Tetrahydrofuran, Pentane, Methyl Contaminants: Alcohol, Chloroform, Carbon Tetrachloride, Ethyl Alcohol, Denat, D

Emission Control:

<u>Site:</u> University of Guelph McNaughton Building No. 73, Gordon Street Guelph ON

18 <u>erisinfo.com</u>| EcoLog ERIS Ltd. Phase One ESA 1131 Gordon S Guelph ON Database: CA

Database:

Database:

Order No: 20160216129

Database: CA Certificate #: Application Year: Issue Date: Approval Type: Status: Application Type: Client Name: Client Address: Client City: Client Code: Project Description: Contaminants: Emission Control: 6031-5FERNG 2002 11/14/2002 Air Revoked and/or Replaced

<u>Site:</u> UNIVERSITY OF GUELPH GORDON ST. GUELPH CITY ON

Database: CA

8-2002-95-	
95	
3/31/1995	
Industrial air	
Approved	
FUMEHOOD FOR RESEARCH ON CHEMICALS	
Phenol, Chloroform, Methylene Chloride, Acetic Acid, Hydrogen Chloride, Methyl Alcohol,	
Mercaptoethanol, Dimethyl Sulfoxide, Dimethyl Formamide	
No Controls	
	8-2002-95- 95 3/31/1995 Industrial air Approved FUMEHOOD FOR RESEARCH ON CHEMICALS Phenol, Chloroform, Methylene Chloride, Acetic Acid, Hydrogen Chloride, Methyl Alcohol, Mercaptoethanol, Dimethyl Sulfoxide, Dimethyl Formamide

<u>Site:</u> CITY GORDON ST. GUELPH CITY ON

Certificate #: Application Year: Issue Date: Approval Type: Status: Application Type: Client Name: Client Address: Client City: Client Code: Project Description: Contaminants: Emission Control: 3-0535-85-000 85 7/19/85 Municipal sewage Application Cancelled

<u>Site:</u> CITY GORDON ST. GUELPH CITY ON

Certificate #: Application Year: Issue Date:

19

3-0004-85-006 85 7/24/85

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Phase One ESA 1131 Gordon S Guelph ON

Order No: 20160216129

Database: CA

Database: CA Approval Type: Status: Application Type: Client Name: Client Address: Client City: Client Postal Code: Project Description: Contaminants: Emission Control: Municipal sewage Approved

<u>Site:</u> University of Guelph MacNaughton Building No. 73, Gordon Street Guelph ON

Certificate #: Application Year: Issue Date: Approval Type: Status: Application Type: Client Name: Client Address: Client City: Client Code: Project Description: Contaminants: Emission Control: 3890-635JDS 2004 9/20/2004 Air Approved Database:

<u>Site:</u> The Corporation of the City of Guelph Bathgate Drive & Landsdown Drive Guelph ON

Certificate #: Application Year: Issue Date:	2671-5Y7LVH 2004 4/28/2004
Approval Type:	Municipal and Private Sewage Works
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	
Project Description:	
Contaminants:	
Emission Control:	

<u>Site:</u> UNIVERSITY OF GUELPH GORDON STREET GUELPH ON

Generator #:	ON0179200
Approval Yrs:	98
SIC Code:	8531
SIC Description:	UNIVERSITY EDUCATION

--- Details ---Waste Code: Waste Description:

112 ACID WASTE - HEAVY METALS

20 <u>erisinfo.com</u>| EcoLog ERIS Ltd. Phase One ESA 1131 Gordon S Guelph ON Database:

Waste Code: 114 Waste Description: OTHER INORGANIC ACID WASTES Waste Code: 121 Waste Description: ALKALINE WASTES - HEAVY METALS Waste Code: 122 Waste Description: ALKALINE WASTES - OTHER METALS Waste Code: 131 Waste Description: **NEUTRALIZED WASTES - HEAVY METALS** Waste Code: 145 PAINT/PIGMENT/COATING RESIDUES Waste Description: Waste Code: 148 INORGANIC LABORATORY CHEMICALS Waste Description: Waste Code: 211 AROMATIC SOLVENTS Waste Description: Waste Code: 212 Waste Description: ALIPHATIC SOLVENTS Waste Code: 213 PETROLEUM DISTILLATES Waste Description: Waste Code: 222 Waste Description: HEAVY FUELS Waste Code: 241 Waste Description: HALOGENATED SOLVENTS Waste Code: 242 Waste Description: HALOGENATED PESTICIDES Waste Code: 243 Waste Description: PCB'S Waste Code: 251 **OIL SKIMMINGS & SLUDGES** Waste Description: + Waste Code: 252 WASTE OILS & LUBRICANTS Waste Description: 261 Waste Code: PHARMACEUTICALS Waste Description: Waste Code: 263 Waste Description: ORGANIC LABORATORY CHEMICALS 267 Waste Code: ORGANIC ACIDS Waste Description: Waste Code: 269 Waste Description: NON-HALOGENATED PESTICIDES Waste Code: 312 Waste Description:

de: 312 scription: PATHOLOGICAL WASTES erisinfo.com EcoLog ERIS Ltd. Phase One ESA 1131 Gordon S Guelph ON

21

Waste Code: 331 Waste Description: WASTE COMPRESSED GASES

Site: UNIVERSITY OF GUELPH MAIN CAMPUS/GORDON STREET GUELPH ON N1G 2W1

112

114

121

131

148

211

212

213

222

241

242

252

HEAVY FUELS

Generator #: Approval Yrs: SIC Code: SIC Description:

--- Details ----

ON0179200 86,87,88,89 8531 UNIVERSITY EDUCATION

ACID WASTE - HEAVY METALS

OTHER INORGANIC ACID WASTES

ALKALINE WASTES - HEAVY METALS

NEUTRALIZED WASTES - HEAVY METALS

INORGANIC LABORATORY CHEMICALS

AROMATIC SOLVENTS

ALIPHATIC SOLVENTS

PETROLEUM DISTILLATES

HALOGENATED SOLVENTS

Waste Code: Waste Description: Waste Code: Waste Description:

267

269

Waste Description: NON-HALOGENATED PESTICIDES 312

Waste Description: PATHOLOGICAL WASTES



Waste Code: Waste Description:

Waste Code:

Waste Code:

22

HALOGENATED PESTICIDES

WASTE OILS & LUBRICANTS

263

ORGANIC LABORATORY CHEMICALS

ORGANIC ACIDS

<u>Site:</u> UNIVERSITY OF GUELPH Main Campus Gordon Street GUELPH ON N1G 2W1

Generator #: Approval Yrs: SIC Code: SIC Description: ON0179200 As of May 2015

Details	
Waste Code:	114
Waste Description: +	Other inorganic acid wastes
т Waste Code:	212
Waste Description:	Aliphatic solvents and residues
+ Waata Cada	242
Waste Code: Waste Description:	243 PCB
+	
Waste Code:	242
Waste Description:	Halogenated pesticides and herbicides
+ Waste Code:	121
Waste Description:	Alkaline slutions - containing heavy metals
+	050
Waste Code: Waste Description:	252 Waste crankcase oils and lubricants
+	
Waste Code:	231
Waste Description:	Latex wastes
+ Waste Code:	131
Waste Description:	Neutralized solutions - containing heavy metals
+	014
Waste Code: Waste Description:	211 Aromatic solvents and residues
+	
Waste Code:	312
Waste Description: +	Pathological wastes
+ Waste Code:	221
Waste Description:	Light fuels
+	147
Waste Code: Waste Description:	Chemical fertilizer wastes
+	
Waste Code:	264
Waste Description: +	Photoprocessing wastes
Waste Code:	266
Waste Description:	Phenolic waste streams
+ Waste Code:	241
Waste Description:	Halogenated solvents and residues
+	
Waste Code:	261 Pharmaceuticals
Waste Description: +	Pharmaceuticais
Waste Code:	270
Waste Description:	Other specified organic sludges, slurries or solids
+ Waste Code:	253
masie voue.	200

Waste Description:	Emulsified oils
+	
T Waste Code:	232
Waste Description:	Polymeric resins
waste Description.	T bigment reams
T Waste Code:	112
Waste Description:	Acid solutions - containing heavy metals
waste Description.	Acid solutions - containing neavy metals
+ Waste Code:	122
Waste Description:	Alkaline slutions - containing other metals and non-metals (not cyanide)
-	Aikaine sidions - containing other metals and non-metals (not cyanide)
+ Waste Code:	251
Waste Description:	Waste oils/sludges (petroleum based)
-	Waste olisisludges (perioleuni based)
+ Waste Code:	263
Waste Description:	Misc. waste organic chemicals
+	Mise. Waste organic chemicals
т Waste Code:	331
Waste Description:	Waste compressed gases including cylinders
+	Waste compressed gases including cylinders
Waste Code:	146
Waste Description:	Other specified inorganic sludges, slurries or solids
+	
Waste Code:	148
Waste Description:	Misc. wastes and inorganic chemicals
+	
Waste Code:	267
Waste Description:	Organic acids
+	ŭ
Waste Code:	145
Waste Description:	Wastes from the use of pigments, coatings and paints
+	
Waste Code:	269
Waste Description:	Organic non-halogenated pesticide and herbicide wastes
•	

<u>Site:</u> UNIVERSITY OF GUELPH Main Campus Gordon Street GUELPH ON N1G 2W1

 Generator #:
 ON0179200

 Approval Yrs:
 02,03,04,05,06,07,08

 SIC Code:
 SIC Description:

Details Waste Code: Waste Description:	253 EMULSIFIED OILS
+ Waste Code: Waste Description:	231 LATEX WASTES
+ Waste Code: Waste Description:	262 DETERGENTS/SOAPS
+ Waste Code: Waste Description: +	270 OTHER SPECIFIED ORGANICS
Waste Code: Waste Description: +	146 OTHER SPECIFIED INORGANICS
Waste Code: Waste Description:	221 LIGHT FUELS

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Waste Code: 243 Waste Description: PCB'S Waste Code: 264 Waste Description: PHOTOPROCESSING WASTES Waste Code: 282 Waste Description: NON-HALOGENATED LEAN ORGANICS Waste Code: 312 Waste Description: PATHOLOGICAL WASTES Waste Code: 112 Waste Description: ACID WASTE - HEAVY METALS Waste Code: 114 Waste Description: OTHER INORGANIC ACID WASTES Waste Code: 121 ALKALINE WASTES - HEAVY METALS Waste Description: Waste Code: 122 Waste Description: ALKALINE WASTES - OTHER METALS Waste Code: 131 **NEUTRALIZED WASTES - HEAVY METALS** Waste Description: 145 Waste Code: PAINT/PIGMENT/COATING RESIDUES Waste Description: Waste Code: 148 Waste Description: INORGANIC LABORATORY CHEMICALS Waste Code: 211 Waste Description: AROMATIC SOLVENTS Waste Code: 212 ALIPHATIC SOLVENTS Waste Description: Waste Code: 213 PETROLEUM DISTILLATES Waste Description: + Waste Code: 222 HEAVY FUELS Waste Description: 241 Waste Code: HALOGENATED SOLVENTS Waste Description: Waste Code: 242 Waste Description: HALOGENATED PESTICIDES 251 Waste Code: **OIL SKIMMINGS & SLUDGES** Waste Description: Waste Code: 252 Waste Description: WASTE OILS & LUBRICANTS Waste Code: 261 PHARMACEUTICALS Waste Description:

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25

Waste Code:	263
Waste Description:	ORGANIC LABORATORY CHEMICALS
+	
Waste Code:	267
Waste Description:	ORGANIC ACIDS
+	
Waste Code:	269
Waste Description:	NON-HALOGENATED PESTICIDES
+	
Waste Code:	331
Waste Description:	WASTE COMPRESSED GASES
•	

GUELPH, CORPORATION OF THE CITY OF <u>Site:</u> GORDON STREET RECYCLING DEPOT SOUTH OF WELLINGTON STREET GUELPH ON

Database: **GEN**

Generator #:	ON0349004
Approval Yrs:	92,93,97
SIC Code:	8373
SIC Description:	ENVIRON. ADMIN.
Details Waste Code: Waste Description:	252 WASTE OILS & LUBRICANTS

<u>Site:</u> GUELPH, CORPORATION OF THE CITY OF Database: GORDON STREET RECYCLING DEPOT SOUTH OF WELLINGTON STREET, GORDON ST. GUELPH ON **GEN**

Generator #:	ON0349004
Approval Yrs:	98,99,00,01
SIC Code:	8373
SIC Description:	ENVIRON. ADMIN.

Details	
Waste Code:	252
Waste Description:	WASTE OILS & LUBRICANTS

<u>Site:</u> UNIVERSITY OF GUELPH Main Campus Gordon Street GUELPH ON N1G 2W1

Generator #: Approval Yrs: SIC Code: SIC Description:	ON0179200 2012 611310 Universities
Details	
Waste Code:	270
Waste Description:	OTHER SPECIFIED ORGANICS
+	
Waste Code:	114
Waste Description:	OTHER INORGANIC ACID WASTES
+	
Waste Code:	331
Waste Description:	WASTE COMPRESSED GASES
+	
Waste Code:	122
Waste Description:	ALKALINE WASTES - OTHER METALS
+	
Waste Code:	241
Waste Description:	HALOGENATED SOLVENTS

GEN

Database:

Waste Code: 131 Waste Description: **NEUTRALIZED WASTES - HEAVY METALS** Waste Code: 253 Waste Description: **EMULSIFIED OILS** Waste Code: 121 Waste Description: ALKALINE WASTES - HEAVY METALS Waste Code: 145 Waste Description: PAINT/PIGMENT/COATING RESIDUES Waste Code: 222 HEAVY FUELS Waste Description: Waste Code: 211 Waste Description: AROMATIC SOLVENTS Waste Code: 282 NON-HALOGENATED LEAN ORGANICS Waste Description: Waste Code: 312 Waste Description: PATHOLOGICAL WASTES Waste Code: 212 ALIPHATIC SOLVENTS Waste Description: Waste Code: 242 Waste Description: HALOGENATED PESTICIDES Waste Code: 112 ACID WASTE - HEAVY METALS Waste Description: Waste Code: 243 Waste Description: PCBS Waste Code: 146 OTHER SPECIFIED INORGANICS Waste Description: Waste Code: 261 PHARMACEUTICALS Waste Description: + Waste Code: 267 ORGANIC ACIDS Waste Description: 264 Waste Code: PHOTOPROCESSING WASTES Waste Description: Waste Code: 148 Waste Description: INORGANIC LABORATORY CHEMICALS 263 Waste Code: ORGANIC LABORATORY CHEMICALS Waste Description: Waste Code: 221 Waste Description: LIGHT FUELS Waste Code: 251 **OIL SKIMMINGS & SLUDGES** Waste Description:

27

Waste Code: Waste Description:	231 LATEX WASTES
+ Waste Code: Waste Description:	213 PETROLEUM DISTILLATES
+ Waste Code: Waste Description:	269 NON-HALOGENATED PESTICIDES
+ Waste Code: Waste Description:	252 WASTE OILS & LUBRICANTS

<u>Site:</u> UNIVERSITY OF GUELPH Main Campus Gordon Street GUELPH ON

Generator #:	ON0179200
Approval Yrs:	2010
SIC Code:	611310
SIC Description:	Universities

Details Waste Code: Waste Description: +	241 HALOGENATED SOLVENTS
Waste Code: Waste Description:	222 HEAVY FUELS
+ Waste Code: Waste Description:	243 PCBS
+ Waste Code: Waste Description:	267 ORGANIC ACIDS
+ Waste Code: Waste Description:	213 PETROLEUM DISTILLATES
+ Waste Code: Waste Description:	148 INORGANIC LABORATORY CHEMICALS
+ Waste Code: Waste Description:	282 NON-HALOGENATED LEAN ORGANICS
+ Waste Code: Waste Description:	270 OTHER SPECIFIED ORGANICS
+ Waste Code: Waste Description:	312 PATHOLOGICAL WASTES
+ Waste Code: Waste Description:	253 EMULSIFIED OILS
+ Waste Code: Waste Description:	211 AROMATIC SOLVENTS
+ Waste Code: Waste Description:	221 LIGHT FUELS
+ Waste Code: Waste Description:	252 WASTE OILS & LUBRICANTS
+ Waste Code:	145

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Waste Description: +	PAINT/PIGMENT/COATING RESIDUES
+ Waste Code: Waste Description: +	331 WASTE COMPRESSED GASES
Waste Code: Waste Description: +	131 NEUTRALIZED WASTES - HEAVY METALS
Waste Code: Waste Description: +	146 OTHER SPECIFIED INORGANICS
• Waste Code: Waste Description: +	242 HALOGENATED PESTICIDES
• Waste Code: Waste Description: +	264 PHOTOPROCESSING WASTES
+ Waste Code: Waste Description: +	114 OTHER INORGANIC ACID WASTES
+ Waste Code: Waste Description: +	121 ALKALINE WASTES - HEAVY METALS
+ Waste Code: Waste Description: +	251 OIL SKIMMINGS & SLUDGES
+ Waste Code: Waste Description: +	112 ACID WASTE - HEAVY METALS
+ Waste Code: Waste Description: +	231 LATEX WASTES
• Waste Code: Waste Description: +	212 ALIPHATIC SOLVENTS
• Waste Code: Waste Description: +	263 ORGANIC LABORATORY CHEMICALS
+ Waste Code: Waste Description: +	269 NON-HALOGENATED PESTICIDES
+ Waste Code: Waste Description: +	261 PHARMACEUTICALS
+ Waste Code: Waste Description:	122 ALKALINE WASTES - OTHER METALS

<u>Site:</u> UNIVERSITY OF GUELPH 39-068 MAIN CAMPUS GORDON STREET GUELPH ON N1G 2W1

8531

269

312

ON0179200 92,93,94,95,96

UNIVERSITY EDUCATION

NON-HALOGENATED PESTICIDES

Generator #:

--- Details ---

+

Approval Yrs: SIC Code:

SIC Description:

Waste Code: Waste Description:

Waste Code:

Waste De	escription: P.	ATHOLOGICAL WASTES
29	erisinfo.com Ecol	_og ERIS Ltd.
	Phase One ESA	1131 Gordon S Guelph ON

Waste Code: 331 Waste Description: WASTE COMPRESSED GASES Waste Code: 112 Waste Description: ACID WASTE - HEAVY METALS Waste Code: 114 Waste Description: OTHER INORGANIC ACID WASTES Waste Code: 121 Waste Description: ALKALINE WASTES - HEAVY METALS Waste Code: 122 Waste Description: ALKALINE WASTES - OTHER METALS Waste Code: 131 NEUTRALIZED WASTES - HEAVY METALS Waste Description: Waste Code: 145 PAINT/PIGMENT/COATING RESIDUES Waste Description: Waste Code: 148 Waste Description: INORGANIC LABORATORY CHEMICALS Waste Code: 211 AROMATIC SOLVENTS Waste Description: Waste Code: 212 Waste Description: ALIPHATIC SOLVENTS Waste Code: 213 Waste Description: PETROLEUM DISTILLATES Waste Code: 222 Waste Description: HEAVY FUELS Waste Code: 241 HALOGENATED SOLVENTS Waste Description: Waste Code: 242 HALOGENATED PESTICIDES Waste Description: + Waste Code: 243 PCB'S Waste Description: 251 Waste Code: **OIL SKIMMINGS & SLUDGES** Waste Description: Waste Code: 252 Waste Description: WASTE OILS & LUBRICANTS 261 Waste Code: PHARMACEUTICALS Waste Description: Waste Code: 263 Waste Description: Waste Code: 267 Waste Description:

30

ORGANIC LABORATORY CHEMICALS ORGANIC ACIDS erisinfo.com | EcoLog ERIS Ltd. Phase One ESA 1131 Gordon S Guelph ON

<u>Site:</u> UNIVERSITY OF GUELPH Main Campus Gordon Street GUELPH ON

Generator #: Approval Yrs: SIC Code: SIC Description:	ON0179200 2011 611310 Universities
Details Waste Code: Waste Description:	211 AROMATIC SOLVENTS
+ Waste Code: Waste Description:	312 PATHOLOGICAL WASTES
+ Waste Code: Waste Description:	145 PAINT/PIGMENT/COATING RESIDUES
+ Waste Code: Waste Description:	122 ALKALINE WASTES - OTHER METALS
+ Waste Code: Waste Description:	131 NEUTRALIZED WASTES - HEAVY METALS
+ Waste Code: Waste Description:	222 HEAVY FUELS
+ Waste Code: Waste Description:	252 WASTE OILS & LUBRICANTS
+ Waste Code: Waste Description:	267 ORGANIC ACIDS
+ Waste Code: Waste Description: +	243 PCBS
+ Waste Code: Waste Description: +	270 OTHER SPECIFIED ORGANICS
т Waste Code: Waste Description: +	282 NON-HALOGENATED LEAN ORGANICS
т Waste Code: Waste Description: +	269 NON-HALOGENATED PESTICIDES
Waste Code: Waste Description:	261 PHARMACEUTICALS
Waste Code: Waste Description:	264 PHOTOPROCESSING WASTES
Waste Code: Waste Description: +	121 ALKALINE WASTES - HEAVY METALS
Waste Code: Waste Description: +	253 EMULSIFIED OILS
+ Waste Code: Waste Description: +	242 HALOGENATED PESTICIDES
Waste Code:	221

Order No: 20160216129

Waste Description:	LIGHT FUELS
+ Waste Code: Waste Description: +	146 OTHER SPECIFIED INORGANICS
Waste Code: Waste Description: +	148 INORGANIC LABORATORY CHEMICALS
• Waste Code: Waste Description: •	263 ORGANIC LABORATORY CHEMICALS
+ Waste Code: Waste Description:	251 OIL SKIMMINGS & SLUDGES
+ Waste Code: Waste Description:	114 OTHER INORGANIC ACID WASTES
+ Waste Code: Waste Description:	213 PETROLEUM DISTILLATES
+ Waste Code: Waste Description:	331 WASTE COMPRESSED GASES
+ Waste Code: Waste Description:	112 ACID WASTE - HEAVY METALS
+ Waste Code: Waste Description:	241 HALOGENATED SOLVENTS
+ Waste Code: Waste Description:	231 LATEX WASTES
+ Waste Code: Waste Description:	212 ALIPHATIC SOLVENTS

<u>Site:</u> UNIVERSITY OF GUELPH MAIN CAMPUS GORDON STREET GUELPH ON N1G 2W1

Generator #: ON0179200 Approval Yrs: 97,99,00,01 SIC Code: 8531 UNIVERSITY EDUCATION SIC Description:

263 ORGANIC LABORATORY CHEMICALS
267 ORGANIC ACIDS
269 NON-HALOGENATED PESTICIDES
312 PATHOLOGICAL WASTES
331 WASTE COMPRESSED GASES
112 ACID WASTE - HEAVY METALS

erisinfo.com EcoLog ERIS Ltd. Phase One ESA 1131 Gordon S Guelph ON 32

+ Waste Code: Waste Description:	114 OTHER INORGANIC ACID WASTES
+ Waste Code: Waste Description:	121 ALKALINE WASTES - HEAVY METALS
+ Waste Code: Waste Description: +	122 ALKALINE WASTES - OTHER METALS
+ Waste Code: Waste Description: +	131 NEUTRALIZED WASTES - HEAVY METALS
+ Waste Code: Waste Description: +	145 PAINT/PIGMENT/COATING RESIDUES
Waste Code: Waste Description: +	148 INORGANIC LABORATORY CHEMICALS
Waste Code: Waste Description: +	211 AROMATIC SOLVENTS
Waste Code: Waste Description: +	212 ALIPHATIC SOLVENTS
Waste Code: Waste Description: +	213 PETROLEUM DISTILLATES
Waste Code: Waste Description: +	222 HEAVY FUELS
Waste Code: Waste Description: +	241 HALOGENATED SOLVENTS
Waste Code: Waste Description: +	242 HALOGENATED PESTICIDES
Waste Code: Waste Description: +	243 PCB'S
Waste Code: Waste Description: +	251 OIL SKIMMINGS & SLUDGES
Waste Code: Waste Description: +	252 WASTE OILS & LUBRICANTS
Waste Code: Waste Description:	261 PHARMACEUTICALS

<u>Site:</u> UNIVERSITY OF GUELPH MAIN CAMPUS/GORDON STREET GUELPH ON N1G 2W1

Generator #:	ON0179200
Approval Yrs:	90
SIC Code:	8531
SIC Description:	UNIVERSITY EDUCATION

Details	
Waste Code:	112
Waste Description:	ACID WASTE - HEAVY METALS

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	Phase One ESA	1131 Gordon S Guelph ON

GEN

Database:

Waste Code: Waste Description: +	114 OTHER INORGANIC ACID WASTES
Waste Code: Waste Description:	121 ALKALINE WASTES - HEAVY METALS
+ Waste Code: Waste Description: +	131 NEUTRALIZED WASTES - HEAVY METALS
Waste Code: Waste Description:	145 PAINT/PIGMENT/COATING RESIDUES
+ Waste Code: Waste Description:	148 INORGANIC LABORATORY CHEMICALS
+ Waste Code: Waste Description:	211 AROMATIC SOLVENTS
+ Waste Code: Waste Description:	212 ALIPHATIC SOLVENTS
+ Waste Code: Waste Description:	213 PETROLEUM DISTILLATES
+ Waste Code: Waste Description:	222 HEAVY FUELS
+ Waste Code: Waste Description:	241 HALOGENATED SOLVENTS
+ Waste Code: Waste Description:	242 HALOGENATED PESTICIDES
+ Waste Code: Waste Description:	252 WASTE OILS & LUBRICANTS
+ Waste Code: Waste Description: +	263 ORGANIC LABORATORY CHEMICALS
Waste Code: Waste Description:	267 ORGANIC ACIDS
+ Waste Code: Waste Description:	269 NON-HALOGENATED PESTICIDES
+ Waste Code: Waste Description:	312 PATHOLOGICAL WASTES

<u>Site:</u> UNIVERSITY OF GUELPH Main Campus Gordon Street GUELPH ON

Generator #: Approval Yrs: SIC Code: SIC Description:	ON0179200 2009 611310 Universities	
Details Waste Code: Waste Description:	112 ACID WASTE - HEAVY METALS	
+ Waste Code:	114	
	n EcoLog ERIS Ltd. ESA 1131 Gordon S Guelph ON	Order No: 20160216129

Waste Description: +	OTHER INORGANIC ACID WASTES
Waste Code: Waste Description:	121 ALKALINE WASTES - HEAVY METALS
Waste Code: Waste Description:	122 ALKALINE WASTES - OTHER METALS
Waste Code: Waste Description:	131 NEUTRALIZED WASTES - HEAVY METALS
Waste Code: Waste Description:	145 PAINT/PIGMENT/COATING RESIDUES
Waste Code: Waste Description:	146 OTHER SPECIFIED INORGANICS
Waste Code: Waste Description: +	148 INORGANIC LABORATORY CHEMICALS
Waste Code: Waste Description: +	211 AROMATIC SOLVENTS
Waste Code: Waste Description: +	212 ALIPHATIC SOLVENTS
Waste Code: Waste Description: +	213 PETROLEUM DISTILLATES
Waste Code: Waste Description:	221 LIGHT FUELS
Waste Code: Waste Description: +	222 HEAVY FUELS
Waste Code: Waste Description: +	231 LATEX WASTES
Waste Code: Waste Description: +	241 HALOGENATED SOLVENTS
Waste Code: Waste Description: +	242 HALOGENATED PESTICIDES
Waste Code: Waste Description: +	243 PCBS
Waste Code: Waste Description: +	251 OIL SKIMMINGS & SLUDGES
Waste Code: Waste Description: +	252 WASTE OILS & LUBRICANTS
Waste Code: Waste Description:	253 EMULSIFIED OILS
+ Waste Code: Waste Description: +	261 PHARMACEUTICALS
 ₩aste Code: Waste Description: 	263 ORGANIC LABORATORY CHEMICALS

+ Waste Code: Waste Description:	264 PHOTOPROCESSING WASTES
+ Waste Code: Waste Description: +	267 ORGANIC ACIDS
Waste Code: Waste Description: +	269 NON-HALOGENATED PESTICIDES
Waste Code: Waste Description: +	270 OTHER SPECIFIED ORGANICS
Waste Code: Waste Description: +	282 NON-HALOGENATED LEAN ORGANICS
Waste Code: Waste Description: +	312 PATHOLOGICAL WASTES
Waste Code: Waste Description:	331 WASTE COMPRESSED GASES

<u>Site:</u> UNIVERSITY OF GUELPH Main Campus Gordon Street GUELPH ON

Generator #: Approval Yrs: SIC Code: SIC Description:	ON0179200 2013 611310 UNIVERSITIES
Details Waste Code: Waste Description: + Waste Code:	211 AROMATIC SOLVENTS 145
Waste Description: + Waste Code: Waste Description: +	PAINT/PIGMENT/COATING RESIDUES 114 OTHER INORGANIC ACID WASTES
Waste Code: Waste Description: + Waste Code: Waste Description:	282 NON-HALOGENATED LEAN ORGANICS 253 EMULSIFIED OILS
+ Waste Code: Waste Description: +	312 PATHOLOGICAL WASTES
Waste Code: Waste Description: + Waste Code: Waste Description:	266 PHENOLIC WASTES 251 OIL SKIMMINGS & SLUDGES
+ Waste Code: Waste Description: + Waste Code:	122 ALKALINE WASTES - OTHER METALS 267
Waste Description:	ORGANIC ACIDS

Order No: 20160216129

Waste Code: 331 WASTE COMPRESSED GASES Waste Description: Waste Code: 131 Waste Description: **NEUTRALIZED WASTES - HEAVY METALS** Waste Code: 261 PHARMACEUTICALS Waste Description: Waste Code: 148 INORGANIC LABORATORY CHEMICALS Waste Description: Waste Code: 213 PETROLEUM DISTILLATES Waste Description: Waste Code: 241 Waste Description: HALOGENATED SOLVENTS Waste Code: 112 ACID WASTE - HEAVY METALS Waste Description: Waste Code: 252 Waste Description: WASTE OILS & LUBRICANTS Waste Code: 269 Waste Description: NON-HALOGENATED PESTICIDES Waste Code: 270 Waste Description: OTHER SPECIFIED ORGANICS Waste Code: 242 Waste Description: HALOGENATED PESTICIDES Waste Code: 264 Waste Description: PHOTOPROCESSING WASTES Waste Code: 146 Waste Description: OTHER SPECIFIED INORGANICS Waste Code: 147 Waste Description: CHEMICAL FERTILIZER WASTES Waste Code: 212 Waste Description: ALIPHATIC SOLVENTS Waste Code: 263 ORGANIC LABORATORY CHEMICALS Waste Description: 221 Waste Code: Waste Description: LIGHT FUELS Waste Code: 243 Waste Description: PCBS Waste Code: 231 Waste Description: LATEX WASTES Waste Code: 222 Waste Description: HEAVY FUELS Waste Code: 121

<u>Site:</u>

Gordon St, Waterloo and Yorkshire Guelph ON

Ref NO:	0443-6D8NAW
Contaminant Code: Contaminant Name:	DIESEL FUEL
Contaminant Quantity: Incident Cause:	90.9 L
Incident Dt: Incident Reason:	6/10/2005
Incident Summary:	diesel on road being cleaned by city
MOE Reported Dt: Environmental Impact:	6/10/2005 Not Anticipated
Nature of Impact: Receiving Medium:	Land
SAC Action Class: Sector Source Type:	Spills to Highways (usually highway accidents) Other Motor Vehicle
Site Municipality:	Guelph



Appendix: Database Descriptions

Ecolog Environmental Risk Information Services Ltd (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. Note: Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.

Abandoned Aggregate Inventory:

The MAAP Program maintains a database of all abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

Government Publication Date: Sept 2002*

Aggregate Inventory:

The Ontario Ministry of Natural Resources maintains a database of all active pits and guarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Mar 2015

Abandoned Mine Information System:

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation. Government Publication Date: 1800-Oct 2014

Anderson's Waste Disposal Sites:

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only. Government Publication Date: 1860s-Present

Automobile Wrecking & Supplies:

This database provides an inventory of all known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 2001-Jul 2014

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Order No: 20160216129

Private

AUWR

AAGR

AGR

ANDR

Provincial

Provincial

Provincial AMIS

Private

Order No: 20160216129

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Chemical Register:

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.). Government Publication Date: 1992, 1999-Jul 2014

Inventory of Coal Gasification Plants and Coal Tar Sites:

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

Government Publication Date: Apr 1987 and Nov 1988*

Compliance and Convictions:

Provincial CONV This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law. Government Publication Date: 1989-Feb 2014

Certificates of Property Use:

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use. Government Publication Date: 1994-Jan 2016

Borehole:

Provincial A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Government Publication Date: 1875-Jul 2014

Certificates of Approval:

Provincial CA This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011. Government Publication Date: 1985-Oct 30, 2011*

Commercial Fuel Oil Tanks:

Since May 2002, Ontario developed a new act where it became mandatory for fuel oil tanks to be registered with Technical Standards & Safety Authority (TSSA). This data would include all commercial underground fuel oil tanks in Ontario with fields such as location, registration number, tank material, age of tank and tank size. Government Publication Date: 1948-Dec 2015

Provincial CFOT

BORE

Provincial COAL

Provincial CPU

Private CHEM Drill Hole Database:

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work". Government Publication Date: 1886-Jun 2014

Environmental Activity and Sector Registry:

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database. Government Publication Date: Oct 31 2011-Oct 2015

Environmental Registry:

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works -OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases. Government Publication Date: 1994-Jan 2016

Environmental Compliance Approval:

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database. Government Publication Date: Oct 31. 2011-Jun 2015

Environmental Effects Monitoring:

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data. Government Publication Date: 1992-2007*

ERIS Historical Searches:

41

EHS ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page. Government Publication Date: 1999-Aug 2014

Provincial ECA

Private

DRL

EBR

EEM

Provincial

EASR

Provincial

Provincial

Federal

Order No: 20160216129

the Emergency Management and Civil Protection Act as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or

events. Events captured will include those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under

involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance. Government Publication Date: May 31, 2014

List of TSSA Expired Facilities:

This is a list of all expired facilities that fall under the TSSA (TSSA Act & Safety Regulations), including the six regulations that exist under the Fuels Safety Division. It will include facilities such as private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. These tanks have been removed and automatically fall under the expired facilities inventory held by TSSA. Government Publication Date: Current to Nov 2015

Federal Convictions:

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty. Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land: FCS The Federal Contaminated Sites Inventory includes information on all known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

Government Publication Date: June 2000-Oct 2015

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Fisheries & Oceans Fuel Tanks:

Fisheries & Oceans Canada maintains an inventory of all aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation. Government Publication Date: 1964-Sept 2003

Fuel Storage Tank:

The Technical Standards & Safety Authority (TSSA), under the Technical Standards & Safety Act of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type. Government Publication Date: 2010-Nov 2015

Environmental Issues Inventory System:

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed. Government Publication Date: 1992-2001*

Emergency Management Historical Event:

Federal

Federal

Federal

Provincial

Federal

EIIS

Provincial EMHE The Emergency Management Historical Event data class will store the locations of historical occurrences of emergency

Provincial EXP

FCON

FOFT

FST

Fuel Storage Tank - Historic:

The Technical Standards & Safety Authority (TSSA), under the Technical Standards & Safety Act of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type. *Government Publication Date: Pre-Jan 2010**

Ontario Regulation 347 Waste Generators Summary:

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

Government Publication Date: 1986-May 2015

TSSA Historic Incidents:

This database will cover all incidences recorded by TSSA with their older system, before they moved to their new management system. TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. The TSSA works to protect the public, the environment and property from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from pipelines, diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA. *Government Publication Date: 2006-June 2009**

Indian & Northern Affairs Fuel Tanks:

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of all aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

TSSA Incidents:

43

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

Government Publication Date: June 2009 - Nov 2015

Provincial GEN

Provincial HINC

Federal

IAFT

Provincial INC

Provincial FSTH

Landfill Inventory Management Ontario:

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the ministry compiles new and updated information. The inventory will include small and large landfills. Additionally, each year the ministry will request operators of the larger landfills complete a landfill data collection form that will be used to update LIMO and will include the following information from the previous operating year. This will include additional information such as estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills will include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: 2012

Canadian Mine Locations:

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database. Government Publication Date: 1998-2009*

Mineral Occurrences:

Provincial In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy. Government Publication Date: 1846-Apr 2013

National Analysis of Trends in Emergencies System (NATES):

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released. Government Publication Date: 1974-1994*

Non-Compliance Reports:

Provincial NCPL The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act. Government Publication Date: 1994-2013

National Defence & Canadian Forces Fuel Tanks:

The Department of National Defence and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

44

Provincial LIMO

MINE

MNR

NATE

Private

Federal

Federal

NDFT

National Defence & Canadian Forces Spills:

The Department of National Defence and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered. Government Publication Date: Mar 1999-Aug 2010

National Defence & Canadian Forces Waste Disposal Sites:

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status. Government Publication Date: 2001-Apr 2007*

National Environmental Emergencies System (NEES):

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for all previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004. Government Publication Date: 1974-2003*

National PCB Inventory:

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. All federal out-of-service PCB containing equipment and all PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored. Government Publication Date: 1988-2008*

National Pollutant Release Inventory:

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances. Government Publication Date: 1993-2013

Oil and Gas Wells:

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-2015

Ontario Oil and Gas Wells:

Provincial In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, and well cap date, license No., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record. Government Publication Date: 1800-Aug 2015

Federal

NDSP

NDWD

Federal

Federal NEES

Federal NPCB

NPRI

OGW

Federal

Private

OOGW

Order No: 20160216129

Inventory of PCB Storage Sites:

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory. Government Publication Date: 1987-Oct 2004: 2012-Dec 2013

Provincial ORD Orders: This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994-Jan 2016

<u>Canadian Pulp and Paper:</u>

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce. Government Publication Date: 1999, 2002, 2004, 2005, 2009

Parks Canada Fuel Storage Tanks:

Canadian Heritage maintains an inventory of all known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register:

The Ontario Ministry of Environment maintains a database of all manufacturers and vendors of registered pesticides. Government Publication Date: 1988-Jun 2013

Provincial **TSSA Pipeline Incidents:** PINC TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. This database will include spills, strike and leaks from recorded by the TSSA.

Government Publication Date: June 2009-2014

Private and Retail Fuel Storage Tanks:

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA). Government Publication Date: 1989-1996*

Permit to Take Water:

46

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water. Government Publication Date: 1994-Jan 2016

Provincial OPCB

Private

Federal

PAP

PCFT

PRT

Provincial PES

PTTW

Provincial

Provincial

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating

Ontario Regulation 347 Waste Receivers Summary:

waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Government Publication Date: 1986-2013

Record of Site Condition:

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.

RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09). *Government Publication Date: 1997-Sept 2001, Oct 2004-Jan 2016*

Retail Fuel Storage Tanks:

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks. Government Publication Date: 1999-Jul 2014

Scott's Manufacturing Directory:

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database. *Government Publication Date: 1992-Mar 2011**

Ontario Spills: Provincial SPL This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X. *Government Publication Date: 1988-Jun 2015*

Wastewater Discharger Registration Database:

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS). *Government Publication Date: 1990-2013*

Anderson's Storage Tanks:

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1915-1953*

Provincial

REC

Provincial RSC

Private RST

Private

SCT

SRDS

TANK

Private

Provincial

Transport Canada Fuel Storage Tanks:

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type. *Government Publication Date: 1970-Mar 2007*

TSSA Variances for Abandonment of Underground Storage Tanks:

The TSSA, under the Liquid Fuels Handling Code and the Fuel Oil Code, all underground storage tanks must be removed within two years of disuse. If removal of a tank is not feasible, you may apply to seek a variance from this code requirement. This is a list of all variances granted for abandoned tanks. *Government Publication Date: Current to Nov 2015*

Waste Disposal Sites - MOE CA Inventory:

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Waste Disposal Sites - MOE 1991 Historical Approval Inventory:

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location is provided on site location, site/CA number, waste type, site status and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

<u>Water Well Information System:</u>

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Government Publication Date: 1955-Mar 2014

Federal TCFT

Provincial VAR

Provincial WDS

Provincial

Provincial

WDSH

WWIS

Definitions

<u>Database Descriptions</u>: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report. This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries". All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

<u>**Unplottables**</u>: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and were included as reference.

APPENDIX D: REGULATORY DOCUMENTS



Freedom of Information Request

This form is for requesting documents which are in the Ministry's files on environmental concerns related to properties. Please refer to the guide on completion and use of this form. Our fax no. is (416) 314-4285.

	Requester Data	For Ministry Use Only							
Name, Company Name, Mailing Address and I	Email Address of Requester	low Vourz z'	FOI Request No.		Date Request Received				
Email address:		Cory Young c/o ePlan Engineering Ltd.	Fee Paid						
		Road West, Block "C", Unit 2							
cory.young@gmblueplan.c			HQ □	VISA/MC 🗆 CASH					
Telephone/Fax Nos.		R 🗆 SWR 🗆 WCR							
Tel. 519.824.8150 Fax 519.824.8089	116030								
Fax 519.824.8089 Cory Young Reguest Parameters									
Municipal Address / Lot, Concession, Geograph	lic Township (Municipal addr	ress essential for cities, towns or regions)							
1131 Gordon St	reet, Guelph, O	N							
Present Property Owner(s) and Date(s) of Owner 1876698 Ontario		resent							
Previous Property Owner(s) and Date(s) of Own	•	1050111							
Present/Previous Tenant(s),(if applicable)									
Files older than 2 years may require	Sea \$60.00 retrieval cost. Th	Specify Year(s) Requested ve to your request will be located.							
Environmental concerns (Ge	e, occurrence reports, abatement)	1986 to present							
Orders					1986 to present				
Spills					1986 to present				
Investigations/prosecutions	Owner AND tenar	nt information must be provided			1986 to present				
Waste Generator number/cla	ISSES				1986 to present				
	Certificates	s of Approval > Proponent infor	mation must be provi	ded					
	ched manually. Search	h fees in excess of \$300.00 could be porting documents are also required,	incurred, depending on	n the types					
		- · ·		SD	Specify Year(s) Requested				
air - emissions					1986 to present				
water - mains, treatment, ground le	evel, standpipes & elevate	ed storage, pumping stations (local & boost	er)		1986 to present				
Sewage - sanitary, storm, treatmen	nt, stormwater, leachate &	& leachate treatment & sewage pump static	INS		1986 to present				
waste water - industrial discharge	<u>95</u>				1986 to present				
waste sites - disposal, landfill site	s, transfer stations, proce	ssing sites, incinerator sites			1986 to present				
waste systems - PCB destruction	1986 to present								
pesticides - licenses		1986 to present							

A \$5.00 non-refundable application fee, payable to the Minister of Finance, is mandatory. The cost of locating on-site and/or preparing any record is \$30.00/hour and 20 cents/page for photocopying and you will be contacted for approval for fees in excess of \$30.00.

Cory Young - GM BluePlan

From:	Prem Lal <plal@tssa.org> on behalf of Public Information Services <publicinformationservices@tssa.org></publicinformationservices@tssa.org></plal@tssa.org>
Sent:	Thursday, March 03, 2016 11:34 AM
То:	Cory Young - GM BluePlan
Subject:	RE: 116030 - Database Search Request

Hi Cory:

Thank you for your inquiry.

We have no record in our database of any fuel storage tanks at the subject address (addresses).

For a further search in our archives please submit your request in writing to Public Information Services via e-mail (<u>publicinformationservices@tssa.org</u>) or through mail along with a fee of \$56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard) or with a Cheque made payable to TSSA.

Thank you Cory and you have a great day.

Prem



Public Information Services Facilities & Business Services 3300 Bloor Street West Center Tower, 16th Floor Toronto, Ontario, M8X-2X4 Tel: 1-877-682-8772 Fax: (416) 734-3568 E-mail: <u>publicinformationservices@tssa.org</u> www.tssa.org

From: Cory Young - GM BluePlan [mailto:Cory.Young@gmblueplan.ca]
Sent: Thursday, March 03, 2016 11:20 AM
To: Public Information Services
Subject: 116030 - Database Search Request

Good morning,

We were hoping that you could search your records for the presence of any ASTs or USTs at the following addresses in the city of Guelph:

- 1 Hart's Lane East;
- 119, 1131, 134 and 1142 Gordon Street.

Thank you and have a great day.

Cory Young, B.Sc.-Env.Sc., C.Tech Senior Technical Specialist

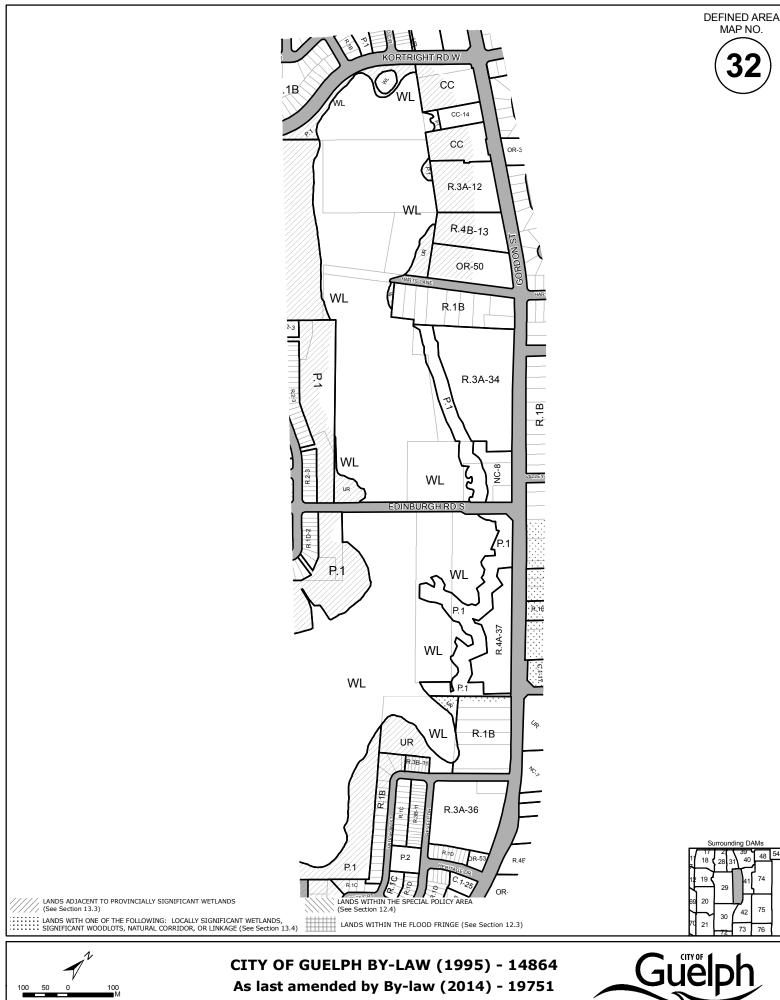
GM BluePlan Engineering Limited 650 Woodlawn Road West, Block C, Unit 2 | Guelph ON N1K 1B8 t: 519.824.8150 | c: 226.755.1055 cory.young@gmblueplan.ca | www.gmblueplan.ca



N O T I C E - This message from GM BluePlan Engineering Limited is intended only for the use of the individual or entity to which it is addressed and may contain information which is privileged, confidential or proprietary. Internet communications cannot be guaranteed to be secure or error-free as information could be intercepted, corrupted, lost, arrive late or contain viruses. By communicating with us via e-mail, you accept such risks. When addressed to our clients, any information, drawings, opinions or advice (collectively, "information") contained in this e-mail is subject to the terms and conditions expressed in the governing agreements. Where no such agreement exists, the recipient shall neither rely upon nor disclose to others, such information without our written consent. Unless otherwise agreed, we do not assume any liability with respect to the accuracy or completeness of the information set out in this e-mail. If you have received this message in error, please notify us immediately by return e-mail and delete the message from your computer systems.

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APPENDIX E: ZONING MAPS



Produced by the City of Guelph Development Planning SCHEDULE 'A'

Making a Difference

APPENDIX F: PREVIOUS REPORTS



GEOTECHNICAL INVESTIGATION TOWNHOUSE DEVELOPMENT **1131 GORDON STREET SOUTH** CITY OF GUELPH, ONTARIO

Ref. No. G3712-6-3 March, 2016

Prepared for:

Young Yool Kim 392 Kincardine Terrace Milton, Ontario L9T 8E9

Distribution:

(2) Copies – Young Yool Kim(2) Copies – GM Blueplan Engineering Ltd.

(2) Copies – Astrid J. Clos
(2) Copies – V.A. Wood (Guelph) Inc.



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3.0	SUBSURFACE CO	ONDITIONS	3
4.0	GROUNDWATER	CONDITIONS	6
5.0	DISCUSSION AND	RECOMMENDATIONS	5
6.0	STATEMENT OF L	IMITATIONS	10

<u>APPENDIX</u>

APPENDIX 'A' Statement of Limitations

ENCLOSURES

<u>No.</u>

BOREHOLE LOCATION PLAN	1
BOREHOLE LOGS	2 - 3
GRAIN SIZE DISTRIBUTION CURVES	4 - 6



V.A. Wood (Guelph) Inc. was retained by Young Yool Kim to carry out a geotechnical investigation for the proposed residential development at 1131 Gordon Street in the City of Guelph, Ontario.

The purpose of the investigation was to reveal the subsurface conditions and to determine the relevant soil properties for recommendations concerning the design and construction of the sewers, foundations, pavement areas and storm water management.

-1-



2.0 <u>FIELD WORK</u>:

The fieldwork was carried out on February 23, 2016 and consisted of two (2) boreholes at the locations shown on Enclosure 1. The boreholes were advanced to the sampling depths by means of a track-mounted, power auger machine, equipped for soil sampling. Standard Penetration tests were carried out at frequent intervals of depth and the results are shown on the Borehole Logs as N-values.

V.A. Wood (Guelph) Inc. engineering staff supervised the fieldwork. The ground elevation at each borehole location was provided by GM Blueplan Engineering Ltd.



3.0 SUBSURFACE CONDITIONS:

Full details of the soils encountered in each borehole are given on the Borehole Logs, Enclosures 2 and 3, and the following notes are intended to summarize this data.

A deposit of **topsoil** was encountered from surface at the boreholes ranging between 250 and 460mm in thickness. Standard Penetration tests in the topsoil gave N-values ranging between 2 and 3 blows/300mm and the natural moisture content was found to be about 20%.

A deposit of brown sand and gravel <u>fill</u> was encountered below the topsoil at Borehole 1 to a depth of about 2.3 metres below grade. Standard Penetration tests in the deposit gave N-values ranging between 20 and 53 blows/300mm and the natural moisture content was found to be about 6%. A typical grain size distribution curve for this material can be found on Enclosure 4.

Based on the test results, the deposit of possible fill is considered to be in a generally compact to very dense condition, although the presence of gravel and cobble in the deposit may have resulted in high N-values and these may not accurately represent the relative density of the soil.

A deposit of brown silty gravelly sand <u>fill</u> was encountered below the topsoil at Borehole 2 to a depth of about 1.5 metres below grade. Standard Penetration tests in the deposit gave N-values ranging between 5 and 10 blows/300mm and the natural moisture content was found to be about 23%. A typical grain size distribution curve for this material can be found on Enclosure 5.

Based on the test results, the deposit of fill is considered to be in a generally loose to compact condition.

The fill at Boreholes 1 and 2 was underlain by a deposit of brown <u>silt and sand</u>, which extended to the full depth of the investigation (i.e. 5.0 metres below grade). Standard Penetration tests in the this material gave N-values ranging between 6 and greater than 100 blows/300mm and the natural moisture content was found to range from 8 to 11%. A typical grain size distribution curve for this material can be found on Enclosure 6.

Based on the test results, this deposit of silt and sand is considered to be in a generally loose to very dense condition, although the presence of gravel and cobble in the deposit may have resulted in high N-values and these may not accurately represent the relative density of the soil.



-4-

4.0 GROUNDWATER CONDITIONS:

The borehole were dry and open to the full depth of the investigation (i.e. 5.0 metres below grade) at completion of the field work on February 23, 2016.

An examination of the soil samples indicated that they were generally moist to wet.

It is noted that no sub-artesian water pressures were encountered in any of the boreholes.

Based on the foregoing, the groundwater table is considered to be located below elevation 332.7m±, although a perched water condition can be expected in the upper zones due to the less permeable underlying silt and sand.



-5-

Ref. No. G3712-6-3

5.0 DISCUSSION AND RECOMMENDATIONS:

5.1 <u>General</u>:

The boreholes encountered a surficial deposit of topsoil underlain by sand and gravel fill or silty gravelly sand fill on loose to very dense silt and sand.

The groundwater table is considered to be located below elevation 332.7m±, although a perched water condition can be expected in the upper zones due to the less permeable underlying silt and sand.

5.2 <u>Sewers</u>:

It is anticipated that the sewer inverts will be located at typical depths ranging between 1 and 4 metres below grade.

Reference to the Borehole Logs indicates that the subgrade will likely consist of deposits of compact sand and gravel fill, loose to compact silty gravelly sand fill or loose to dense silt and sand. These materials will generally provide adequate support for the pipes and allow the use of normal Class 'B' bedding using Granular 'A' material. Clear crushed stone should <u>not</u> be used as bedding in the silty sand and clayey silt till unless it is wrapped with geotextile to prevent undesirable settlements caused from fines migrating into the voids of the stone. Where the exposed subgrade is less competent, the bedding thickness may have to be increased and it may be necessary to protect the excavation with a skim coat of concrete immediately after it has been exposed.

The sides of the excavation to a depth of more than 1.2 metres should either be cut back at a side slope of 1 to 1 or supported using adequately braced closed sheeting.

The excavated materials will be generally suitable for use as trench backfill provided that they are free of topsoil and boulders. If the on-site materials are or become wet, they should be air dried prior to re-use as trench backfill. The trench backfill should be placed in 150 to 200mm thick layers and uniformly compacted to at least 95% of its Standard Proctor maximum dry density. The backfill around manholes should consist of wellgraded and well-compacted granular material.

To minimize potential problems and wetting of the subgrade material, backfilling operations should follow closely after excavations, so that only a minimal length of trench is exposed at a time. Should construction be carried out in the winter season, particular attention should be given to make sure no frozen material is used for backfill.



5.3 Foundations:

The existing topsoil and fill are not considered a suitable bearing strata. Therefore the foundations for the proposed structure should be extended into the native silt and sand designed to a S.L.S. of 150 kPa/U.L.S. of 210 kPa at the elevations indicated in the following chart.

	Proposed Townhouse											
Location	Borehole Suitable Ground Bearing Stratum Elevation (m±)		Bearing Stratum	Depth to Suitable Bearing Stratum Below Existing Grade (m±)	Depth to Suitable Bearing Stratum Below Prop Main Floor El. FF. 342.54 (m±)							
BH 1	340.2	337.2	Silt and Sand	3.0	5.3							
BH 2	337.7	335.6	Silt and Sand	2.1	6.9							

If these foundation depths are considered too great then the foundation grade could be raised with "engineered fill".

The procedure for the "engineered fill" would consist of the following:

- 1. The total removal of topsoil and fill from beneath the proposed building addition envelope.
- 2. Geotechnical personnel from V.A. Wood (Guelph) Inc., prior to placement of engineered fill should inspect the exposed subgrade. Any loose zones which are encountered should be removed and replaced with approved on-site or imported granular material, compacted to at least 98% Standard Proctor maximum dry density.
- 3. The area should then be brought up to the final subgrade level with approved on-site or imported granular material placed in maximum 200mm thick lifts and compacted to at least 98% Standard Proctor maximum dry density.
- 4. The "engineered fill" under the footings should extend to at least 0.6 metres laterally beyond the edge of their perimeter at the foundation level and at least a distance equal to the depths of the fill pad, at the level of the approved subgrade.
- 5. The "engineered fill" should be in place at least one month prior to foundation construction to minimize settlement.

-6-



The "engineered fill" could be brought up to the underside of the granular floor bases and footings could then be trenched into the "engineered fill" and designed to a S.L.S. of 150 kPa/U.L.S. of 210 kPa. Footings founded on "engineered fill" should be reinforced.

This "engineered fill" will satisfy the raising of the foundation level to the proposed grades and provide a suitable subgrade for the proposed floor slabs.

We do not consider the placement of "engineered fill" within the trench excavations to be adequate for supporting foundations for the proposed structure since the required degree of compaction is difficult to attain within the narrow confines of a trench. Hence, you can expect differential settlement of the "engineered fill" which may result in cracking of the foundation walls.

The placement of "engineered fill" should be supervised on a full-time basis by personnel from V.A. Wood (Guelph) Inc. to ensure approved materials are used and that suitable compaction of the fill is obtained.

All exterior footings or footings in unheated areas should be located at least 1.2 metres below finished grade for adequate frost protection.

Elevation differences between adjacent footings should not be more than a half of the horizontal distance between them.

It is estimated that the total and differential settlements of footings designed to these bearing pressures will be less than 25 and 20mm respectively, which are normally considered acceptable for the proposed structure.

It is recommended that all foundation excavations be inspected by geotechnical personnel from V.A. Wood (Guelph) Inc. to ensure the founding soils are similar to those identified in the boreholes and that they are capable of supporting the design loads.

Based on the 2012 Building Code Compendium, the classification of soils for seismic design should be based on the average properties of the top 30 metres of the soil profile. The deepest borehole was only 6 metres deep and was terminated in compact to dense silt and sand. Assuming the compact to dense deposits extend to depth, the site soils may be classified as Site Class 'D' under the site classification for seismic response of 2012 Building Code Compendium.

5.4 Excavation and Groundwater Control:

No major construction problems due to water are anticipated with excavations above elevation 332.7m±. However, provision should be made for control of surface water runoff and minor seepage from the fill or any wet sand seams by pumping from local sumps as and where required basis.

5.5 Floor Slabs:

The topsoil and any deleterious fill materials encountered should be stripped from the building areas and the proposed subgrade should be re-compacted from the surface to at least 95% of its Standard Proctor maximum dry density. Any loose/wet material encountered should be sub-excavated and replaced with approved fill.

The fill may consist of approved on-site materials free of cobbles/boulders or approved imported fill. All fill should be placed in 150 to 200mm thick lifts and compacted to at least 95% Standard Proctor maximum dry density. It is recommended the underfloor fill be placed at least one month prior to floor construction in order to minimize settlement.

A layer of well-graded, free-draining material, at least 150mm thick and compacted to at least 98% Standard Proctor maximum density, should be placed under the floor slabs to provide a uniform bearing surface and act as a vapour barrier.

Frequent inspections by geotechnical personnel from V.A. Wood (Guelph) Inc. should be carried out during construction to verify compaction of the subgrade and base courses by in-situ density testing using nuclear gauges.

5.6 Pavement Designs:

All topsoil and any other deleterious materials encountered should be stripped from the proposed paved/parking area(s). The underlying subgrade should then be recompacted from the surface to at least 95% of its Standard Proctor maximum dry density prior to construction of the pavement. Any loose areas which are detected should be sub-excavated and backfilled with suitable on-site material or approved imported fill. All fill materials should be placed in 150 to 200mm thick lifts and compacted to at least 95% Standard Proctor maximum dry density.

Considering the probable traffic requirements and subsoil conditions, the following pavement designs are recommended:

	Passenger Car Parking (Light Duty) <u>(mm)</u>	Access Road (Medium Duty) <u>(mm)</u>
Asphaltic Concrete	50	90
Granular 'A' Base Course	150	150
Granular 'B' Sub-base Course	200	300



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Ref. No. G3712-6-3

The base and sub-base granular materials should be compacted to at least 100% Standard Proctor maximum dry density. The asphalt should be compacted to OPS Specifications.

Frequent inspections by geotechnical personnel from V.A. Wood (Guelph) Inc. should be carried out during construction to verify the compaction of the subgrade, base courses and asphaltic concrete by in-situ density testing using nuclear gauges.

5.8 Storm Water Management.

The grain size distribution curves prepared for the samples obtained from the boreholes were compared to the family of curves presented in the Supplementary Guidelines to the Ontario Building Code 1997. Based on the Unified Soils Classification System, the soils are considered to have the following properties:

<u>Material</u>	Unified Soils Classification <u>Group</u>	Estimated Co-efficient of Permeability (k) <u>(cm/sec)</u>
Sand and Gravel Fill	(SP-SM)	10 ⁻¹ to 10 ⁻⁴
Silty Gravelly Sand Fill	(SM)	10 ⁻³ to 10 ⁻⁵
Silt and Sand	(CL-ML)	10 ⁻⁵ and less



6.0 STATEMENT OF LIMITATION:

The Statement of Limitation presented on Appendix 'A' is an integral part of this report.

V.A. WOOD (GUELPH) INC.

J. Broad, B.A. President & General Manager V. Wood, M.Eng., P.Eng. Chief Engineer

JB:sm

Encls.

2 copies

APPENDIX



Ref. No. G2573-6-6

APPENDIX 'A'

STATEMENT OF LIMITATIONS:

The conclusions and recommendations in this report are based on information determined at the borehole locations and on geological data of a general nature, which may be available, for the area investigated. Soil and groundwater conditions between and beyond the boreholes may differ from those encountered at the borehole locations and conditions may become apparent during construction, which would not be detected or anticipated at the time of the soil investigation.

We recommend that we be retained to ensure that all necessary stripping, subgrade preparation and compaction requirements are met, and to confirm that the soil conditions do not deviate materially from those encountered in the boreholes. <u>In cases where this recommendation is not followed the company's responsibility is limited to interpreting accurately the information encountered at the boreholes.</u>

This report is applicable only to the project described in the introduction, constructed substantially in accordance with details of alignment and elevations quoted in the text.

V.A. Wood (Guelph) Inc. prepared this report for Young Yool Kim. The material in it reflects V.A. Wood (Guelph) Inc. judgement in light of the information available to it at the time of preparation. Any use which a Third Party makes of this report, or any reliance on decisions to be made based on it, is the responsibility of such Third Parties. V.A. Wood (Guelph) 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.

ENCLOSURES





REFERENCE No: G3712-6-3

CLIENT: Young Yool Kim

PROJECT: Townhouse Development

LOCATION: 1131 Gordon Street, Guelph ON

BOREHOLE No: 1

ENCLOSURE No: 2

SUPERVISOR: M.P.

V.A. WOOD (GUELPH) INC. CONSULTING GEOTECHNICAL ENGINEERS

405 YORK ROAD, GUELPH, ONTARIO N1E 3H3 PH, (519) 763-3101 FAX (519) 763-5912

SUBSURFACE PROFILE			5	SAMPL	E													
DEPTH (m)	DESCRIPTION	ELEVATION	SYMBOL	GROUND WATER	NUMBER	TYPE	N BLOWS/0.3m	PENETRATION RESISTANCE BLOWS/0.3m				WATER CONTENT %					UNIT WEIGHT	
0.0	Ground Surface	340.2	-				19 H	<u> </u>	1	1			1 - L		4	1		1-
	460mm Topsoil		22		1	SS	3	0								61		
0.5		339.7	22		1	SS	4	0										
	brown, compact to very dense Sand and Gravel FILL some silt, moist				2	SS	20		0									
						F												l i
	1			~														
1				2016	3	SS	53	6 I			\circ rock		•					Ł
2.3		227.0		eb-2														
2.3	brown, loose to dense	337.9	99999 1997	23-F														l I
	SILT AND SAND some clay, trace gravel,			DRY (23-Feb-2016)	4	SS	6	¢.										
	moist			ā														
					5	SS	23		o					•				
				Ī														
						ι.												
		1 1				1												
				ł			_											
5.0	1	335.2			6	SS	42			0								
	End of Borehole																	
												6						
						{ }												
)						
		i i																
					- 1							1						
		1 1			- 1	- 1												
DR	RILLED BY: Davis Drilling Ltd.					E DIA	METE	R· 1	10mm							_		
									TOTION									
	RILL METHOD: Solid Stem Auger				DATUM: Geodetic													
DR	DRILL DATE: February 23, 2016			SHEET: 1 of 1														



REFERENCE No: G3712-6-3

CLIENT: Young Yool Kim

PROJECT: Townhouse Development

LOCATION: 1131 Gordon Street, Guelph ON

BOREHOLE No: 2

ENCLOSURE No: 3

SUPERVISOR: M.P.

405 YORK ROAD, GUELPH, ONTARIO N1E 3H3 PH (519) 763-3101 FAX (519) 763-5912

V.A. WOOD (GUELPH) INC.

SUBSURFACE PROFILE SAMPLE N BLOWS/0.3m UNIT WEIGHT WATER CONTENT PENETRATION RESISTANCE ELEVATION Ê % GROUND WATER BLOWS/0.3m NUMBER DESCRIPTION SYMBOL DEPTH ТҮРЕ 20 40 60 80 5 10 15 20 25 0.0 Ground Surface 337.7 250mm Topsoil 0.3 337.5 1 SS 2 brown, loose to compact 1 SS 5 Silty Gravelly Sand FILL trace clay, moist 2 SS 10 Ó 1.5 336.2 brown, compact to very dense DRY (23-Feb-2016) SILT AND SAND 3 SS 20 0 some clay, trace gravel, moist 4 SS 34 0 5 SS 26 $^{\circ}$ 6 SS 50 o25mm, rock 5.0 332.7 End of Borehole DRILLED BY: Davis Drilling Ltd. HOLE DIAMETER: 110mm

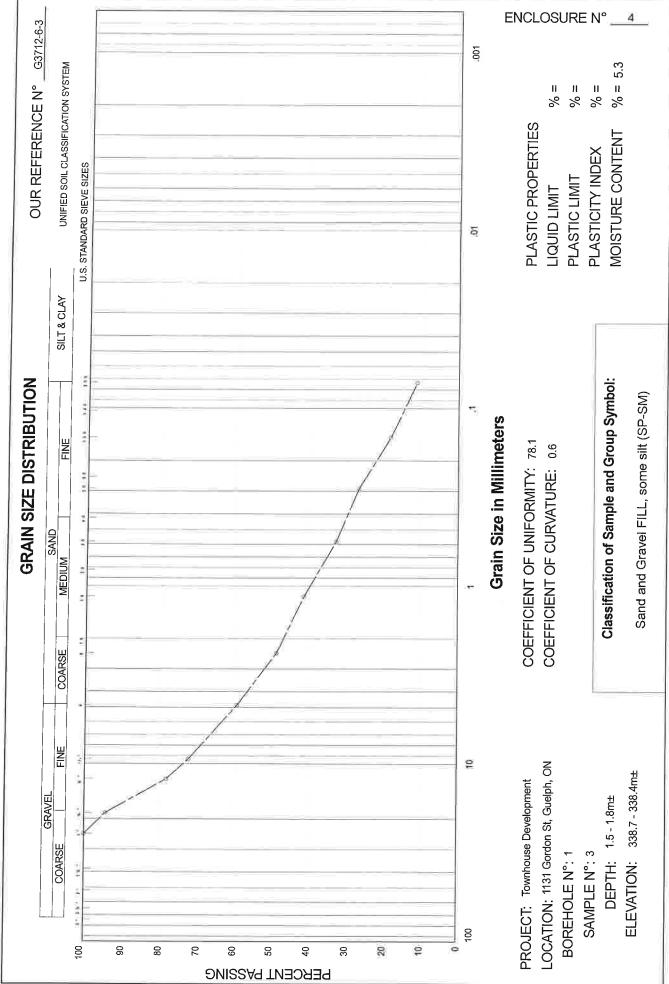
DRILL METHOD: Solid Stem Auger

DRILL DATE: February 23, 2016

DATUM: Geodetic

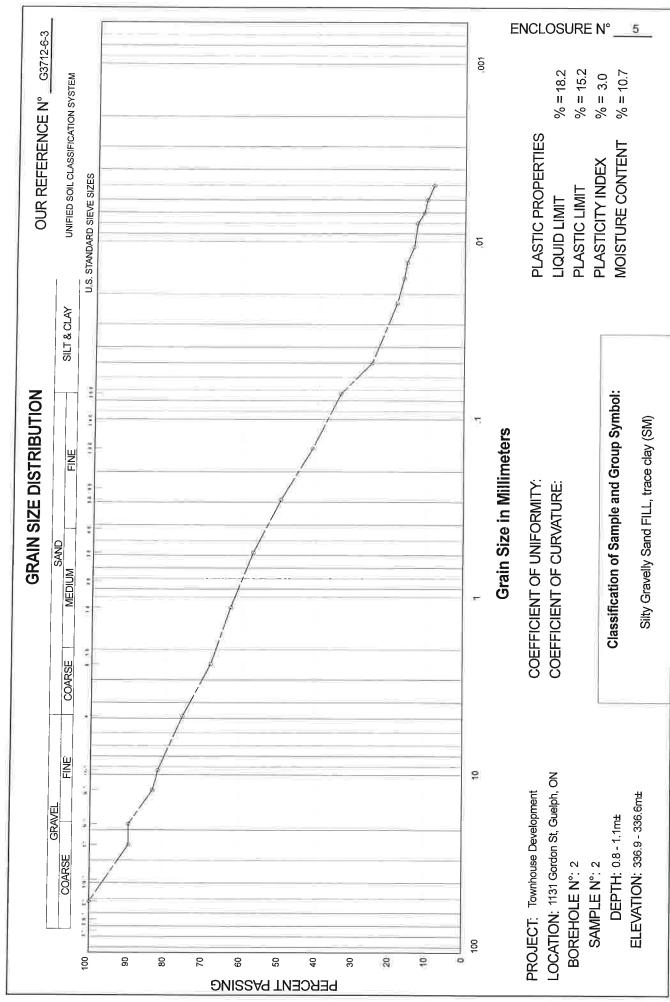
SHEET: 1 of 1





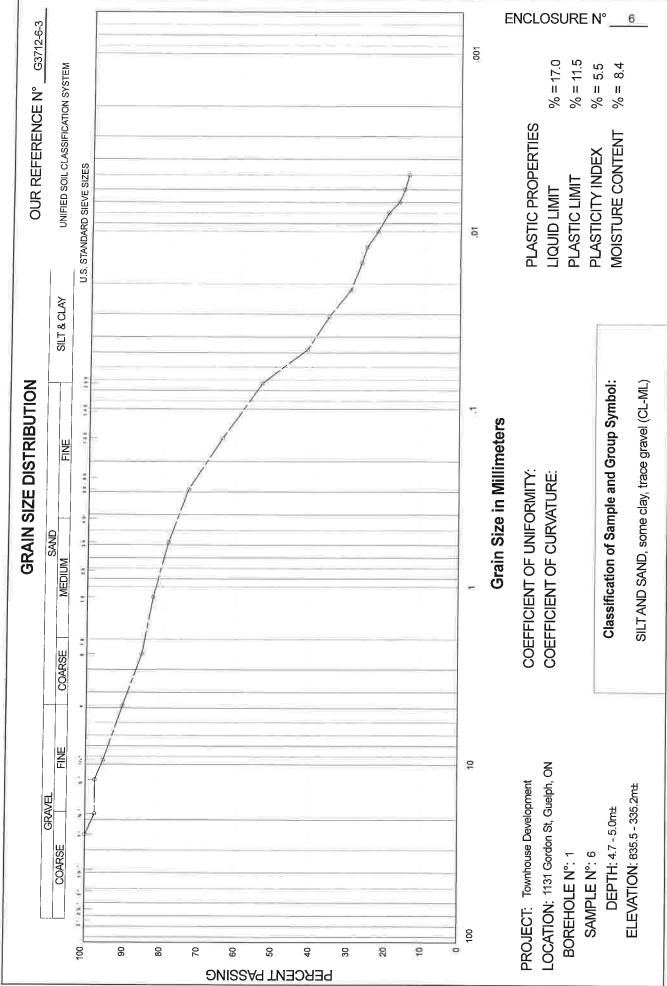
V. A. WOOD (GUELPH) INCORPORATED





V. A. WOOD (GUELPH) INCORPORATED





V. A. WOOD (GUELPH) INCORPORATED

APPENDIX G: SELECT PHOTOGRAPHS



MR. Young Yool Kim Phase One Environmental Site Assessment 1131 Gordon Street, Guelph, ON 116030 March 4, 2016



Photograph 1: View of the Phase One Property residence, looking west.



Photograph 2: View of the rear of the residence, looking southeast.





Photograph 3: View adjacent residential properties to the south, looking southeasterly.



Photograph 4: View of the adjacent residential property to the north, looking west.





Photograph 5: View of the rear yard of the Phase One Property, looking east. Note the marking stake of the geotechnical borehole in the foreground.



Photograph 6: View of the interior of the residence, looking south.



MR. Young Yool Kim Phase One Environmental Site Assessment 1131 Gordon Street, Guelph, ON 116030 March 4, 2016



Photograph 7: View of the stone foundation and sewer pipes exiting to the south, looking south.



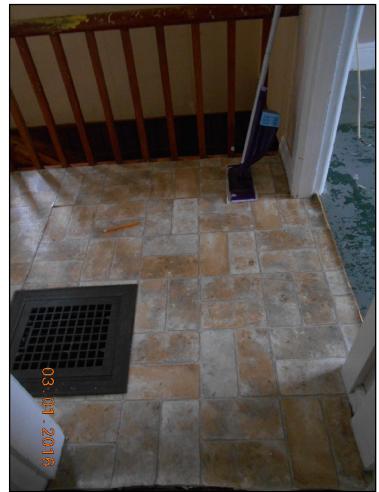
Photograph 8: View of the potential ACM exterior siding, looking north.





Photograph 9: View of potential ACM ceiling tiles on second floor ceiling.





Photograph 10: View of potential ACM vinyl flooring on the second floor.