

ASSESSMENT OF PAST USES ZADOW ROAD, BONNECHERE VALLEY, ON



Project No.: CCO-23-3669

Prepared for:

The Township of Bonnechere Valley
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January 11, 2024

McINTOSH PERRY

EXECUTIVE SUMMARY

McIntosh Perry (MP) was retained by the Township of Bonnechere Valley (Bonnechere Valley; the Client) to conduct an Assessment of Past Uses (APU) for proposed rehabilitation work on Zadow Road, Bonnechere Valley, Ontario, involving asphalt resurfacing, selective road base reconstruction, shouldering and ditching, various culvert replacements, and signage and line markings along approximately 2.3 kilometres (km) of roadway. The roadway comprises Zadow Road, from Silver Lake Road to Ruby Road (the Project Area). The Project Area is currently occupied by a municipal roadway. It is our understanding that no change in land use is proposed.

It is understood that this Assessment of Past Uses report is being completed in support of the proposed rehabilitation work on Zadow Road, Bonnechere Valley, Ontario. This report is being completed in general accordance with the requirements of Ontario Regulation (O. Reg.) 406/19 (as amended). As such, this Assessment of Past Uses is not suitable for Record of Site Condition purposes.

This report was prepared by MP for the Client. The procedure and protocol used for conducting this Assessment of Past Uses are in accordance with the "Rules for Soil Management and Excess Soil Quality Standards" and are adopted by reference to O. Reg. 406/19 (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA). The material in the report reflects the best judgement of MP's staff in light of the information available at the time of report preparation. General environmental conditions were reviewed as part of this assessment with regards to their potential impacts on the environmental condition of the Project Area. A detailed review of regulatory compliance issues was outside the scope of this Assessment of Past Uses report.

Based on a review of aerial photographs, historical information, and Project Area reconnaissance, the Project Area was reportedly first developed with the present-day roadway alignment prior to 1985.

MP conducted visual observations of the Project Area and surrounding areas on November 21, 2023. Topography at the Project Area and the surrounding areas is relatively flat, with a general slight slope north towards Ruby Road. The southern end of Zadow Road slopes slightly south towards Silver Lake Road, and the northern end of Zadow Road slopes slightly north towards Ruby Road. On a local scale, groundwater is interpreted to follow topography and flow east and west into unevaluated wetlands present east and west adjacent to the Project Area. On a regional scale, the groundwater is interpreted to flow north/northwest towards Golden Lake located approximately 1.8 km north of the Project Area, at its closest point.

Based on a review of documentation for the Project Area, three (3) potentially contaminating activities (PCAs) and two (2) areas of potential environmental concern (APECs) were identified within the APU Study Area.

Based on the findings of this Assessment of Past Uses report, MP recommends conducting a subsurface investigation at the Project Area to further investigate soil conditions in relation to APECs identified on the Project Area (outlined in Table 6).

DEFINITIONS

Assessment of Past Uses Study Area means the area that includes:

- the project area;
- any other property that is located, wholly or partly, within 250 metres from the nearest point on a boundary of the project area; and
- any property that the qualified person determines should be included as a part of the assessment of past uses study area that is not located, wholly or partly, within 250 metres from the nearest point on a boundary of the project area.

Note that in Ontario Regulation (O. Reg.) 153/04, a “phase one study area” is deemed to be a reference to an “assessment of past uses study area”, and a “phase one environmental site assessment” is deemed to be a reference to an “assessment of past uses”. Hence, the requirements under Schedule D of O. Reg. 153/04 apply for an assessment of past uses.

Area of Potential Environmental Concern or APEC means the area on, in or under a project area where one or more contaminants are potentially present, as determined through an assessment of past uses, including through:

- identification of past or present uses on, in or under the project area; and
- identification of one or more potentially contaminating activities.

Contaminants of Potential Concern or COPC is as defined by O. Reg. 153/04:

- one or more contaminants found on, in or under a property at a concentration that exceeds the applicable site condition standards for the property; or
- one or more contaminants found on, in or under a property for which no applicable site condition standard is prescribed under Part IX (Site Condition Standards and Risk Assessment) and which are associated with potentially contaminating activity.

Potentially Contaminating Activity or PCA is any activity listed in Table 2 to Schedule D of O. Reg. 153/04

Project has the same meaning as in the regulation, which states:

“Project” means any project that involves the excavation of soil and includes:

- any form of development or site alteration;
- the construction, reconstruction, erecting or placing of a building or structure of any kind;
- the establishment, replacement, alteration or extension of infrastructure; or
- any removal of liquid soil or sediment from a surface water body.

Project Area has the same meaning as in the regulation, which states:

“Project Area” means, in respect of a project, a single property or adjoining properties on which the project is carried out.

Project Leader has the same meaning as in the regulation, which states:

“Project Leader” means, in respect of a project, the person or persons who are ultimately responsible for making decisions relating to the planning and implementation of the project.

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1.0 INTRODUCTION

McIntosh Perry (MP) was retained by the Township of Bonnechere Valley (Bonnechere Valley; the Client) to conduct an Assessment of Past Uses (APU) for proposed rehabilitation work on Zadow Road, Bonnechere Valley, Ontario, involving asphalt resurfacing, selective road base reconstruction, shouldering and ditching, various culvert replacements, and signage and line markings along approximately 2.3 kilometres (km) of roadway. The roadway comprises Zadow Road, from Silver Lake Road to Ruby Road (the Project Area). The Project Area is currently occupied by a municipal roadway. It is our understanding that no change in land use is proposed.

The purpose of the APU was to identify any actual and/or potential environmental concerns on and around the Project Area. This report was prepared by MP for the Client. The work was carried out in general accordance with the "Rules for Soil Management and Excess Soil Quality Standards", as adopted by reference in Ontario Regulation (O. Reg.) 406/19 (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA).

The Project Area location is shown on Figure 1 (Project Area Location). The Project Area layout and surrounding land uses are shown on Figure 2 (Project Area Layout) and surrounding land use is shown on Figure 3 (Surrounding Land Use).

The scope of work included the following:

- Review of historical occupancy and use of the Project Area and surrounding properties using aerial photographs;
- Complete a "walk-through" visual assessment (i.e., Project Area reconnaissance) of the Project Area as well as publicly accessible areas on/around surrounding properties to identify indicators of current and/or historical issues of environmental concern;
- Review all available information and determine if any 'Potentially Contaminating Activities' (PCAs) have occurred at the Project Area or on surrounding properties;
- Review all available information and determine if there are any 'Areas of Potential Environmental Concern' (APECs) on, in, or under the subject property;
- Complete a Conceptual Site Model; and
- The preparation of an Assessment of Past Uses report.

Visual observations of the Project Area and surrounding areas were conducted virtually by Pamela Muniz, G.I.T., of MP on November 21, 2023, through review of all accessible photographs from previous site visits conducted by MP. Other areas of the Project Area were observed through imaging from July 2023 on Google Earth Pro's Street View tool including observations of properties in the APU Study Area from publicly accessible locations. Observations were of any visible or olfactory evidence of contamination including but not limited to asbestos-containing materials (ACMs), polychlorinated biphenyls (PCBs), urea formaldehyde foam insulation (UFFI),

ozone-depleting substances (ODSs), storage tanks, containers, and underground or aboveground storage tanks (USTs/ASTs). It should be noted that intrusive sampling and analysis were not part of this investigation.

A designated substances survey was not completed as part of the current investigation.

2.0 RESPONSIBLE PERSONS

Persons and contact information for all responsible persons involved in the project are presented in the following tabulation:

| Table 1: Responsible Persons | | | | |
|---|--|-----------------------------|-----------------------|--|
| Role | Mailing Address | E-mail Address | Telephone Number | Type of Licenses or Qualifications Held (for QP) |
| Head of Works Department (Township of Bonnechere Valley) – Jason Zohr | P.O. Box 100 49 Bonnechere Street E Eganville, ON K0J 1T0 | jasonz@eganville.com | 613-628-3101 x2855 | |
| Qualified Person (QP)/ Senior Consultant (McIntosh Perry) – Mark Priddle | 115 Walgreen Road, RR3 Carp, ON K0A 1L0 | m.priddle@mcintoshperry.com | 613-714-0801 | P.Geo., FGC |

3.0 DESCRIPTION OF PROJECT

3.1 Project Area Information

3.1.1 *Project Area Owner*

Infrastructure in the Project Area are owned and maintained by the Township of South Algona.

3.1.2 *Address*

The address associated with the Project Area is Zadow Road, Bonnechere Valley, Ontario. The Project Area is occupied by the municipal roadway listed above and comprises approximately 2.3 km of roadway, from Silver Lake Road to Ruby Road.

3.1.3 *Legal Description*

The legal description of the Project Area is as follows:

Zadow Road:

PT RDAL BTN LTS 15&16 SOUTH ALGONA LYING N OF THE SHORELINE RDAL ADJOINING SILVER LAKE, S OF
THE RDAL BTN CONS 8&9 ; SOUTH ALGON

PIN: 574560091

3.1.4 *Geographic Coordinates*

The Project Area consists of the roadway listed in section 3.1.2. and has an approximate area of 7 Hectares. The southern end of Zadow Road at the Silver Lake Road junction has the following coordinates:

45.525147, -77.266595

3.2 Project Area Features

3.2.1 *Roads and Paved Areas*

The Project Area consists of an asphalt paved public roadway with unpaved narrow shoulders and vegetated ditches, where applicable, approximately 2.3 km in total length running north-south on Zadow Road, from Ruby Road to Silver Lake Road.

3.2.2 *Areas of Planned Excavation*

The area of planned excavation includes asphalt resurfacing, selective road base reconstruction, shouldering and ditching, various culvert replacements, and signage and line markings along approximately 2.3 km of roadways along Zadow Street, from Silver Lake Road to Ruby Road (the Project Area). The expected maximum depth of excavation is approximately 2 m below grade.

3.2.3 Areas of Planned Stockpiling

No stockpiling of soil is proposed for the Project Area at the time of this report. Local stockpiling may occur during excavations, however any large-scale stockpiling for testing or soil processing would likely take place off-Site if required.

3.2.4 Areas of Planned Soil Processing

No processing of soil is proposed for the Project Area at the time of this report.

3.3 Legal Instruments

3.3.1 Environmental Compliance Approvals

The Project Area is currently used as municipal roadways and therefore does not have any issued Environmental Compliance Approvals.

3.3.2 Permits or Licenses issued under Municipal By-laws

The Project Area is currently used as municipal roadways and therefore does not have any issued permits or licenses.

3.3.3 Records of Site Condition

No Records of Site Condition (RSC) were returned from the Ministry of the Environment, Conservation and Parks (MECP) RSC search for the Project Area. Additionally, as the property use is not intended to change to a more sensitive land use, it is not anticipated that an RSC will be filed for the Project Area at the time of this report.

4.0 QUALIFIED PERSON'S OPINION REGARDING EXCLUSIONS FROM COMPLYING WITH SCHEDULE D OF ONTARIO REGULATION 153/04 (PHASE ONE ENVIRONMENTAL SITE ASSESSMENTS)

In preparing this APU, the following requirements specified in Schedule D of O. Reg. 153/04 were not complied with:

| Table 2: Schedule D Exclusions | | | |
|---|--|---|---|
| Schedule D Requirement Excluded from Assessment | Qualified Person's Rationale for Excluding Requirement | Identification and Description of any Information Gaps Resulting from the Exclusion | Manner in Which Information Gaps will be Addressed in the Sampling and Analysis Plan ¹ |
| City Directories | Project Area is a municipal roadway | No data gaps anticipated; First developed use seems to be the present-day roadways | No data gaps anticipated |
| Freedom of Information (FOI) | Project Area is a municipal roadway | No data gaps anticipated; Project Area does not have a municipal address | No data gaps anticipated |
| TSSA | Project Area is a municipal roadway | No data gaps anticipated; Tanks are not expected to be in the roadway | No data gaps anticipated |

¹ Note that the general objectives of the excess soil characterization must be met, despite any exclusions from complying with Schedule D.

5.0 RECORDS REVIEW

5.1 General

5.1.1 *Project Area Determination*

The Project Area, as part of this Assessment of Past Uses Study includes the following properties:

- The Site; and
- All properties within approximately 250 m of the Site boundary.

The Project Area, including surrounding land uses, are shown on Figure 2 and Figure 3 (Project Area Layout and Surrounding Land Use), appended to this report.

5.1.2 *First Developed Use Determination*

Based on historical information, and observations made on the Project Area, construction of the current roadway alignment of the Project Area appears to have been completed prior to 1985.

5.1.3 *Previous Environmental Reports*

No previous environmental reports for the Project Area were available for McIntosh Perry's review.

5.1.4 *Fire Insurance Plans*

Fire Insurance Plans (FIPs) can provide detailed information regarding ASTs and USTs, transformers, boilers, electrical rooms, changes in building locations, building additions, site re-development, utilities, and information on surrounding properties.

An FIP search was not conducted as part of this APU as the Project Area consists of municipal roadways.

5.1.5 *Chain of Title*

A Chain of Title search was not conducted as part of this APU as the Project Area consists of municipal roadways.

5.1.6 *City Directories*

City Directories were not searched as part of this APU as the Project Area consists of municipal roadways.

5.2 Environmental Source Information

McIntosh Perry obtained information contained in the databases listed below from ERIS of Toronto, Ontario. Details about the sources of information and the years included for each database, as well as the pertinent information obtained from these databases are included in the ERIS report which is included as Appendix A.

5.2.1 *Databases Searched:*

Federal Government Databases:

- Dry Cleaning Facilities
- Environmental Effects Monitoring
- Environmental Issues Inventory System
- Federal Convictions
- Contaminated Sites on Federal Land
- Fisheries & Oceans Fuel Tanks
- Federal Identification Registry for Storage Tank Systems (FIRSTS)
- Indian and Northern Affairs Fuel Tanks
- Greenhouse Gas Emissions from Large Facilities
- National Analysis of Trends in Emergencies System (NATES)
- National Defense & Canadian Forces Fuel Tanks
- National Defense & Canadian Forces Spills
- National Defense & Canadian Forces Waste Disposal Sites
- National Energy Board Pipeline Incidents
- National Energy Board Wells
- National Environmental Emergencies System (NEES)
- National PCB Inventory
- National Pollutant Release Inventory 1993 – 2020
- National Pollutant Release Inventory – Historic
- Parks Canada Fuel Storage Tanks
- NPRI Reporters – PFAS Substances
- Potential PFAS Handlers from NPRI
- Transport Canada Fuel Storage Tanks

Provincial Government Databases:

- Abandoned Aggregate Inventory
- Aggregate Inventory
- Abandoned Mine Information System
- Aboveground Storage Tanks
- Borehole
- Certificates of Approval
- Commercial Fuel Oil Tanks
- Inventory of Coal Gasification Plants and Coal Tar Sites
- Compliance and Convictions
- Certificates of Property Use

- Drill Hole Database
- Delisted Fuel Tanks
- Environmental Activity and Sector Registry
- Environmental Registry
- Environmental Compliance Approval
- Emergency Management Historical Event
- Environmental Penalty Annual Report
- List of Expired Fuels Safety Facilities
- Fuel Storage Tank
- Fuel Storage Tank – Historic
- Ontario Regulation 347 Waste Generators Summary
- TSSA Historic Incidents
- Fuel Oil Spills and Leaks
- Landfill Inventory Management Ontario
- Mineral Occurrences
- Non-Compliance Reports
- Ontario Oil and Gas Wells
- Inventory of PCB Storage Sites
- Orders
- Pesticide Register
- Pipeline Incidents
- Private and Retail Fuel Storage Tanks
- Permit to Take Water
- Ontario Regulation 347 Waste Receivers Summary
- Ontario Spills
- Record of Site Condition
- Wastewater Discharger Registration Database
- Waste Disposal Sites – MOE CA Inventory
- Waste Disposal Sites – MOE 1991 Historical Approval Inventory
- Water Well Information System
- Variances for Abandonment of Underground Storage Tanks

Private Databases:

- Anderson's Waste Disposal Sites
- Automobile Wrecking and Supplies
- Chemical Manufacturers and Distributors
- Chemical Register
- Compressed Natural Gas Stations

- ERIS Historical Searches
- Canadian Mine Locations
- Oil and Gas Wells
- Canadian Pulp and Paper
- Retail Fuel Storage Tanks
- Scott's Manufacturing Directory
- Anderson's Storage Tanks

5.2.2 Database Findings Relevant to the APU

Relevant information from the ERIS report is summarized as follows:

- The Project Area was not listed within any databases searched by ERIS; and
- No relevant listings were identified for surrounding properties within 250 m of the Project Area (APU Study Area).

No PCAs and/or APECs were identified by the ERIS report in relation to the Project Area.

5.2.3 MECP Freedom of Information and Index Review Requests

An MECP FOI and Index review request was not submitted for the Project Area as it consists of municipal roadways. MECP FOI requests are searched by landowner and registered address; since neither exist for municipal roadways, an MECP FOI request was not submitted.

5.2.4 TSSA Information Request

A request for information regarding fuel tanks was not submitted to the Technical Standards and Safety Authority (TSSA) for the Project Area as it consists of municipal roadways.

5.3 Physical Setting

5.3.1 Aerial Photographs and Satellite Images

Aerial photographs for the period between 1985 – 2022 were obtained from Google Earth Imagery and reviewed by MP. Observations about the current and historical land uses for the Project Area and surrounding properties are noted in Table 3 below:

Table 3: Current and Historical Land Uses

| Date | Source | Observations | |
|--|----------------------|--|---|
| | | Project Area | Surrounding Properties |
| 1985 | Google Earth Imagery | The Project Area appeared to be developed with a road similar in location and orientation to present-day Zadow Road. The Project Area appeared developed to its present-day configuration. | The surrounding land appeared to be undeveloped forested land, with the exception of roads similar in location and orientation as present-day Silver Lake Road and Ruby Road present south and north of the Project Area, respectively. |
| 2006, 2009, 2015, 2018, 2022 | Google Earth Imagery | Similar to 1985. | Similar to 1985, except some surrounding land to the east and west of the Project Area appeared developed with inferred rural residential properties and agricultural land. Surrounding land appeared developed to its present-day configuration. |

Based on MP's review of the above-noted aerial photographs, no areas were identified to represent a potential environmental concern with respect to the Project Area.

Current land uses are presented on Figure 3.

5.3.2 Topography

The elevation of the Project Area is approximately between 200 – 240 m above sea level (m asl). The topography of the Project Area and the surrounding areas is relatively flat, with a general slight slope north towards Ruby Road. The southern end of Zadow Road slopes slightly south towards Silver Lake Road, and the northern end of Zadow Road slopes slightly north towards Ruby Road. Vegetated ditches are present east and west adjacent to Zadow Road throughout some of the Project Area.

5.3.3 Hydrology

The Project Area occurs within the Golden Lake Dam – Bonnechere River Quaternary Watershed. The closest permanent waterbodies are discussed in Section 5.4.3 below.

5.4 Geology

5.4.1 Surficial Geology

Geological maps of the area classify the overburden at the northern portion of the Project Area, from Ruby Road south for approximately 1.5 km, as undifferentiated Pleistocene overburden consisting of a predominantly sand to silty sand matrix with a high content of clasts (OGS, 2021). The overburden on the

remaining southern portion of the Project Area is classified as undifferentiated igneous and metamorphic Precambrian bedrock, exposed at the surface, or covered by a discontinuous, thin layer of drift (OGS, 2021).

5.4.2 Bedrock Geology

Geological maps of the area classify the bedrock terrain at the Project Area as three (3) different types. The bedrock terrain at the northern portion of the Project Area, from Ruby Road south for approximately 800 m, is identified as a tectonite unit comprised of gneisses, mylonites, and protomylonites (OGS, 2021), followed by carbonate metasedimentary rocks of the Grenville Supergroup and Flinton Group (marble, calc-silicate rocks, skarn, and tectonic breccias) for approximately 900 m (OGS, 2021). Bedrock terrain on the remaining 600 m of the southern portion of the Project Area comprises clastic metasedimentary rocks of the Grenville Supergroup and Flinton Group, including conglomerates, wackes, quartz arenites, arkose, limestone, siltstone, chert, minor iron formations, and minor metavolcanic rocks (OGS, 2021).

5.4.3 Hydrogeology

The Project Area occurs within the Golden Lake Dam – Bonnechere River Quaternary Watershed. On a local scale, groundwater is interpreted to follow topography and flow east and west into unevaluated wetlands present east and west adjacent to the Project Area. On a regional scale, the groundwater is interpreted to flow north/northwest towards Golden Lake located approximately 1.8 km north of the Project Area, at its closest point. As the ground surface at the Project Area is predominately landscaped, on-site drainage is assumed dominated by infiltration and some overland flow to drainage structures along the roadways, primarily vegetated ditches along Zadow Road, as well as into the adjacent unevaluated wetlands.

5.4.4 Fill Materials

Based on background review and analysis of aerial photos presented in section 5.3.1. of this report, there is potential for a large quantity of reworked native material or fill of unknown quality to be present at the Project Area as part of the roadway construction prior to 1985.

5.4.5 Water Bodies and Areas of Natural Significance

When completing an APU report, considerations are made for the following MNRF-maintained areas of natural significance:

- Areas of Natural and Scientific Interest (ANSIs);
- Provincially Significant Wetlands (PSWs); and
- Wildlife Management Areas (WMAs).

None of the above noted areas of natural significance were observed within the Project Area. Unevaluated wetlands are present east and west adjacent to the Project Area along Zadow Road. Silver Creek Peatland, a PSW, is present approximately 1 km southwest of the Project Area, at its closest point.

5.4.6 Well Records

The MECP WWIS database indicated nine (9) water wells that are located within 500 m of the Project Area boundary. Seven (7) of these wells were listed as domestic water supply wells. Two (2) of these wells were listed for livestock water supply as the primary use, with secondary use being domestic water supply.

Two (2) of the wells were completed in overburden at final depths of 15.5 and 50.3 m below ground surface (m bgs). Seven (7) of the wells were completed in bedrock at final depths ranging from 18.9 to 91.7 m bgs. The depth to bedrock was reported to range from 0.6 to 31.7 m bgs. The driller-reported static groundwater level ranged from 3.7 to 15.2 m bgs.

The MECP WWIS records are shown on Figure 4 appended to this report.

5.5 Site Operation Records

Site operation records must be reviewed to determine if the Project Area is defined as an Enhanced Investigation Project Area as defined under O. Reg. 406/19, where (a) the property was used at any time, in whole or in part, for an industrial use; or (b) the property was used at any time, in whole or in part, for any of the following commercial uses:

- I. As a garage;
- II. As a bulk liquid dispensing facility, including a gasoline outlet; or
- III. For the operation of dry-cleaning equipment.

Based on the records review and Project Area reconnaissance, the Project Area has not been utilized for any of the uses outlined above. As such, the Project Area is not considered an Enhanced Investigation Project Area.

6.0 INTERVIEWS

McIntosh Perry personnel conducted an interview with the Site Representative (Jason Zohr, Head of Works Department) via email on December 8, 2023. This interview was completed in order to obtain information about the Project Area pertaining to items of actual and/or potential environmental concern. Any information collected during this interview was used to corroborate data from other sources. The most relevant information relating to the Project Area, such as spills from vehicular traffic, would have been noted within the ERIS record. Information collected during this interview is presented as Appendix B.

The information obtained from the interview is summarized as follows:

| Table 4: Interview Record | |
|----------------------------------|--|
| Potential Environmental Concerns | Interview Comments |
| Accident/Spills | None as per the Site Representative's knowledge. |
| Previous Use of Site | Swamp. |
| Adjacent Properties | |
| Fuel Handling/Storage | None as per the Site Representative's knowledge. |
| Maintenance/Operational Areas | None. |
| Hazardous Materials Storage | None. |
| Salt Storage | None. |
| Fuel Storage Tanks | None. |
| Odours | Swamp odours related to weather changes. |
| Potable Water | None. |
| Septic and Wastewater Discharges | None. |
| Pesticides | None. |
| Mould | None. |

| Table 4: Interview Record | |
|--|---|
| Potential Environmental Concerns | Interview Comments |
| Heating and Cooling Systems | None. |
| Major Mechanical Equipment | None. |
| Waste Oils, Solvents, Batteries | None. |
| PCBs | None. |
| Asbestos | None. |
| Lead Paint | None. |
| Ozone Depleting Substances (ODS) | None. |
| Electromagnetic Radiation | None. |
| Urea-formaldehyde Foam Insulation (UFFI) | None. |
| Mercury | None. |
| Radon Gas | None. |
| Soil and Groundwater Conditions | Stagnant water in ditches are blocked by beaver dams. |
| Wells | None. |
| Waste Disposal and Recycling | None. |
| Fill Material | Refer to bore hole data. |
| Floor Drains/OWS (discharge locations) | None. |
| Other | None. |

| Table 4: Interview Record | |
|----------------------------------|--------------------|
| Potential Environmental Concerns | Interview Comments |
| Future Use of Property | Roadway rebuild. |

Note that statements made by those interviewed were not made categorically and are limited to personal knowledge of, and experience with, the Project Area. The significance of environmental concerns that have been identified by other methods was not reduced based on the interview statements.

7.0 PROJECT AREA RECONNAISSANCE

The objectives of the Project Area reconnaissance were as follows:

- To identify potential environmental concerns associated with current and past uses of the Project Area;
- To identify PCAs on, in, or under the Project Area;
- To identify, as practical, current and past uses, activities, and PCAs in the vicinity of the Project Area; and
- To identify details of potential contaminant pathways on, in, or under the Project Area and potential environmental concerns and contaminants of potential concern.

McIntosh Perry had open and ready access to all exterior areas of the Project Area during the Project Area reconnaissance.

7.1 General Requirements

McIntosh Perry conducted a virtual Project Area reconnaissance on November 21, 2023. Pamela Muniz, G.I.T., of McIntosh Perry inspected the Project Area and other properties in the APU Study Area through a review of all accessible photographs from previous site visits conducted by McIntosh Perry. Other areas of the APU Study Area were observed through imaging from July 2023 on Google Earth Pro's Street View tool.

7.2 Project Area Conditions

7.2.1 *Weather Conditions at Time of Inspection*

The Project Area reconnaissance was completed virtually. However, weather conditions in photographs and satellite imagery reviewed for the Project Area appeared sunny to partly cloudy with warm temperatures.

7.2.2 *Property Occupancy/Use Status at Time of Inspection*

The Project Area is currently occupied by a paved asphalt municipal roadway, consisting of Zadow Road, from Silver Lake Road to Ruby Road, with a length of approximately 2.3 km. The Project Area is outlined in Figure 2.

7.2.3 *Project Area Photographs*

Photographs of the Project Area are included in Appendix C. A brief description is included with each photograph, including location and orientation where applicable.

7.3 Description of Investigations

The APU component of the current investigation is a preliminary environmental screening that aims to provide a qualitative assessment of the environmental condition of the Project Area based on a review of available

information pertaining to the Project Area, observations made during a Project Area reconnaissance, and information from interviews with people who have knowledge of the Project Area and its history (if available).

The APU portion of the current investigation includes the following components:

- A records review;
- Project Area reconnaissance;
- A review and evaluation of the information gathered from the records review, interviews (if available) and Project Area reconnaissance including the preparation of a Conceptual Site Model; and
- The preparation of an Assessment of Past Uses report.

7.3.1 Assessment of Past Uses Property

The Project Area is currently occupied by a paved asphalt municipal roadway (further described in section 7.4.1). The Project Area is approximately 2.3 km in length and spans the road right-of-way.

7.3.2 Assessment of Past Uses Study Area

The APU Study Area consists of the Project Area and all properties within 250 m of the Project Area. The APU Study Area primarily consists of undeveloped forested land and wetlands with some rural residential dwellings and assumed agricultural land. Based on the Project Area reconnaissance, Trinity Lutheran Cemetery is located east adjacent to the Project Area at 344 Zadow Road.

Figure 3 displays land use in the APU Study Area.

7.4 Specific Observations at the Project Area

7.4.1 Structures and Other Improvements

The Project Area is currently occupied by an asphalt paved, undivided two-lane municipal roadway with narrow unpaved shoulders, running north-south through a rural area for approximately 2.3 km in total length. Some roadside ditches and centerline culverts were observed along Zadow Road. No stormwater drains were observed along the roadway.

The remainder of the APU Study Area primarily includes undeveloped land, with the exception of some rural residential dwellings east and west of the Project Area, and a Cemetery located at 344 Zadow Road.

7.4.2 Below Ground Structures

Centerline culverts were observed to be present below the Project Area. Some utility lines may be present below some areas within the APU Study Area.

7.4.3 Storage Tanks

No storage tanks were observed at the time of the Project Area reconnaissance.

7.4.4 Asbestos-Containing Materials (ACMs)

Asbestos was commonly used during the period from 1945 to 1978 in flooring tiles, ceiling tiles, drywall joint compound, exterior shingles, roofing, insulation for electrical and heating systems and other construction materials. ACMs can be found in building materials as either friable (easily pulverized with moderate hand pressure) or non-friable. Friable ACMs can be separated from the material in which they are contained and are commonly found in boiler and pipe insulation. Non-friable asbestos refers to asbestos which is contained within a binding agent and is typically found in roofing tars, floor and ceiling tiles and window caulking. ACMs, especially those that are friable, pose health risks when they are disturbed. The use of ACMs was almost entirely discontinued in Canada by the early 1980s, although ACMs can still be found in recently constructed buildings.

No potential ACMs were directly observed during the Project Area visit, as it consists of roadways. It is noted that some older underground services may be constructed using asbestos-cement pipe or of present with culvert interiors coated with an asbestos impregnated sealant.

7.4.5 Ozone Depleting Substances (ODSs)

Certain chemicals such as chlorofluorocarbons, hydrochlorofluorocarbons and halons are recognized as ODSs because they breakdown in the stratosphere and release chlorine or bromine, which destroy the stratospheric ozone layer. ODSs are used mainly as coolants in refrigerant and air-conditioning equipment and as blowing agents in foam-product manufacturing. The release of ODSs from cooling equipment can be caused by leaks as well as during installation and servicing.

At the time of the Project Area reconnaissance, ODSs were not observed.

7.4.6 Lead

Lead was a common additive in exterior and hard-wearing paint applications. Lead was widely used to prolong shelf life of paint and to increase its flexibility and durability to wear and weather, during the period from the early 1900s to the late 1970s. Lead is also known to have been used in solder on copper plumbing fixtures and in lead conduit pipes. Lead dust or chips could be a concern for exposure through ingestion or inhalation.

The lead content in interior paint was not controlled until 1976, when the federal Hazardous Products Act limited its use to 0.5% by weight (5,000 parts per million (ppm)). The Surface Coating Materials Regulations came into effect in 2005 with amendments made to certain parts of the Hazardous Products Act (SOR/2016 - 93). As such, the previous acceptable level of lead in paint has been amended from 5,000 ppm to 600 ppm. Amendments effective December 2010 have lowered the threshold to 90 ppm.

Based on the Project Area being developed as municipal roadways, it is unlikely that lead paint has been used within the Project Area.

7.4.7 Urea Formaldehyde Foam Insulation (UFFI)

UFFI was used in the 1970s, most extensively from 1975 to 1978, in existing buildings by injecting the foam into areas, such as behind walls, where it expanded to fill the cavity. It was often injected through small holes uniformly spaced in the exterior wall cavity. UFFI use was banned in Canada in 1980.

Based on the Project Area being developed as municipal roadways, it is unlikely that UFFIs are present within the Project Area.

7.4.8 Polychlorinated Biphenyls (PCBs)

PCBs are a group of 209 chemical compounds which cause adverse human health effects and are known to be carcinogenic. PCBs were used in consumer and industrial products, mainly as coolants, and were commonly found in transformers, light fixtures, and refrigerators. PCBs were banned in Canada in 1977, however, they can still be found in products today.

It is important to note that pole mounted transformers were observed west adjacent to the Project Area during the Project Area reconnaissance, all of which appeared to be in good condition. No spills related to the pole mounted transformers were identified in the records review.

7.4.9 Potable and Non-Potable Water Sources

Potable/non-potable water sources are not used at the Project Area, as it is a municipal roadway. Adjacent properties in the APU Study Area are most likely serviced via groundwater. No water supply wells were observed during the Project Area reconnaissance.

7.4.10 Underground Service Trenches

No underground service trenches were observed during the Project Area reconnaissance. However, service trenches for gas, and/or telephone services may be present within the APU Study Area.

7.4.11 Exit and Entry Points

All visible exit and entry points to the Project Area were inspected.

7.4.12 Drains, Pits, and Sumps

No drains, pits, or sumps were observed at the Project Area.

7.4.13 Unidentified Substances

No unidentified substances were observed at the Project Area.

7.4.14 Stains and/or Corrosion Near Drains, Pits, and Sumps

No drains, pits, or sumps were observed at the Project Area.

7.4.15 Well Details

No monitoring wells were observed on the Project Area or surrounding properties during the Project Area reconnaissance. However, nine (9) well records were identified by the ERIS report and the MECP well records database search, further detailed in section 5.4.6 of this report. Seven (7) of the wells were located on the southern portion of the APU Study Area, with the remaining two (2) wells located on the northern portion.

7.4.16 Details of Sewage Works

The Project Area itself is not serviced, as it is a roadway. As the adjacent properties are rural residential, it is assumed that septic systems are utilized at each property.

7.4.17 Ground Surface Details

The Project Area consists of an asphalt paved roadway with narrow unpaved shoulders in some locations. The areas immediately east and west adjacent to Zadow Road consisted of flat vegetated land and some exposed bedrock, with vegetated roadside ditches or unevaluated wetlands present along the roadway in some locations.

7.4.18 Current and Former Railway Lines

No current or former railway lines were observed during the Project Area reconnaissance.

7.4.19 Staining to Soil, Vegetation, or Pavement

No staining to the soil or vegetation were identified at the time of the Project Area reconnaissance.

Some staining was observed on the paved ground at various locations along the Project Area, most likely associated with vehicular traffic along Zadow Road.

7.4.20 Stressed Vegetation

No stressed vegetation was observed at the time of the Project Area reconnaissance.

7.4.21 Fill and Debris

Some fill was observed on the narrow shoulders along some areas of Zadow Road. Fill of unknown quality related to the construction of the current roadway alignment is anticipated within the Project Area.

7.4.22 Mould

No mould-like substances were observed at the Project Area.

7.4.23 Liquid Chemical Waste Generation, Storage & Disposal

No liquid chemical waste generation, storage or disposal substances were observed at the Project Area.

7.4.24 Solid Waste Generation, Storage & Disposal

No special or hazardous solid industrial wastes are generated at the Project Area. The Project Area is not registered as a generator of special or hazardous solid industrial wastes.

7.4.25 Potentially Contaminating Activities (PCAs) and Areas of Potential Environmental Concern (APECs)

Three (3) PCAs and two (2) APECs were identified during the Project Area reconnaissance and records review for the APU Study Area. All PCAs and APECs identified for the APU Study Area within this report are presented on Tables 5 and 6, and Figure 5.

7.5 Surrounding Properties

Surrounding land use in the vicinity of the Project Area generally consisted of the following:

- North – Ruby Road, followed by some rural residential properties and undeveloped forested land;
- East – Undeveloped forested land and wetlands with some rural residential properties and inferred agricultural land closer to Silver Lake Road and Ruby Road intersections. A Cemetery is located east adjacent to the Project Area at 344 Zadow Road and is inferred to be located hydraulically upgradient relative to the Project Area. The Cemetery does not constitute a PCA and APEC in relation to the Project Area;
- South – Silver Lake Road, followed by undeveloped forested land and some rural residential properties; and
- West – Undeveloped forested land and wetlands with some rural residential properties closer to Silver Lake Road intersection and towards the center of the Project Area; the latter properties contain inferred agricultural land.

8.0 REVIEW AND EVALUATION OF INFORMATION

The following sections provide a review, evaluation, and an interpretation of the information from the records review, interviews (if available), and Project Area reconnaissance.

8.1 Current and Past Uses of Assessment of Past Uses Property

The Project Area is currently occupied by one (1) asphalt paved, undivided two-lane municipal roadway running north-south through a rural area for approximately 2.3 km in length. Some narrow unpaved shoulders, roadside ditches, and centerline culverts were observed along the Project Area. Based on historical information, and observations made on the Project Area, construction of the current roadway alignment of the Project Area appears to have been completed prior to 1985. Prior to the roadway construction, the Project Area appeared to be undeveloped.

The APU Study Area primarily consists of undeveloped forested land and wetlands, some rural residential properties and agricultural land, and two roadways (Ruby Road to the north and Silver Lake Road to the south).

8.2 Potentially Contaminating Activities (PCAs) and Areas of Potential Environmental Concern (APECs)

Three (3) PCAs were identified for the Project Area and APU Study Area, two (2) of which are considered APECs in relation to the Project Area and APU Study Area. The table below summarizes PCAs that were identified both on the Project Area and within the APU Study Area:

| Fig. 5 Ref. | Potentially Contaminating Activity (PCA) | Location of PCA | Up-Gradient | Proximity of PCA to Project Area | Time Frame Associated with PCA | Information Source | Does the PCA warrant an APEC |
|-------------|---|--|-------------------|----------------------------------|--------------------------------|---|------------------------------|
| 1 | Importation of Fill Material of Unknown Quality | Entire Project Area (Zadow Road) | - | On-Site | Prior to 1985 to Present | Background Information/ Aerial Photographs /Project Area Reconnaissance | Yes |
| 2 | Staining on Pavement | Project Area at Silver Lake Rd Intersection | - | On-Site | Unknown | Project Area Reconnaissance | Yes |
| 3 | Pole Mounted Transformer | West adjacent to Project Area at three (3) locations | In some locations | West Adjacent | Unknown | Project Area Reconnaissance | No |

8.3 Current and Past Uses of Assessment of Past Uses Property

Two (2) APECs were identified for the APU Study Area, summarized in the table below:

| Fig. 5 Ref. | Areas of Potential Environmental Concern (APEC) | Location of APEC | PCA | Location of APEC on Project Area | Contamination of Potential Concern | Media Potentially Impacted (Groundwater, Soil and/or Sediment) |
|-------------|---|---|--|----------------------------------|---|--|
| 1 | <u>APEC-1</u> Likely presence of fill material underlying roadways within Project Area | The Project Area, as seen in Figure 2 | 30. Importation of fill material of unknown quality | Within Project Area | PHCs, BTEX, PAHs, VOCs, and Metals and Inorganics | Soil and Groundwater |
| 2 | <u>APEC-2</u> Staining on Pavement | Southern end of the Project Area, as seen in Figure 2 | Assumed spill of unknown fluids on pavement related to roadway traffic | Within Project Area | PHCs, BTEX, and Metals and Inorganics | Soil and Groundwater |

Notes: PHCs – petroleum hydrocarbons
BTEX – benzene, toluene, ethylbenzene, xylenes
PAHs – polycyclic aromatic hydrocarbons
PCBs – polychlorinated biphenyls
VOCs – Volatile Organic Compounds

8.4 Contaminants of Potential Concern (COPC)

The contaminants of potential concern (COPC) for the Project Area and APU Study Area as identified through review of documentation and undertaking a review of the Project Area are detailed in the following tabulation:

| Method Group | APECs |
|---|-----------------|
| Petroleum hydrocarbons (PHCs) | APEC-1 & APEC-2 |
| Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) | APEC-1 & APEC-2 |
| Metals and inorganics (M&I) | APEC-1 & APEC-2 |
| Volatile Organic Compounds (VOCs) | APEC-1 |
| Polycyclic Aromatic Hydrocarbons (PAHs) | APEC-1 |
| Polychlorinated Biphenyls (PCBs) | None |

9.0 CONCEPTUAL SITE MODEL

9.1.1 *Existing Buildings and Structures*

No existing buildings or aboveground structures are present within the Project Area. Centerline culvert structures are present below the roadway at various locations along the Project Area. Some rural residential properties are present adjacent to the roadway along the Project Area.

9.1.2 *Waterbodies within the Project Area*

The closest waterbody identified are unevaluated wetlands east and west adjacent to the roadway along the Project Area. Additionally, Silver Lake and Golden Lake are located approximately 800 m south and 1.8 km north of the Project Area respectively, at their closest points.

9.1.3 *Water Wells within the Project Area*

No water wells were identified within the Project Area. However, nine (9) well records were identified by the ERIS report and the MECP well records database search, further detailed in section 5.4.6 of this report. Seven (7) of the wells were located on the southern portion of the APU Study Area, with the remaining two (2) wells located on the northern portion.

9.1.4 *Roads within the Project Area*

The Project Area is currently occupied by an asphalt paved, undivided two-lane municipal roadway with narrow unpaved shoulders, running north-south through a rural area for approximately 2.3 km in total length. The Project Area comprises Zadow Road from the Silver Lake Road junction north to the Ruby Road junction.

9.1.5 *Adjacent Property Uses*

Surrounding properties appear to be undeveloped forested land and wetlands or developed with rural residential properties and inferred agricultural land. A Cemetery is located east adjacent to the Project Area at 344 Zadow Road and is inferred to be located hydraulically upgradient relative to the Project Area.

9.1.6 *Tanks within the Project Area*

No tanks were identified within the Project Area.

9.1.7 *Areas of Potential Environmental Concern within the Project Area or adjacent properties, including those that may result in the presence of contaminants in soil that is to be excavated within the Project Area*

Two (2) APECs were identified for the entire Project Area. Details of these APECs are presented in Tables 5 – 7 of this report.

9.1.8 Areas where Potentially Contaminating Activities have occurred or are occurring, within the Project Area or potentially affecting the Project Area

Three (3) PCAs were identified for the entire Project Area. Details of these PCAs are presented in Tables 5 – 7 of this report.

9.1.9 Contaminants of Potential Concern: COPC

The COPCs identified for the Project Area are PHCs (including BTEX), PAHs, VOCs, metals, and inorganic parameters.

9.1.10 Potential for underground utilities, if any present, to affect contaminant distribution and transport

Service trenches for gas, water, sewer, and/or telephone services are interpreted to be present at the Project Area. These service trenches may impact the distribution of COPC throughout the Project Area.

9.1.11 Regional or site specific Geological and Hydrogeological information

Geological maps of the area classify the overburden at the northern portion of the Project Area, from Ruby Road south for approximately 1.5 km, as undifferentiated Pleistocene overburden consisting of a predominantly sand to silty sand matrix with a high content of clasts (OGS, 2021). The overburden on the remaining southern portion of the Project Area is classified as undifferentiated igneous and metamorphic Precambrian bedrock, exposed at the surface, or covered by a discontinuous, thin layer of drift (OGS, 2021). The bedrock geology of the Project Area consists of three (3) different types. The bedrock terrain at the northern portion of the Project Area, from Ruby Road south for approximately 800 m, is identified as a tectonite unit comprised of gneisses, mylonites, and protomylonites (OGS, 2021), followed by carbonate metasedimentary rocks of the Grenville Supergroup and Flinton Group (marble, calc-silicate rocks, skarn, and tectonic breccias) for approximately 900 m (OGS, 2021). Bedrock terrain on the remaining 600 m of the southern portion of the Project Area comprises clastic metasedimentary rocks of the Grenville Supergroup and Flinton Group, including conglomerates, wackes, quartz arenites, arkose, limestone, siltstone, chert, minor iron formations, and minor metavolcanic rocks (OGS, 2021). The Project Area occurs within the Golden Lake Dam – Bonnechere River Quaternary Watershed. On a local scale, groundwater is interpreted to follow topography and flow east and west into unevaluated wetlands present east and west adjacent to the Project Area. On a regional scale, the groundwater is interpreted to flow north/northwest towards Golden Lake located approximately 1.8 km north of the Project Area, at its closest point. As the ground surface at the Project Area is predominately landscaped, on-site drainage is assumed dominated by infiltration and some overland flow to drainage structures along the roadways, primarily vegetated ditches along Zadow Road, as well as into the adjacent unevaluated wetlands.

9.1.12 How any uncertainty or absence of information obtained in the Assessment of Past Uses could affect the validity of the model.

There is no absence of information or uncertainty that would impact the validity of the model and report.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of this Assessment of Past Uses Report, MP recommends conducting a subsurface investigation at the Project Area to further investigate soil conditions in relation to APECs identified on the Project Area (outlined in Table 6 above).

Due to the APECs identified for the Project Area within this report, it is recommended that soil sampling be completed to characterize the soil within the Project Area to ensure a that any excess soil generated from the project limits be appropriately characterized in accordance with O. Reg. 406/19.

11.0 STATEMENT AND ORIGINAL SIGNATURES OF QUALIFIED PERSON

This Assessment of Past Uses has been conducted in accordance with the requirements of the on-Project Area and Excess Soil Management regulation made under the Environmental Protection Act, using all reasonably accessible records, documents, and data to conduct the assessment.

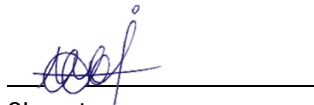
This Assessment of Past Uses has been prepared by:

Pamela Muniz, G.I.T.

Name

January 11, 2024

Date


Signature


This Assessment of Past Uses has been conducted by, or supervised by, the Qualified Person signing below:

Mark Priddle, P.Geo., FGC

Name

January 11, 2024

Date


Signature



Jan. 11, 2024

12.0 QUALIFIED PERSON'S DECLARATION

I Mark Priddle, meet the qualification requirements for a Qualified Person as set out in either Section 5 or 6 of Ontario Regulation 153/04.

As a Qualified Person retained for the purpose of conducting the Assessment of Past Uses, I confirm that I have carried out the Assessment of Past Uses and have provided findings and conclusions within this Assessment of Past Uses report.

I declare the following:

1. The project leader or operator of the project area has provided for my review and assessment all necessary information and access to the project area, and has authorized me, as the qualified person, to make any enquiries of the project leader's and operator's employees and agents, for the purpose of assisting the preparation of this document.
2. The documents have been prepared in accordance with the On-Site and Excess Soil Management regulation made under the EPA (the Regulation), and the Soil Rules, by or under my supervision.
3. To the best of my knowledge, the documents are complete and accurate and meet the requirements of the Regulation, and the Soil Rules.
4. The work required to complete this assessment of past uses has been conducted in accordance with the Regulation, by or under my supervision as a qualified person.

Mark Priddle

January 11, 2024

Name

Date



Signature

13.0 LIMITATIONS

This report has been prepared, and the work referred to in this report has been undertaken by, McIntosh Perry for the Client. It is intended for the sole, and exclusive use of the Client with respect to the stated purpose of the work carried out by McIntosh Perry.

The report may not be relied upon by any other person or entity without the express written consent of McIntosh Perry. Any use which a third party makes of this report, or any reliance on decisions made based on it, without a Reliance Letter, are the responsibility of such third parties. McIntosh Perry accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report, or the information contained within it.

The investigation undertaken by McIntosh Perry with respect to this report and any conclusions or recommendations made in this report reflect McIntosh Perry's judgment based on the Site conditions observed at the time of the Site investigations, inspections, and/or sampling on the date(s) set out in this report, and on information available at the time of the preparation of this report. Conditions such as ground cover, weather, physical obstructions, etc. may influence conclusions or recommendations made in this report. McIntosh Perry does not certify or warrant the environmental status of the property.

This report has been prepared for specific application to this Site and it may be based, in part, upon visual observation of the Site, subsurface investigation at discrete locations and depths, and/or specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future Site conditions, portions of the Site which were unavailable for direct investigation, Site locations, subsurface or otherwise, which were not investigated directly, or chemical parameters, materials, or analysis which were not addressed or performed. Substances other than those addressed by the investigation described in this report may exist at the Site, substances addressed by the investigation may exist in areas of the Site not investigated, and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

If Site conditions or applicable standards change, or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary.

14.0 REFERENCES

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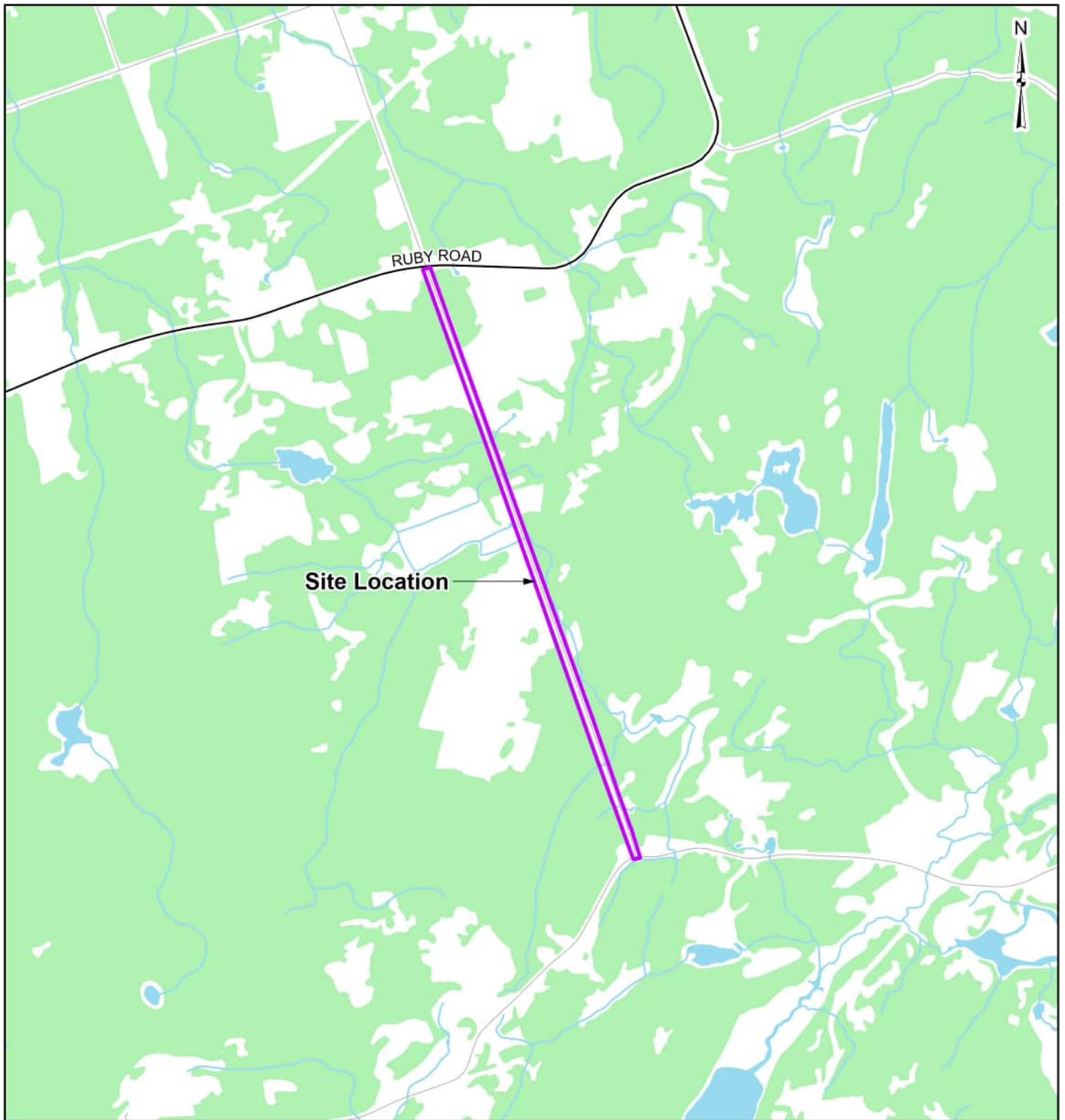
\\mcintoshperry.local\share\ottawa\01 project - proposals\2023 jobs\cco\cco-23-3669 - zadow road geotech june 2023\9 - excess soil\02 apu\08 report\final\cco-23-3669_zadow rd_apu_final_11jan2024.docx

ASSESSMENT OF PAST USES ZADOW ROAD, BONNECHERE VALLEY, ONTARIO



FIGURES

McINTOSH PERRY



LEGEND

- Project Area
- Railroad
- Watercourse
- Waterbody
- Wooded Area

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2023.



| | | |
|--|-------------------------|---------------------|
| CLIENT: TOWNSHIP OF BONNECHERE VALLEY | | |
| PROJECT: ASSESSMENT OF PAST USES ZADOW ROAD | | |
| TITLE: PROJECT AREA LOCATION | | |
| McINTOSH PERRY 115 Walgreen Road, RR3, Carp, ON K0A1L0 Tel: 613-836-2184 Fax: 613-836-3742 www.mcintoshperry.com | PROJECT NO: CCO-23-3669 | |
| | Date | Nov., 26, 2023 |
| | GIS | MG |
| | Checked By | PM |
| | | FIGURE: 1 |



LEGEND

Project Area

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2023.

250 125 0 250
Scale 1:12,000 Metres

CLIENT:
TOWNSHIP OF BONNECHERE VALLEY

PROJECT: ASSESSMENT OF PAST USES
ZADOW ROAD

TITLE:
PROJECT AREA LAYOUT

McINTOSH PERRY

115 Walgreen Road, RR3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

PROJECT NO: CCO-23-3669

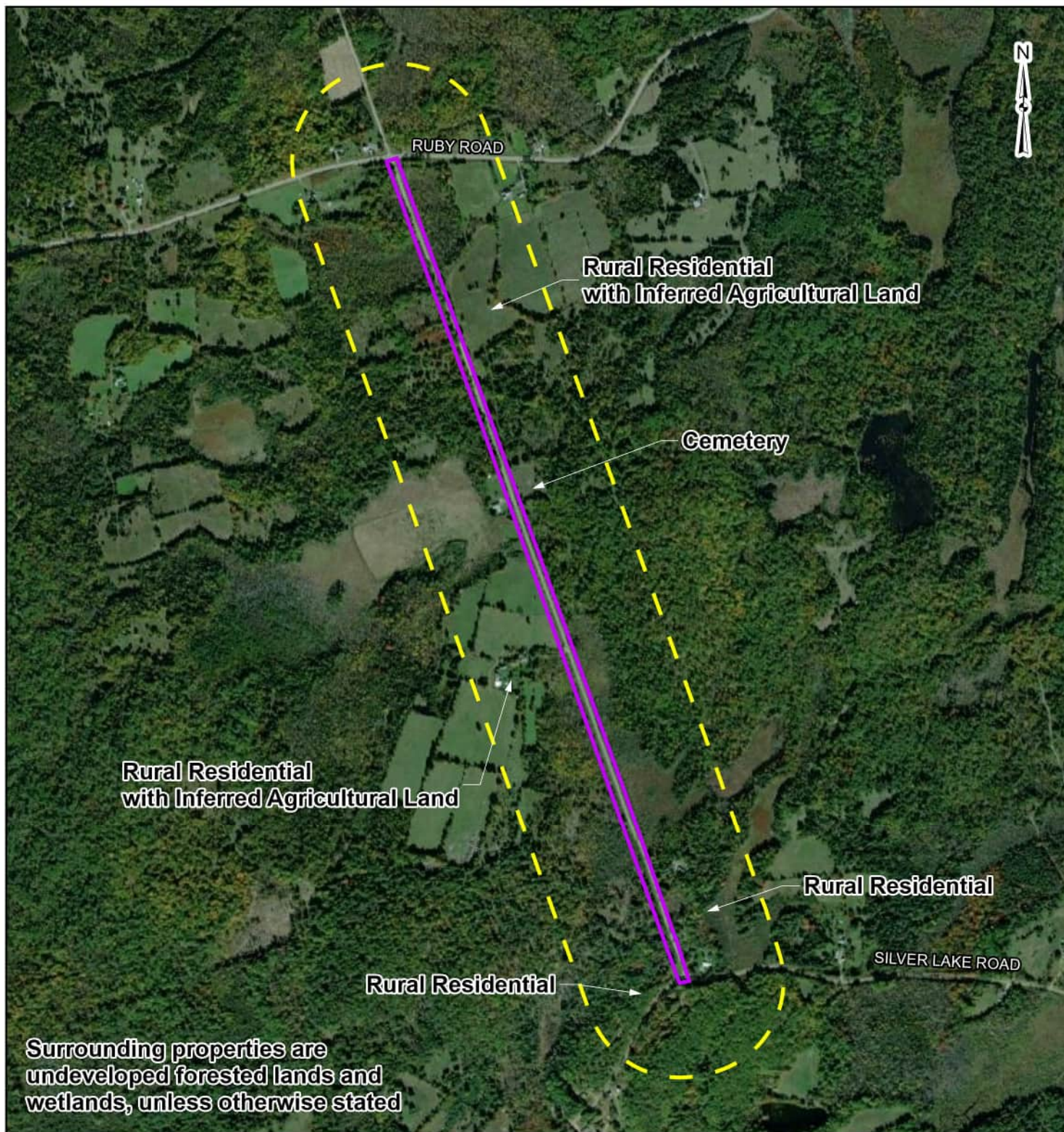
Date Nov., 26, 2023

GIS MG

Checked By PM

FIGURE:

2



LEGEND

- Project Area
- Buffer (250 m)

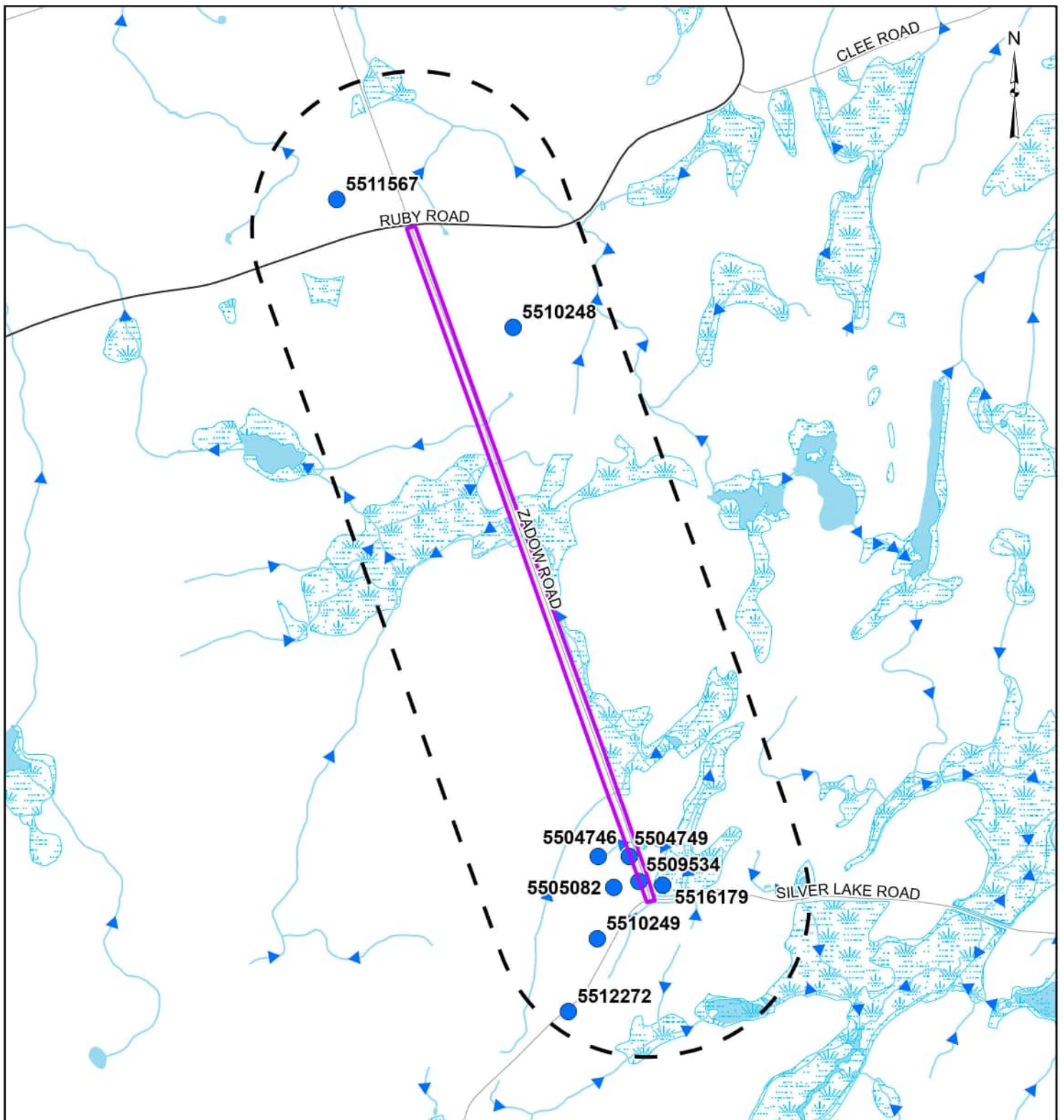
REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2023.

100 50 0 100
Scale 1:14,500

Metres

| | | | |
|---|--|--|----------------|
| CLIENT: | | TOWNSHIP OF BONNECHERE VALLEY | |
| PROJECT: | | ASSESSMENT OF PAST USES ZADOW ROAD | |
| TITLE: | | STUDY AREA AND SURROUNDING LAND USE | |
| McINTOSH PERRY <small>115 Walgreen Road, RR3, Carp, ON K0A1L0 Tel: 613-836-2184 Fax: 613-836-3742 www.mcintoshperry.com</small> | | PROJECT NO: CCO-23-3669 | FIGURE: |
| | | Date | Dec., 07, 2023 |
| | | GIS | MG |
| | | Checked By | PM |
| | | | 3 |



LEGEND

- MECP Well Location
- Buffer (500 m)
- Local Road
- Major Road
- Watercourse
- Waterbody
- Unevaluated Wetland

Scale 1:17,500
500 250 0 500
Metres

REFERENCE

GIS data provided by the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry, 2023.

CLIENT:
TOWNSHIP OF BONNECHERE VALLEY

PROJECT:
ASSESSMENT OF PAST USES
ZADOW ROAD

TITLE:
MECP WELL RECORDS

McINTOSH PERRY

115 Walgreen Road, RR3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

PROJECT NO: CCO-23-3669

FIGURE:

Date Nov., 26, 2023

GIS MG



Checked By PM


4

C:\Users\McGrawHill\Documents\Projects\2023\CCO\CCO-23-3669 - Zadow Road\aprx\Environmental\CCO-23-3669_APU.aprx



LEGEND

-  Project Area
-  Buffer (250 m)

-  Project Area - Importation of fill material of unknown quality (PCA/APEC-1)
- 2** Project Area at Silver Lake Rd intersection - Staining on pavement (PCA/APEC-2)
- 3** West adjacent to Project Area - Presence of pole mounted transformer (PCA)

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2023.



| | | |
|--|-------------------------|----------------|
| CLIENT: TOWNSHIP OF BONNECHERE VALLEY | | |
| PROJECT: ASSESSMENT OF PAST USES ZADOW ROAD | | |
| TITLE: PCA/APEC | | |
| McINTOSH PERRY 115 Walgreen Road, RR3, Carp, ON K0A1L0 Tel: 613-836-2184 Fax: 613-836-3742 www.mcintoshperry.com | PROJECT NO: CCO-23-3669 | |
| | Date | Dec., 07, 2023 |
| | GIS | MG |
| | Checked By | PM |
| FIGURE: | | 5 |

ASSESSMENT OF PAST USES ZADOW ROAD, BONNECHERE VALLEY, ONTARIO



APPENDIX A: ERIS REPORT

McINTOSH PERRY



DATABASE REPORT

| | |
|--------------------------|--|
| Project Property: | <i>Zadow Road, Bonnechere Valley, ON Zadow Road Bonnechere Valley ON K0J</i> |
| Project No: | <i>CCO-23-3669</i> |
| Report Type: | <i>Quote - Custom-Build Your Own Report</i> |
| Order No: | <i>23111500539</i> |
| Requested by: | <i>McIntosh Perry Consulting Engineers</i> |
| Date Completed: | <i>November 17, 2023</i> |

Environmental Risk Information Services

A division of Glacier Media Inc.

1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property: Zadow Road, Bonnechere Valley, ON
Zadow Road Bonnechere Valley ON K0J

Project No: CCO-23-3669

Order Information:

Order No: 23111500539
Date Requested: November 15, 2023
Requested by: McIntosh Perry Consulting Engineers
Report Type: Quote - Custom-Build Your Own Report

Historical/Products:

ERIS Xplorer [ERIS Xplorer](#)

Executive Summary: Report Summary

| Database | Name | Searched | Project Property | Boundary to 0.25km | Total |
|-----------------|---|-----------------|-----------------------------|-------------------------------|--------------|
| AAGR | Abandoned Aggregate Inventory | Y | 0 | 0 | 0 |
| AGR | Aggregate Inventory | Y | 0 | 0 | 0 |
| AMIS | Abandoned Mine Information System | Y | 0 | 0 | 0 |
| ANDR | Anderson's Waste Disposal Sites | Y | 0 | 0 | 0 |
| AST | Aboveground Storage Tanks | Y | 0 | 0 | 0 |
| AUWR | Automobile Wrecking & Supplies | Y | 0 | 0 | 0 |
| BORE | Borehole | Y | 0 | 0 | 0 |
| CA | Certificates of Approval | Y | 0 | 0 | 0 |
| CDRY | Dry Cleaning Facilities | Y | 0 | 0 | 0 |
| CFOT | Commercial Fuel Oil Tanks | Y | 0 | 0 | 0 |
| CHEM | Chemical Manufacturers and Distributors | Y | 0 | 0 | 0 |
| CHM | Chemical Register | Y | 0 | 0 | 0 |
| CNG | Compressed Natural Gas Stations | Y | 0 | 0 | 0 |
| COAL | Inventory of Coal Gasification Plants and Coal Tar Sites | Y | 0 | 0 | 0 |
| CONV | Compliance and Convictions | Y | 0 | 0 | 0 |
| CPU | Certificates of Property Use | Y | 0 | 0 | 0 |
| DRL | Drill Hole Database | Y | 0 | 0 | 0 |
| DTNK | Delisted Fuel Tanks | Y | 0 | 0 | 0 |
| EASR | Environmental Activity and Sector Registry | Y | 0 | 0 | 0 |
| EBR | Environmental Registry | Y | 0 | 0 | 0 |
| ECA | Environmental Compliance Approval | Y | 0 | 0 | 0 |
| EEM | Environmental Effects Monitoring | Y | 0 | 0 | 0 |
| EHS | ERIS Historical Searches | Y | 0 | 0 | 0 |
| EIIS | Environmental Issues Inventory System | Y | 0 | 0 | 0 |
| EMHE | Emergency Management Historical Event | Y | 0 | 0 | 0 |
| EPAR | Environmental Penalty Annual Report | Y | 0 | 0 | 0 |
| EXP | List of Expired Fuels Safety Facilities | Y | 0 | 0 | 0 |
| FCON | Federal Convictions | Y | 0 | 0 | 0 |
| FCS | Contaminated Sites on Federal Land | Y | 0 | 0 | 0 |
| FOFT | Fisheries & Oceans Fuel Tanks | Y | 0 | 0 | 0 |
| FRST | Federal Identification Registry for Storage Tank Systems (FIRSTS) | Y | 0 | 0 | 0 |
| 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 | 0 | 0 |
| GHG | Greenhouse Gas Emissions from Large Facilities | Y | 0 | 0 | 0 |
| HINC | TSSA Historic Incidents | Y | 0 | 0 | 0 |

| Database | Name | Searched | Project Property | Boundary to 0.25km | Total |
|-----------------|---|-----------------|-----------------------------|-------------------------------|--------------|
| IAFT | Indian & Northern Affairs Fuel Tanks | Y | 0 | 0 | 0 |
| INC | Fuel Oil Spills and Leaks | Y | 0 | 0 | 0 |
| LIMO | Landfill Inventory Management Ontario | Y | 0 | 0 | 0 |
| MINE | Canadian Mine Locations | Y | 0 | 0 | 0 |
| MNR | Mineral Occurrences | Y | 0 | 0 | 0 |
| NATE | National Analysis of Trends in Emergencies System (NATES) | Y | 0 | 0 | 0 |
| NCPL | Non-Compliance Reports | Y | 0 | 0 | 0 |
| NDFT | National Defense & Canadian Forces Fuel Tanks | Y | 0 | 0 | 0 |
| NDSP | National Defense & Canadian Forces Spills | Y | 0 | 0 | 0 |
| NDWD | National Defence & Canadian Forces Waste Disposal Sites | Y | 0 | 0 | 0 |
| NEBI | National Energy Board Pipeline Incidents | Y | 0 | 0 | 0 |
| NEBP | National Energy Board Wells | Y | 0 | 0 | 0 |
| NEES | National Environmental Emergencies System (NEES) | Y | 0 | 0 | 0 |
| NPCB | National PCB Inventory | Y | 0 | 0 | 0 |
| NPR2 | National Pollutant Release Inventory 1993-2020 | Y | 0 | 0 | 0 |
| NPRI | National Pollutant Release Inventory - Historic | Y | 0 | 0 | 0 |
| OGWE | Oil and Gas Wells | Y | 0 | 0 | 0 |
| OOGW | Ontario Oil and Gas Wells | Y | 0 | 0 | 0 |
| OPCB | Inventory of PCB Storage Sites | Y | 0 | 0 | 0 |
| ORD | Orders | Y | 0 | 0 | 0 |
| PAP | Canadian Pulp and Paper | Y | 0 | 0 | 0 |
| PCFT | Parks Canada Fuel Storage Tanks | Y | 0 | 0 | 0 |
| PES | Pesticide Register | Y | 0 | 0 | 0 |
| PFCH | NPRI Reporters - PFAS Substances | Y | 0 | 0 | 0 |
| PFHA | Potential PFAS Handlers from NPRI | Y | 0 | 0 | 0 |
| PINC | Pipeline Incidents | Y | 0 | 0 | 0 |
| PRT | Private and Retail Fuel Storage Tanks | Y | 0 | 0 | 0 |
| PTTW | Permit to Take Water | Y | 0 | 0 | 0 |
| REC | Ontario Regulation 347 Waste Receivers Summary | Y | 0 | 0 | 0 |
| RSC | Record of Site Condition | Y | 0 | 0 | 0 |
| RST | Retail Fuel Storage Tanks | Y | 0 | 0 | 0 |
| SCT | Scott's Manufacturing Directory | Y | 0 | 0 | 0 |
| SPL | Ontario Spills | Y | 0 | 0 | 0 |
| SRDS | Wastewater Discharger Registration Database | Y | 0 | 0 | 0 |
| TANK | Anderson's Storage Tanks | Y | 0 | 0 | 0 |
| TCFT | Transport Canada Fuel Storage Tanks | Y | 0 | 0 | 0 |
| VAR | Variances for Abandonment of Underground Storage Tanks | Y | 0 | 0 | 0 |
| WDS | Waste Disposal Sites - MOE CA Inventory | Y | 0 | 0 | 0 |
| WDSH | Waste Disposal Sites - MOE 1991 Historical Approval Inventory | Y | 0 | 0 | 0 |
| WWIS | Water Well Information System | Y | 0 | 8 | 8 |

| <i>Database</i> | <i>Name</i> | <i>Searched</i> | <i>Project Property</i> | <i>Boundary to 0.25km</i> | <i>Total</i> |
|-----------------|-------------|-----------------|-----------------------------|-------------------------------|--------------|
| | | Total: | 0 | 8 | 8 |

Executive Summary: Site Report Summary - Project Property

| <i>Map Key</i> | <i>DB</i> | <i>Company/Site Name</i> | <i>Address</i> | <i>Dir/Dist (m)</i> | <i>Elev diff (m)</i> | <i>Page Number</i> |
|--------------------|-----------|--------------------------|----------------|---------------------|--------------------------|------------------------|
|--------------------|-----------|--------------------------|----------------|---------------------|--------------------------|------------------------|

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

Executive Summary: Site Report Summary - Surrounding Properties

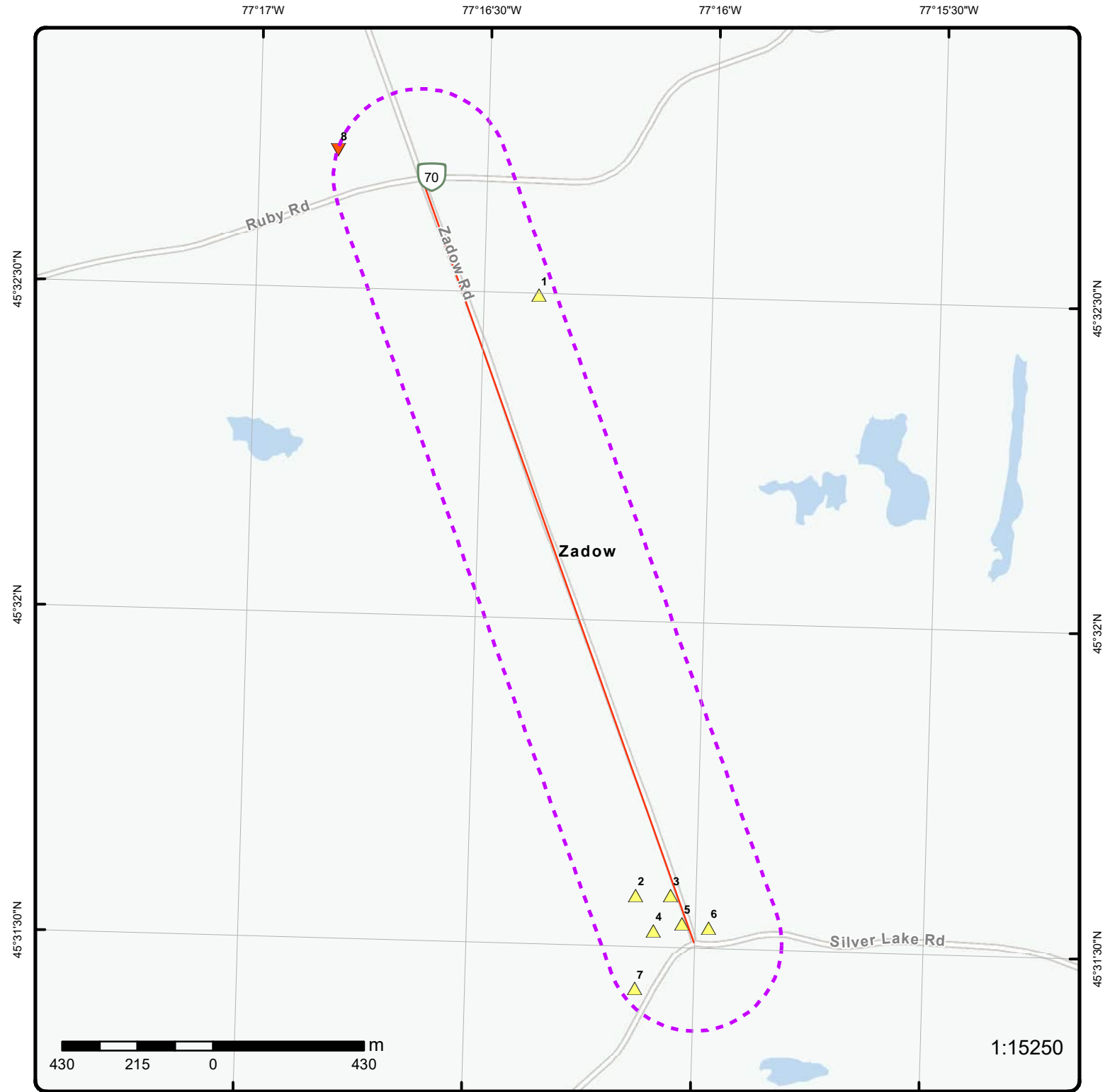
| Map Key | DB | Company/Site Name | Address | Dir/Dist (m) | Elev Diff (m) | Page Number |
|--------------------------|-----------|--------------------------|---|---------------------|----------------------|---------------------------|
| <u>1</u> | WWIS | | lot 15 con 8 ON Well ID: 5510248 | N/203.4 | 6.15 | <u>13</u> |
| <u>2</u> | WWIS | | lot 16 con 6 ON Well ID: 5504746 | SSE/110.9 | 10.12 | <u>17</u> |
| <u>3</u> | WWIS | | lot 16 con 6 ON Well ID: 5504749 | SSE/16.7 | 8.48 | <u>20</u> |
| <u>4</u> | WWIS | | lot 16 con 6 ON Well ID: 5505082 | SSE/97.3 | 13.12 | <u>24</u> |
| <u>5</u> | WWIS | | lot 16 con 6 ON Well ID: 5509534 | SSE/14.3 | 6.67 | <u>27</u> |
| <u>6</u> | WWIS | | 2252 SILVER LAKE RD lot 15 con 6 ON Well ID: 5516179 | SSE/54.2 | 5.09 | <u>30</u> |
| <u>7</u> | WWIS | | lot 16 con 6 ON Well ID: 5510249 | SSE/212.9 | 17.82 | <u>38</u> |
| <u>8</u> | WWIS | | lot 18 con 9 ON Well ID: 5511567 | NW/246.5 | -11.00 | <u>42</u> |

Executive Summary: Summary By Data Source

WWIS - Water Well Information System

A search of the WWIS database, dated Mar 31 2023 has found that there are 8 WWIS site(s) within approximately 0.25 kilometers of the project property.

| <u>Site</u> | <u>Address</u> | <u>Distance (m)</u> | <u>Map Key</u> |
|--------------------|---|----------------------------|--------------------------|
| | lot 15 con 8 ON Well ID: 5510248 | 203.4 | <u>1</u> |
| | lot 16 con 6 ON Well ID: 5504746 | 110.9 | <u>2</u> |
| | lot 16 con 6 ON Well ID: 5504749 | 16.7 | <u>3</u> |
| | lot 16 con 6 ON Well ID: 5505082 | 97.3 | <u>4</u> |
| | lot 16 con 6 ON Well ID: 5509534 | 14.3 | <u>5</u> |
| | 2252 SILVER LAKE RD lot 15 con 6 ON Well ID: 5516179 | 54.2 | <u>6</u> |
| | lot 16 con 6 ON Well ID: 5510249 | 212.9 | <u>7</u> |
| | lot 18 con 9 ON Well ID: 5511567 | 246.5 | <u>8</u> |



Map: 0.25 Kilometer Radius

Order Number: 23111500539

Address: Zadow Road, Bonnechere Valley, ON



| | | | |
|-----------------------------------|------------------------------------|--------------------|------------------------|
| Project Property | Freeways; Highways | Beach | Shopping & Sports Area |
| Buffer Outline | Traffic Circle; Ramp | Airport | University/College |
| Eris Sites with Higher Elevation | Major Arterial; Minor Arterial | Industrial Area | Cemetery; Golf Course |
| Eris Sites with Same Elevation | Local Road | Military Base | Parkt (National) |
| Eris Sites with Lower Elevation | Service Road; Traffic Circle; Ramp | Aircraft Roads | Park (City/County) |
| Eris Sites with Unknown Elevation | Rail | Native Reservation | |
| | | Hospital | |

77°16'30"W

45°33'N

45°31'30"N

45°31'30"N



1:14507

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Aerial Year: 2022

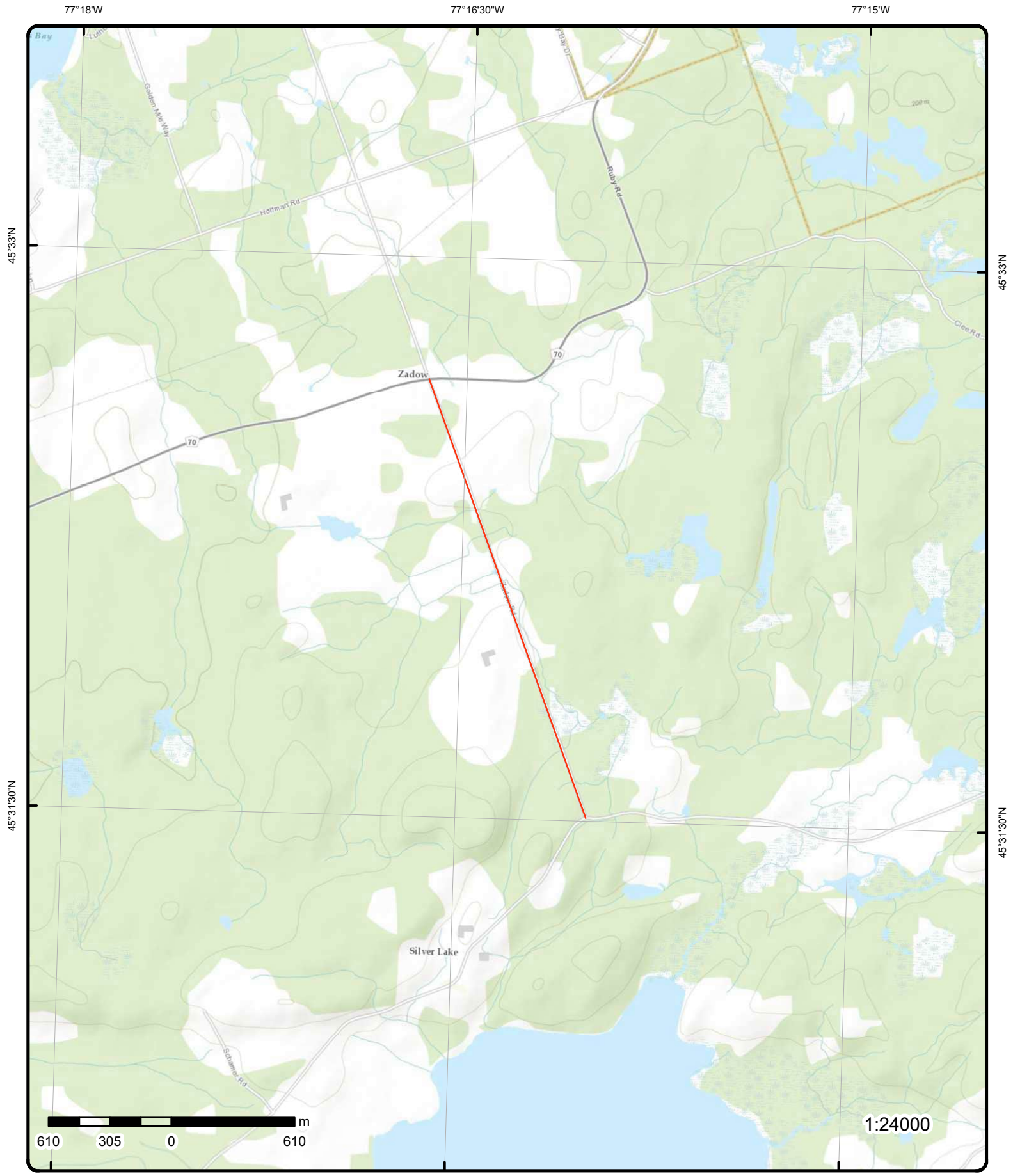
Order Number: 23111500539

Address: Zadow Road, Bonnechere Valley, ON



Source: ESRI World Imagery

© ERIS Information Limited Partnership



Topographic Map

Address: Zadow Road, ON

Source: ESRI World Topographic Map

Order Number: 23111500539



© ERIS Information Limited Partnership

Detail Report

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|-------------------|----------------------------|------------------|--------------------|------|
| 1 | 1 of 1 | N/203.4 | 225.0 / 6.15 | lot 15 con 8 ON | WWIS |
| <div><div><div><div><div>Well ID:</div><div>5510248</div></div><div><div>Construction Date:</div><div></div></div><div><div>Use 1st:</div><div>Domestic</div></div><div><div>Use 2nd:</div><div></div></div><div><div>Final Well Status:</div><div>Water Supply</div></div><div><div>Water Type:</div><div></div></div><div><div>Casing Material:</div><div></div></div><div><div>Audit No:</div><div>80187</div></div><div><div>Tag:</div><div></div></div><div><div>Constructn Method:</div><div></div></div><div><div>Elevation (m):</div><div></div></div><div><div>Elevatn Reliabilty:</div><div></div></div><div><div>Depth to Bedrock:</div><div></div></div><div><div>Well Depth:</div><div></div></div><div><div>Overburden/Bedrock:</div><div></div></div><div><div>Pump Rate:</div><div></div></div><div><div>Static Water Level:</div><div></div></div><div><div>Clear/Cloudy:</div><div></div></div><div><div>Municipality:</div><div>SOUTH ALGONA TOWNSHIP</div></div><div><div>Site Info:</div><div></div></div></div><div><div><div>Flowing (Y/N):</div><div></div></div><div><div>Flow Rate:</div><div></div></div><div><div>Data Entry Status:</div><div></div></div><div><div>Data Src:</div><div>1</div></div><div><div>Date Received:</div><div>10/17/1990</div></div><div><div>Selected Flag:</div><div>TRUE</div></div><div><div>Abandonment Rec:</div><div></div></div><div><div>Contractor:</div><div>3611</div></div><div><div>Form Version:</div><div>1</div></div><div><div>Owner:</div><div></div></div><div><div>County:</div><div>RENFREW</div></div><div><div>Lot:</div><div>015</div></div><div><div>Concession:</div><div>08</div></div><div><div>Concession Name:</div><div>CON</div></div><div><div>Easting NAD83:</div><div></div></div><div><div>Northing NAD83:</div><div></div></div><div><div>Zone:</div><div></div></div><div><div>UTM Reliability:</div><div></div></div></div></div></div> <div>PDF URL (Map):https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/551\5510248.pdf</div> | | | | | |
| <u>Additional Detail(s) (Map)</u> | | | | | |
| <div><div><div><div><div>Well Completed Date:</div><div>09/10/1990</div></div><div><div>Year Completed:</div><div>1990</div></div><div><div>Depth (m):</div><div>79.248</div></div><div><div>Latitude:</div><div>45.5416270191472</div></div><div><div>Longitude:</div><div>-77.2729347037254</div></div><div><div>Path:</div><div>551\5510248.pdf</div></div></div><div></div></div></div> | | | | | |
| <u>Bore Hole Information</u> | | | | | |
| <div><div><div><div><div>Bore Hole ID:</div><div>10369244</div></div><div><div>DP2BR:</div><div></div></div><div><div>Spatial Status:</div><div></div></div><div><div>Code OB:</div><div></div></div><div><div>Code OB Desc:</div><div></div></div><div><div>Open Hole:</div><div></div></div><div><div>Cluster Kind:</div><div></div></div><div><div>Date Completed:</div><div>09/10/1990</div></div><div><div>Remarks:</div><div></div></div><div><div>Loc Method Desc:</div><div>Lot centroid</div></div><div><div>Elevrc Desc:</div><div></div></div><div><div>Location Source Date:</div><div></div></div><div><div>Improvement Location Source:</div><div></div></div><div><div>Improvement Location Method:</div><div></div></div><div><div>Source Revision Comment:</div><div></div></div><div><div>Supplier Comment:</div><div></div></div></div><div><div><div>Elevation:</div><div></div></div><div><div>Elevrc:</div><div></div></div><div><div>Zone:</div><div>18</div></div><div><div>East83:</div><div>322554.60</div></div><div><div>North83:</div><div>5045634.00</div></div><div><div>Org CS:</div><div></div></div><div><div>UTMRC:</div><div>9</div></div><div><div>UTMRC Desc:</div><div>unknown UTM</div></div><div><div>Location Method:</div><div>lot</div></div></div></div></div> | | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|----------------------|----------------------------|------------------|------|----|
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932222235 | | | |
| Layer: | | 1 | | | |
| Color: | | 6 | | | |
| General Color: | | BROWN | | | |
| Mat1: | | 28 | | | |
| Most Common Material: | | SAND | | | |
| Mat2: | | 11 | | | |
| Mat2 Desc: | | GRAVEL | | | |
| Mat3: | | 77 | | | |
| Mat3 Desc: | | LOOSE | | | |
| Formation Top Depth: | | 0.0 | | | |
| Formation End Depth: | | 14.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932222237 | | | |
| Layer: | | 3 | | | |
| Color: | | 1 | | | |
| General Color: | | WHITE | | | |
| Mat1: | | 46 | | | |
| Most Common Material: | | QUARTZ | | | |
| Mat2: | | 36 | | | |
| Mat2 Desc: | | BASALT | | | |
| Mat3: | | 74 | | | |
| Mat3 Desc: | | LAYERED | | | |
| Formation Top Depth: | | 80.0 | | | |
| Formation End Depth: | | 164.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932222236 | | | |
| Layer: | | 2 | | | |
| Color: | | 2 | | | |
| General Color: | | GREY | | | |
| Mat1: | | 15 | | | |
| Most Common Material: | | LIMESTONE | | | |
| Mat2: | | 16 | | | |
| Mat2 Desc: | | DOLOMITE | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 14.0 | | | |
| Formation End Depth: | | 80.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932222238 | | | |
| Layer: | | 4 | | | |
| Color: | | 1 | | | |
| General Color: | | WHITE | | | |
| Mat1: | | 15 | | | |
| Most Common Material: | | LIMESTONE | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 164.0 | | | |
| Formation End Depth: | | 260.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Annular Space/Abandonment Sealing Record</u> | | | | | |
| Plug ID: | | 933180814 | | | |
| Layer: | | 1 | | | |
| Plug From: | | 2.0 | | | |
| Plug To: | | 20.0 | | | |
| Plug Depth UOM: | | ft | | | |
| <u>Method of Construction & Well Use</u> | | | | | |
| Method Construction ID: | | 965510248 | | | |
| Method Construction Code: | | 4 | | | |
| Method Construction: | | Rotary (Air) | | | |
| Other Method Construction: | | | | | |
| <u>Pipe Information</u> | | | | | |
| Pipe ID: | | 10917814 | | | |
| Casing No: | | 1 | | | |
| Comment: | | | | | |
| Alt Name: | | | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930609146 | | | |
| Layer: | | 1 | | | |
| Material: | | 1 | | | |
| Open Hole or Material: | | STEEL | | | |
| Depth From: | | | | | |
| Depth To: | | 21.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930609147 | | | |
| Layer: | | 2 | | | |
| Material: | | 4 | | | |
| Open Hole or Material: | | OPEN HOLE | | | |
| Depth From: | | | | | |
| Depth To: | | 260.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Results of Well Yield Testing</u> | | | | | |
| Pumping Test Method Desc: | | PUMP | | | |
| Pump Test ID: | | 995510248 | | | |
| Pump Set At: | | | | | |
| Static Level: | | 12.0 | | | |
| Final Level After Pumping: | | 200.0 | | | |
| Recommended Pump Depth: | | 240.0 | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| Pumping Rate: | | 5.0 | | | |
| Flowing Rate: | | | | | |
| Recommended Pump Rate: | | 5.0 | | | |
| Levels UOM: | | ft | | | |
| Rate UOM: | | GPM | | | |
| Water State After Test Code: | | 1 | | | |
| Water State After Test: | | CLEAR | | | |
| Pumping Test Method: | | 1 | | | |
| Pumping Duration HR: | | 2 | | | |
| Pumping Duration MIN: | | 0 | | | |
| Flowing: | | No | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 935077003 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 144.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934284118 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 15 | | | |
| Test Level: | | 60.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934811817 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 45 | | | |
| Test Level: | | 120.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934551760 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 96.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933848918 | | | |
| Layer: | | 2 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 190.0 | | | |
| Water Found Depth UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933848917 | | | |
| Layer: | | 1 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 48.0 | | | |
| Water Found Depth UOM: | | ft | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---------------------------|-------------------|----------------------------|------------------|--------------------|--------------------|
| Links | | | | | |
| Bore Hole ID: | 10369244 | | | Tag No: | |
| Depth M: | 79.248 | | | Contractor: | 3611 |
| Year Completed: | 1990 | | | Latitude: | 45.5416270191472 |
| Well Completed Dt: | 09/10/1990 | | | Longitude: | -77.2729347037254 |
| Audit No: | 80187 | | | Y: | 45.541627015190286 |
| Path: | 551\5510248.pdf | | | X: | -77.27293454350956 |

| | | | | | |
|----------------------------|---|-----------|---------------|---------------------------|------------|
| 2 | 1 of 1 | SSE/110.9 | 229.0 / 10.12 | lot 16 con 6 ON | WWIS |
| Well ID: | 5504746 | | | Flowing (Y/N): | |
| Construction Date: | | | | Flow Rate: | |
| Use 1st: | Domestic | | | Data Entry Status: | |
| Use 2nd: | 0 | | | Data Src: | 1 |
| Final Well Status: | Water Supply | | | Date Received: | 12/05/1977 |
| Water Type: | | | | Selected Flag: | TRUE |
| Casing Material: | | | | Abandonment Rec: | |
| Audit No: | | | | Contractor: | 3564 |
| Tag: | | | | Form Version: | 1 |
| Constructn Method: | | | | Owner: | |
| Elevation (m): | | | | County: | RENFREW |
| Elevatn Reliabilty: | | | | Lot: | 016 |
| Depth to Bedrock: | | | | Concession: | 06 |
| Well Depth: | | | | Concession Name: | CON |
| Overburden/Bedrock: | | | | Easting NAD83: | |
| Pump Rate: | | | | Northing NAD83: | |
| Static Water Level: | | | | Zone: | |
| Clear/Cloudy: | | | | UTM Reliability: | |
| Municipality: | SOUTH ALGONA TOWNSHIP | | | | |
| Site Info: | | | | | |
| PDF URL (Map): | https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/550\5504746.pdf | | | | |

Additional Detail(s) (Map)

Well Completed Date: 10/26/1977
Year Completed: 1977
Depth (m): 15.5448
Latitude: 45.5263082790533
Longitude: -77.268795764993
Path: 550\5504746.pdf

Bore Hole Information

| | | | |
|-------------------------------------|--|-------------------------|---------------------------------|
| Bore Hole ID: | 10363801 | Elevation: | |
| DP2BR: | | Elevrc: | |
| Spatial Status: | | Zone: | 18 |
| Code OB: | | East83: | 322829.60 |
| Code OB Desc: | | North83: | 5043923.00 |
| Open Hole: | | Org CS: | |
| Cluster Kind: | | UTMRC: | 5 |
| Date Completed: | 10/26/1977 | UTMRC Desc: | margin of error : 100 m - 300 m |
| Remarks: | | Location Method: | p5 |
| Loc Method Desc: | Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m | | |
| Elevrc Desc: | | | |
| Location Source Date: | | | |
| Improvement Location Source: | | | |
| Improvement Location Method: | | | |
| Source Revision Comment: | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|----------------------|----------------------------|------------------|------|----|
| Supplier Comment: | | | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932204539 | | | |
| Layer: | | 1 | | | |
| Color: | | 6 | | | |
| General Color: | | BROWN | | | |
| Mat1: | | 28 | | | |
| Most Common Material: | | SAND | | | |
| Mat2: | | 79 | | | |
| Mat2 Desc: | | PACKED | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 0.0 | | | |
| Formation End Depth: | | 23.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932204540 | | | |
| Layer: | | 2 | | | |
| Color: | | | | | |
| General Color: | | | | | |
| Mat1: | | 00 | | | |
| Most Common Material: | | UNKNOWN TYPE | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 23.0 | | | |
| Formation End Depth: | | 51.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Method of Construction & Well Use</u> | | | | | |
| Method Construction ID: | | 965504746 | | | |
| Method Construction Code: | | 1 | | | |
| Method Construction: | | Cable Tool | | | |
| Other Method Construction: | | | | | |
| <u>Pipe Information</u> | | | | | |
| Pipe ID: | | 10912371 | | | |
| Casing No: | | 1 | | | |
| Comment: | | | | | |
| Alt Name: | | | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930599941 | | | |
| Layer: | | 1 | | | |
| Material: | | 1 | | | |
| Open Hole or Material: | | STEEL | | | |
| Depth From: | | | | | |
| Depth To: | | 25.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930599942 | | | |
| Layer: | | 2 | | | |
| Material: | | 4 | | | |
| Open Hole or Material: | | OPEN HOLE | | | |
| Depth From: | | | | | |
| Depth To: | | 51.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Results of Well Yield Testing</u> | | | | | |
| Pumping Test Method Desc: | | BAILER | | | |
| Pump Test ID: | | 995504746 | | | |
| Pump Set At: | | | | | |
| Static Level: | | 18.0 | | | |
| Final Level After Pumping: | | 42.0 | | | |
| Recommended Pump Depth: | | 45.0 | | | |
| Pumping Rate: | | 10.0 | | | |
| Flowing Rate: | | | | | |
| Recommended Pump Rate: | | 6.0 | | | |
| Levels UOM: | | ft | | | |
| Rate UOM: | | GPM | | | |
| Water State After Test Code: | | 1 | | | |
| Water State After Test: | | CLEAR | | | |
| Pumping Test Method: | | 2 | | | |
| Pumping Duration HR: | | 1 | | | |
| Pumping Duration MIN: | | 0 | | | |
| Flowing: | | No | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 935077396 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 42.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934811636 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 45 | | | |
| Test Level: | | 42.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934551477 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 42.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934282188 | | | |
| Test Type: | | Draw Down | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|-----------------------------------|----------------------|---|------------------|--------------------|--------------------|
| Test Duration: | | 15 | | | |
| Test Level: | | 42.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933841357 | | | |
| Layer: | | 2 | | | |
| Kind Code: | | 5 | | | |
| Kind: | | Not stated | | | |
| Water Found Depth: | | 50.0 | | | |
| Water Found Depth UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933841356 | | | |
| Layer: | | 1 | | | |
| Kind Code: | | 5 | | | |
| Kind: | | Not stated | | | |
| Water Found Depth: | | 44.0 | | | |
| Water Found Depth UOM: | | ft | | | |
| <u>Links</u> | | | | | |
| Bore Hole ID: | | 10363801 | | Tag No: | |
| Depth M: | | 15.5448 | | Contractor: | 3564 |
| Year Completed: | | 1977 | | Latitude: | 45.5263082790533 |
| Well Completed Dt: | | 10/26/1977 | | Longitude: | -77.268795764993 |
| Audit No: | | | | Y: | 45.5263082751313 |
| Path: | | 550\5504746.pdf | | X: | -77.26879560441006 |
| <u>3</u> | 1 of 1 | SSE/16.7 | 227.4 / 8.48 | lot 16 con 6 ON | WWIS |
| Well ID: | | 5504749 | | Flowing (Y/N): | |
| Construction Date: | | | | Flow Rate: | |
| Use 1st: | | Livestock | | Data Entry Status: | |
| Use 2nd: | | Domestic | | Data Src: | 1 |
| Final Well Status: | | Water Supply | | Date Received: | 12/05/1977 |
| Water Type: | | | | Selected Flag: | TRUE |
| Casing Material: | | | | Abandonment Rec: | |
| Audit No: | | | | Contractor: | 3564 |
| Tag: | | | | Form Version: | 1 |
| Constructn Method: | | | | Owner: | |
| Elevation (m): | | | | County: | RENFREW |
| Elevatn Reliabilty: | | | | Lot: | 016 |
| Depth to Bedrock: | | | | Concession: | 06 |
| Well Depth: | | | | Concession Name: | CON |
| Overburden/Bedrock: | | | | Easting NAD83: | |
| Pump Rate: | | | | Northing NAD83: | |
| Static Water Level: | | | | Zone: | |
| Clear/Cloudy: | | | | UTM Reliability: | |
| Municipality: | | SOUTH ALGONA TOWNSHIP | | | |
| Site Info: | | | | | |
| PDF URL (Map): | | https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/550\5504749.pdf | | | |
| <u>Additional Detail(s) (Map)</u> | | | | | |
| Well Completed Date: | | 10/31/1977 | | | |
| Year Completed: | | 1977 | | | |
| Depth (m): | | 18.8976 | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--------------------------------------|----------------------|--|------------------|------------------|---------------------------------|
| Latitude: | | 45.526333698771 | | | |
| Longitude: | | -77.2675162025878 | | | |
| Path: | | 550\5504749.pdf | | | |
| <u>Bore Hole Information</u> | | | | | |
| Bore Hole ID: | 10363804 | | | Elevation: | |
| DP2BR: | | | | Elevrc: | |
| Spatial Status: | | | | Zone: | 18 |
| Code OB: | | | | East83: | 322929.60 |
| Code OB Desc: | | | | North83: | 5043923.00 |
| Open Hole: | | | | Org CS: | |
| Cluster Kind: | | | | UTMRC: | 5 |
| Date Completed: | 10/31/1977 | | | UTMRC Desc: | margin of error : 100 m - 300 m |
| Remarks: | | | | Location Method: | p5 |
| Loc Method Desc: | | Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m | | | |
| Elevrc Desc: | | | | | |
| Location Source Date: | | | | | |
| Improvement Location Source: | | | | | |
| Improvement Location Method: | | | | | |
| Source Revision Comment: | | | | | |
| Supplier Comment: | | | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | 932204548 | | | | |
| Layer: | 1 | | | | |
| Color: | | | | | |
| General Color: | | | | | |
| Mat1: | 25 | | | | |
| Most Common Material: | OVERBURDEN | | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | 0.0 | | | | |
| Formation End Depth: | 30.0 | | | | |
| Formation End Depth UOM: | ft | | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | 932204550 | | | | |
| Layer: | 3 | | | | |
| Color: | 7 | | | | |
| General Color: | RED | | | | |
| Mat1: | 21 | | | | |
| Most Common Material: | GRANITE | | | | |
| Mat2: | 73 | | | | |
| Mat2 Desc: | HARD | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | 50.0 | | | | |
| Formation End Depth: | 62.0 | | | | |
| Formation End Depth UOM: | ft | | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | 932204549 | | | | |
| Layer: | 2 | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| Color: | | 2 | | | |
| General Color: | | GREY | | | |
| Mat1: | | 14 | | | |
| Most Common Material: | | HARDPAN | | | |
| Mat2: | | 13 | | | |
| Mat2 Desc: | | BOULDERS | | | |
| Mat3: | | 73 | | | |
| Mat3 Desc: | | HARD | | | |
| Formation Top Depth: | | 30.0 | | | |
| Formation End Depth: | | 50.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Method of Construction & Well Use</u> | | | | | |
| Method Construction ID: | | 965504749 | | | |
| Method Construction Code: | | 1 | | | |
| Method Construction: | | Cable Tool | | | |
| Other Method Construction: | | | | | |
| <u>Pipe Information</u> | | | | | |
| Pipe ID: | | 10912374 | | | |
| Casing No: | | 1 | | | |
| Comment: | | | | | |
| Alt Name: | | | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930599948 | | | |
| Layer: | | 2 | | | |
| Material: | | 4 | | | |
| Open Hole or Material: | | OPEN HOLE | | | |
| Depth From: | | | | | |
| Depth To: | | 62.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930599947 | | | |
| Layer: | | 1 | | | |
| Material: | | 1 | | | |
| Open Hole or Material: | | STEEL | | | |
| Depth From: | | | | | |
| Depth To: | | 50.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Results of Well Yield Testing</u> | | | | | |
| Pumping Test Method Desc: | | BAILER | | | |
| Pump Test ID: | | 995504749 | | | |
| Pump Set At: | | | | | |
| Static Level: | | 18.0 | | | |
| Final Level After Pumping: | | 18.0 | | | |
| Recommended Pump Depth: | | 30.0 | | | |
| Pumping Rate: | | 10.0 | | | |
| Flowing Rate: | | | | | |
| Recommended Pump Rate: | | 10.0 | | | |

| <i>Map Key</i> | <i>Number of Records</i> | <i>Direction/ Distance (m)</i> | <i>Elev/Diff (m)</i> | <i>Site</i> | <i>DB</i> |
|--|------------------------------|------------------------------------|--------------------------|--------------------|-------------------|
| <hr/> | | | | | |
| Levels UOM: | | ft | | | |
| Rate UOM: | | GPM | | | |
| Water State After Test Code: | | 1 | | | |
| Water State After Test: | | CLEAR | | | |
| Pumping Test Method: | | 2 | | | |
| Pumping Duration HR: | | 1 | | | |
| Pumping Duration MIN: | | 0 | | | |
| Flowing: | | No | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934282191 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 15 | | | |
| Test Level: | | 18.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 935077399 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 18.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934811639 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 45 | | | |
| Test Level: | | 18.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934551480 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 18.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933841361 | | | |
| Layer: | | 1 | | | |
| Kind Code: | | 5 | | | |
| Kind: | | Not stated | | | |
| Water Found Depth: | | 60.0 | | | |
| Water Found Depth UOM: | | ft | | | |
| <u>Links</u> | | | | | |
| Bore Hole ID: | 10363804 | | | Tag No: | |
| Depth M: | 18.8976 | | | Contractor: | 3564 |
| Year Completed: | 1977 | | | Latitude: | 45.526333698771 |
| Well Completed Dt: | 10/31/1977 | | | Longitude: | -77.2675162025878 |
| Audit No: | | | | Y: | 45.52633369549175 |
| Path: | 550\5504749.pdf | | | X: | -77.2675160427416 |
| <hr/> | | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|-------------------|----------------------------|------------------|--------------------|------|
| 4 | 1 of 1 | SSE/97.3 | 232.0 / 13.12 | lot 16 con 6 ON | WWIS |
| <div><div><div>Well ID: 5505082</div><div>Construction Date:</div><div>Use 1st: Livestock</div><div>Use 2nd: Domestic</div><div>Final Well Status: Water Supply</div><div>Water Type:</div><div>Casing Material:</div><div>Audit No:</div><div>Tag:</div><div>Constructn Method:</div><div>Elevation (m):</div><div>Elevatn Reliabilty:</div><div>Depth to Bedrock:</div><div>Well Depth:</div><div>Overburden/Bedrock:</div><div>Pump Rate:</div><div>Static Water Level:</div><div>Clear/Cloudy:</div><div>Municipality:</div><div>Site Info:</div></div><div><div>Flowing (Y/N):</div><div>Flow Rate:</div><div>Data Entry Status:</div><div>Data Src: 1</div><div>Date Received: 07/17/1978</div><div>Selected Flag: TRUE</div><div>Abandonment Rec:</div><div>Contractor: 3564</div><div>Form Version: 1</div><div>Owner:</div><div>County: RENFREW</div><div>Lot: 016</div><div>Concession: 06</div><div>Concession Name: CON</div><div>Easting NAD83:</div><div>Northing NAD83:</div><div>Zone:</div><div>UTM Reliability:</div></div></div> <div>https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/550\5505082.pdf</div> <div><div><div>Well Completed Date: 06/07/1978</div><div>Year Completed: 1978</div><div>Depth (m): 51.2064</div><div>Latitude: 45.5254215875569</div><div>Longitude: -77.2681198207449</div><div>Path: 550\5505082.pdf</div></div><div><div><div>Bore Hole ID: 10364135</div><div>DP2BR:</div><div>Spatial Status:</div><div>Code OB:</div><div>Code OB Desc:</div><div>Open Hole:</div><div>Cluster Kind:</div><div>Date Completed: 06/07/1978</div><div>Remarks:</div><div>Loc Method Desc:</div><div>Elevrc Desc:</div><div>Location Source Date:</div><div>Improvement Location Source:</div><div>Improvement Location Method:</div><div>Source Revision Comment:</div><div>Supplier Comment:</div></div><div><div>Elevation:</div><div>Elevrc:</div><div>Zone: 18</div><div>East83: 322879.60</div><div>North83: 5043823.00</div><div>Org CS:</div><div>UTMRC: 5</div><div>UTMRC Desc: margin of error : 100 m - 300 m</div><div>Location Method: p5</div></div></div><div>Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m</div><div><div><div>Overburden and Bedrock</div><div>Materials Interval</div></div><div><div>Formation ID: 932205448</div><div>Layer: 2</div><div>Color: 2</div><div>General Color: GREY</div><div>Mat1: 21</div><div>Most Common Material: GRANITE</div></div></div></div> | | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| Mat2: | | 73 | | | |
| Mat2 Desc: | | HARD | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 14.0 | | | |
| Formation End Depth: | | 168.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932205447 | | | |
| Layer: | | 1 | | | |
| Color: | | 6 | | | |
| General Color: | | BROWN | | | |
| Mat1: | | 28 | | | |
| Most Common Material: | | SAND | | | |
| Mat2: | | 11 | | | |
| Mat2 Desc: | | GRAVEL | | | |
| Mat3: | | 79 | | | |
| Mat3 Desc: | | PACKED | | | |
| Formation Top Depth: | | 0.0 | | | |
| Formation End Depth: | | 14.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Method of Construction & Well Use</u> | | | | | |
| Method Construction ID: | | 965505082 | | | |
| Method Construction Code: | | 1 | | | |
| Method Construction: | | Cable Tool | | | |
| Other Method Construction: | | | | | |
| <u>Pipe Information</u> | | | | | |
| Pipe ID: | | 10912705 | | | |
| Casing No: | | 1 | | | |
| Comment: | | | | | |
| Alt Name: | | | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930600427 | | | |
| Layer: | | 2 | | | |
| Material: | | 4 | | | |
| Open Hole or Material: | | OPEN HOLE | | | |
| Depth From: | | | | | |
| Depth To: | | 168.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930600426 | | | |
| Layer: | | 1 | | | |
| Material: | | 1 | | | |
| Open Hole or Material: | | STEEL | | | |
| Depth From: | | | | | |
| Depth To: | | 15.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|----------------------|----------------------------|------------------|------|----|
| Casing Depth UOM: | | ft | | | |
| <u>Results of Well Yield Testing</u> | | | | | |
| Pumping Test Method Desc: | | BAILER | | | |
| Pump Test ID: | | 995505082 | | | |
| Pump Set At: | | | | | |
| Static Level: | | 40.0 | | | |
| Final Level After Pumping: | | 150.0 | | | |
| Recommended Pump Depth: | | 150.0 | | | |
| Pumping Rate: | | 10.0 | | | |
| Flowing Rate: | | | | | |
| Recommended Pump Rate: | | 10.0 | | | |
| Levels UOM: | | ft | | | |
| Rate UOM: | | GPM | | | |
| Water State After Test Code: | | 1 | | | |
| Water State After Test: | | CLEAR | | | |
| Pumping Test Method: | | 2 | | | |
| Pumping Duration HR: | | 1 | | | |
| Pumping Duration MIN: | | 20 | | | |
| Flowing: | | No | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934812750 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 45 | | | |
| Test Level: | | 150.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934553149 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 136.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 935069211 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 150.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934283338 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 15 | | | |
| Test Level: | | 98.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933841777 | | | |
| Layer: | | 1 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 165.0 | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|------------------------|-------------------|----------------------------|------------------|-------------|--------------------|
| Water Found Depth UOM: | | ft | | | |
| <u>Links</u> | | | | | |
| Bore Hole ID: | 10364135 | | | Tag No: | |
| Depth M: | 51.2064 | | | Contractor: | 3564 |
| Year Completed: | 1978 | | | Latitude: | 45.5254215875569 |
| Well Completed Dt: | 06/07/1978 | | | Longitude: | -77.2681198207449 |
| Audit No: | | | | Y: | 45.52542158419598 |
| Path: | 550\5505082.pdf | | | X: | -77.26811966108956 |

| | | | | | |
|---------------------|---|----------|--------------|--------------------|------------|
| <u>5</u> | 1 of 1 | SSE/14.3 | 225.6 / 6.67 | lot 16 con 6 ON | WWIS |
| Well ID: | 5509534 | | | Flowing (Y/N): | |
| Construction Date: | | | | Flow Rate: | |
| Use 1st: | Domestic | | | Data Entry Status: | |
| Use 2nd: | | | | Data Src: | 1 |
| Final Well Status: | Water Supply | | | Date Received: | 07/25/1989 |
| Water Type: | | | | Selected Flag: | TRUE |
| Casing Material: | | | | Abandonment Rec: | |
| Audit No: | 40391 | | | Contractor: | 3611 |
| Tag: | | | | Form Version: | 1 |
| Constructn Method: | | | | Owner: | |
| Elevation (m): | | | | County: | RENFREW |
| Elevatn Reliabilty: | | | | Lot: | 016 |
| Depth to Bedrock: | | | | Concession: | 06 |
| Well Depth: | | | | Concession Name: | CON |
| Overburden/Bedrock: | | | | Easting NAD83: | |
| Pump Rate: | | | | Northing NAD83: | |
| Static Water Level: | | | | Zone: | |
| Clear/Cloudy: | | | | UTM Reliability: | |
| Municipality: | SOUTH ALGONA TOWNSHIP | | | | |
| Site Info: | | | | | |
| PDF URL (Map): | https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/550\5509534.pdf | | | | |

Additional Detail(s) (Map)

Well Completed Date: 07/17/1989
 Year Completed: 1989
 Depth (m): 31.3944
 Latitude: 45.52561316055
 Longitude: -77.2670851406916
 Path: 550\5509534.pdf

Bore Hole Information

| | | | |
|------------------------------|------------|------------------|-----------------------------|
| Bore Hole ID: | 10368532 | Elevation: | |
| DP2BR: | | Elevrc: | |
| Spatial Status: | | Zone: | 18 |
| Code OB: | | East83: | 322961.00 |
| Code OB Desc: | | North83: | 5043842.00 |
| Open Hole: | | Org CS: | N83 |
| Cluster Kind: | | UTMRC: | 3 |
| Date Completed: | 07/17/1989 | UTMRC Desc: | margin of error : 10 - 30 m |
| Remarks: | | Location Method: | |
| Loc Method Desc: | | | |
| Elevrc Desc: | | | |
| Location Source Date: | | | |
| Improvement Location Source: | | | |
| Improvement Location Method: | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|----------------------|----------------------------|------------------|------|----|
| Source Revision Comment: | | | | | |
| Supplier Comment: | | | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932219529 | | | |
| Layer: | | 2 | | | |
| Color: | | 7 | | | |
| General Color: | | RED | | | |
| Mat1: | | 21 | | | |
| Most Common Material: | | GRANITE | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 2.0 | | | |
| Formation End Depth: | | 103.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932219528 | | | |
| Layer: | | 1 | | | |
| Color: | | 6 | | | |
| General Color: | | BROWN | | | |
| Mat1: | | 28 | | | |
| Most Common Material: | | SAND | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 0.0 | | | |
| Formation End Depth: | | 2.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Annular Space/Abandonment Sealing Record</u> | | | | | |
| Plug ID: | | 933180172 | | | |
| Layer: | | 1 | | | |
| Plug From: | | 2.0 | | | |
| Plug To: | | 20.0 | | | |
| Plug Depth UOM: | | ft | | | |
| <u>Method of Construction & Well Use</u> | | | | | |
| Method Construction ID: | | 965509534 | | | |
| Method Construction Code: | | 4 | | | |
| Method Construction: | | Rotary (Air) | | | |
| Other Method Construction: | | | | | |
| <u>Pipe Information</u> | | | | | |
| Pipe ID: | | 10917102 | | | |
| Casing No: | | 1 | | | |
| Comment: | | | | | |
| Alt Name: | | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|----------------------|----------------------------|------------------|------|----|
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930607789 | | | |
| Layer: | | 1 | | | |
| Material: | | 1 | | | |
| Open Hole or Material: | | STEEL | | | |
| Depth From: | | | | | |
| Depth To: | | 20.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930607790 | | | |
| Layer: | | 2 | | | |
| Material: | | | | | |
| Open Hole or Material: | | | | | |
| Depth From: | | | | | |
| Depth To: | | 103.0 | | | |
| Casing Diameter: | | | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Results of Well Yield Testing</u> | | | | | |
| Pumping Test Method Desc: | | PUMP | | | |
| Pump Test ID: | | 995509534 | | | |
| Pump Set At: | | | | | |
| Static Level: | | 15.0 | | | |
| Final Level After Pumping: | | 103.0 | | | |
| Recommended Pump Depth: | | 100.0 | | | |
| Pumping Rate: | | 2.0 | | | |
| Flowing Rate: | | | | | |
| Recommended Pump Rate: | | 2.0 | | | |
| Levels UOM: | | ft | | | |
| Rate UOM: | | GPM | | | |
| Water State After Test Code: | | 1 | | | |
| Water State After Test: | | CLEAR | | | |
| Pumping Test Method: | | 1 | | | |
| Pumping Duration HR: | | 2 | | | |
| Pumping Duration MIN: | | 0 | | | |
| Flowing: | | No | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934809568 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 45 | | | |
| Test Level: | | 41.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 935074343 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 26.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|-----------------------------------|----------------------|---|------------------|--|------|
| <hr/> | | | | | |
| Pump Test Detail ID: | | 934557828 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 57.0 | | | |
| Test Level UOM: | | ft | | | |
| | | | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| | | | | | |
| Pump Test Detail ID: | | 934281406 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 15 | | | |
| Test Level: | | 76.0 | | | |
| Test Level UOM: | | ft | | | |
| | | | | | |
| <u>Water Details</u> | | | | | |
| | | | | | |
| Water ID: | | 933847891 | | | |
| Layer: | | 1 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 59.0 | | | |
| Water Found Depth UOM: | | ft | | | |
| | | | | | |
| <u>Links</u> | | | | | |
| | | | | | |
| Bore Hole ID: | | 10368532 | | Tag No: | |
| Depth M: | | 31.3944 | | Contractor: | |
| Year Completed: | | 1989 | | 3611 | |
| Well Completed Dt: | | 07/17/1989 | | Latitude: | |
| Audit No: | | 40391 | | 45.52561316055 | |
| Path: | | 550\5509534.pdf | | Longitude: | |
| | | | | -77.2670851406916 | |
| | | | | Y: | |
| | | | | 45.52561315697411 | |
| | | | | X: | |
| | | | | -77.26708498097013 | |
| <hr/> | | | | | |
| <u>6</u> | 1 of 1 | SSE/54.2 | 224.0 / 5.09 | 2252 SILVER LAKE RD lot 15 con 6 ON | WWIS |
| | | | | | |
| Well ID: | | 5516179 | | Flowing (Y/N): | |
| Construction Date: | | | | Flow Rate: | |
| Use 1st: | | Domestic | | Data Entry Status: | |
| Use 2nd: | | | | Data Src: | |
| Final Well Status: | | Water Supply | | Date Received: | |
| Water Type: | | | | 10/03/2005 | |
| Casing Material: | | | | Selected Flag: | |
| Audit No: | | Z28182 | | TRUE | |
| Tag: | | A032691 | | Abandonment Rec: | |
| Constructn Method: | | | | Contractor: | |
| Elevation (m): | | | | 3611 | |
| Elevatn Reliabilty: | | | | Form Version: | |
| Depth to Bedrock: | | | | 3 | |
| Well Depth: | | | | Owner: | |
| Overburden/Bedrock: | | | | County: | |
| Pump Rate: | | | | RENFREW | |
| Static Water Level: | | | | Lot: | |
| Clear/Cloudy: | | | | 015 | |
| Municipality: | | SOUTH ALGONA TOWNSHIP | | Concession: | |
| Site Info: | | RP -49R10097 | | 06 | |
| | | | | Concession Name: | |
| | | | | CON | |
| | | | | Easting NAD83: | |
| | | | | Northing NAD83: | |
| | | | | Zone: | |
| | | | | UTM Reliability: | |
| | | | | | |
| PDF URL (Map): | | https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/551\5516179.pdf | | | |
| | | | | | |
| <u>Additional Detail(s) (Map)</u> | | | | | |
| | | | | | |
| Well Completed Date: | | 09/25/2005 | | | |
| Year Completed: | | 2005 | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--------------------------------------|-------------------|----------------------------|------------------|------------------|--------------------------------|
| Depth (m): | | 91.5 | | | |
| Latitude: | | 45.5255247914807 | | | |
| Longitude: | | -77.2660955531137 | | | |
| Path: | | 551\5516179.pdf | | | |
| <u>Bore Hole Information</u> | | | | | |
| Bore Hole ID: | 11324765 | | | Elevation: | |
| DP2BR: | | | | Elevrc: | |
| Spatial Status: | | | | Zone: | 18 |
| Code OB: | | | | East83: | 323038.00 |
| Code OB Desc: | | | | North83: | 5043830.00 |
| Open Hole: | | | | Org CS: | UTM83 |
| Cluster Kind: | | | | UTMRC: | 4 |
| Date Completed: | 09/25/2005 | | | UTMRC Desc: | margin of error : 30 m - 100 m |
| Remarks: | | | | Location Method: | wwr |
| Loc Method Desc: | | on Water Well Record | | | |
| Elevrc Desc: | | | | | |
| Location Source Date: | | | | | |
| Improvement Location Source: | | | | | |
| Improvement Location Method: | | | | | |
| Source Revision Comment: | | | | | |
| Supplier Comment: | | | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | | 933026187 | | | |
| Layer: | | 7 | | | |
| Color: | | 7 | | | |
| General Color: | | RED | | | |
| Mat1: | | 21 | | | |
| Most Common Material: | | GRANITE | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 77.4000015258789 | | | |
| Formation End Depth: | | 86.0 | | | |
| Formation End Depth UOM: | | m | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | | 933026181 | | | |
| Layer: | | 1 | | | |
| Color: | | 6 | | | |
| General Color: | | BROWN | | | |
| Mat1: | | 05 | | | |
| Most Common Material: | | CLAY | | | |
| Mat2: | | 28 | | | |
| Mat2 Desc: | | SAND | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 0.0 | | | |
| Formation End Depth: | | 7.300000190734863 | | | |
| Formation End Depth UOM: | | m | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | | 933026183 | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|-------------------------------|----------------------|----------------------------|------------------|------|----|
| Layer: | | 3 | | | |
| Color: | | 6 | | | |
| General Color: | | BROWN | | | |
| Mat1: | | 26 | | | |
| Most Common Material: | | ROCK | | | |
| Mat2: | | 71 | | | |
| Mat2 Desc: | | FRACTURED | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 8.199999809265137 | | | |
| Formation End Depth: | | 9.5 | | | |
| Formation End Depth UOM: | | m | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | | 933026186 | | | |
| Layer: | | 6 | | | |
| Color: | | 2 | | | |
| General Color: | | GREY | | | |
| Mat1: | | 21 | | | |
| Most Common Material: | | GRANITE | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 36.900001525878906 | | | |
| Formation End Depth: | | 77.4000015258789 | | | |
| Formation End Depth UOM: | | m | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | | 933026185 | | | |
| Layer: | | 5 | | | |
| Color: | | 7 | | | |
| General Color: | | RED | | | |
| Mat1: | | 21 | | | |
| Most Common Material: | | GRANITE | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 17.399999618530273 | | | |
| Formation End Depth: | | 36.900001525878906 | | | |
| Formation End Depth UOM: | | m | | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | | 933026188 | | | |
| Layer: | | 8 | | | |
| Color: | | 2 | | | |
| General Color: | | GREY | | | |
| Mat1: | | 21 | | | |
| Most Common Material: | | GRANITE | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 86.0 | | | |
| Formation End Depth: | | 91.5 | | | |
| Formation End Depth UOM: | | m | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|----------------------|----------------------------|------------------|------|----|
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 933026189 | | | |
| Layer: | | 9 | | | |
| Color: | | | | | |
| General Color: | | | | | |
| Mat1: | | | | | |
| Most Common Material: | | | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 91.5 | | | |
| Formation End Depth: | | | | | |
| Formation End Depth UOM: | | m | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 933026182 | | | |
| Layer: | | 2 | | | |
| Color: | | 6 | | | |
| General Color: | | BROWN | | | |
| Mat1: | | 11 | | | |
| Most Common Material: | | GRAVEL | | | |
| Mat2: | | 13 | | | |
| Mat2 Desc: | | BOULDERS | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 7.300000190734863 | | | |
| Formation End Depth: | | 8.199999809265137 | | | |
| Formation End Depth UOM: | | m | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 933026184 | | | |
| Layer: | | 4 | | | |
| Color: | | 2 | | | |
| General Color: | | GREY | | | |
| Mat1: | | 21 | | | |
| Most Common Material: | | GRANITE | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 9.5 | | | |
| Formation End Depth: | | 17.399999618530273 | | | |
| Formation End Depth UOM: | | m | | | |
| <u>Annular Space/Abandonment Sealing Record</u> | | | | | |
| Plug ID: | | 933277877 | | | |
| Layer: | | 1 | | | |
| Plug From: | | 0.0 | | | |
| Plug To: | | 9.0 | | | |
| Plug Depth UOM: | | m | | | |
| <u>Method of Construction & Well</u> | | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| <u>Use</u> | | | | | |
| Method Construction ID: | | 965516179 | | | |
| Method Construction Code: | | 2 | | | |
| Method Construction: | | Rotary (Convent.) | | | |
| Other Method Construction: | | | | | |
| <u>Pipe Information</u> | | | | | |
| Pipe ID: | | 11339620 | | | |
| Casing No: | | 1 | | | |
| Comment: | | | | | |
| Alt Name: | | | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930868511 | | | |
| Layer: | | 1 | | | |
| Material: | | 1 | | | |
| Open Hole or Material: | | STEEL | | | |
| Depth From: | | -0.699999988079071 | | | |
| Depth To: | | 10.300000190734863 | | | |
| Casing Diameter: | | 16.0 | | | |
| Casing Diameter UOM: | | cm | | | |
| Casing Depth UOM: | | m | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930868512 | | | |
| Layer: | | 2 | | | |
| Material: | | 4 | | | |
| Open Hole or Material: | | OPEN HOLE | | | |
| Depth From: | | 10.300000190734863 | | | |
| Depth To: | | 91.5 | | | |
| Casing Diameter: | | | | | |
| Casing Diameter UOM: | | cm | | | |
| Casing Depth UOM: | | m | | | |
| <u>Results of Well Yield Testing</u> | | | | | |
| Pumping Test Method Desc: | | PUMP | | | |
| Pump Test ID: | | 11351449 | | | |
| Pump Set At: | | 89.0 | | | |
| Static Level: | | 5.400000095367432 | | | |
| Final Level After Pumping: | | 88.30000305175781 | | | |
| Recommended Pump Depth: | | 89.0 | | | |
| Pumping Rate: | | 24.0 | | | |
| Flowing Rate: | | | | | |
| Recommended Pump Rate: | | 20.0 | | | |
| Levels UOM: | | m | | | |
| Rate UOM: | | LPM | | | |
| Water State After Test Code: | | 1 | | | |
| Water State After Test: | | CLEAR | | | |
| Pumping Test Method: | | 1 | | | |
| Pumping Duration HR: | | 1 | | | |
| Pumping Duration MIN: | | 10 | | | |
| Flowing: | | | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460683 | | | |
| Test Type: | | Draw Down | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| Test Duration: | | 25 | | | |
| Test Level: | | 42.400001525878906 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460684 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 10 | | | |
| Test Level: | | 81.69999694824219 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460697 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 3 | | | |
| Test Level: | | 83.80000305175781 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460698 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 3 | | | |
| Test Level: | | 8.699999809265137 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460703 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 10 | | | |
| Test Level: | | 20.600000381469727 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460707 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 4 | | | |
| Test Level: | | 10.399999618530273 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460682 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 76.4000015258789 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460690 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 48.900001525878906 | | | |
| Test Level UOM: | | m | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460705 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 5 | | | |
| Test Level: | | 12.100000381469727 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460700 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 2 | | | |
| Test Level: | | 6.900000095367432 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460685 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 15 | | | |
| Test Level: | | 28.299999237060547 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460691 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 40 | | | |
| Test Level: | | 60.70000076293945 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460695 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 68.9000015258789 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460699 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 2 | | | |
| Test Level: | | 84.0999984741211 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460706 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 4 | | | |
| Test Level: | | 83.5 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460693 | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| Test Type: | | Draw Down | | | |
| Test Duration: | | 50 | | | |
| Test Level: | | 71.5 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460702 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 1 | | | |
| Test Level: | | 5.099999904632568 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460686 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 15 | | | |
| Test Level: | | 80.19999694824219 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460688 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 20 | | | |
| Test Level: | | 79.0999984741211 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460689 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 81.19999694824219 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460694 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 50 | | | |
| Test Level: | | 71.0 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460701 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 1 | | | |
| Test Level: | | 84.4000015258789 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460704 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 5 | | | |
| Test Level: | | 83.30000305175781 | | | |
| Test Level UOM: | | m | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--|----------------------|----------------------------|----------------------|----------------------------|--------------------|
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460687 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 20 | | | |
| Test Level: | | 35.599998474121094 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460692 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 40 | | | |
| Test Level: | | 73.80000305175781 | | | |
| Test Level UOM: | | m | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 11460696 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 25 | | | |
| Test Level: | | 77.69999694824219 | | | |
| Test Level UOM: | | m | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 934065391 | | | |
| Layer: | | 1 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 21.0 | | | |
| Water Found Depth UOM: | | m | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 934065392 | | | |
| Layer: | | 2 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 83.0 | | | |
| Water Found Depth UOM: | | m | | | |
| <u>Links</u> | | | | | |
| Bore Hole ID: | 11324765 | | | Tag No: | A032691 |
| Depth M: | 91.5 | | | Contractor: | 3611 |
| Year Completed: | 2005 | | | Latitude: | 45.5255247914807 |
| Well Completed Dt: | 09/25/2005 | | | Longitude: | -77.2660955531137 |
| Audit No: | Z28182 | | | Y: | 45.52552478719559 |
| Path: | 551\5516179.pdf | | | X: | -77.26609539269536 |
| 7 | 1 of 1 | SSE/212.9 | 236.7 / 17.82 | lot 16 con 6 ON | WWIS |
| Well ID: | 5510249 | | | Flowing (Y/N): | |
| Construction Date: | | | | Flow Rate: | |
| Use 1st: | Domestic | | | Data Entry Status: | |
| Use 2nd: | | | | Data Src: | 1 |
| Final Well Status: | Water Supply | | | Date Received: | 10/23/1990 |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|-----------------------------------|----------------------|----------------------------|---|------|---------|
| Water Type: | | | Selected Flag: | | TRUE |
| Casing Material: | | | Abandonment Rec: | | |
| Audit No: | 89848 | | Contractor: | | 3611 |
| Tag: | | | Form Version: | | 1 |
| Constructn Method: | | | Owner: | | |
| Elevation (m): | | | County: | | RENFREW |
| Elevatn Reliabilty: | | | Lot: | | 016 |
| Depth to Bedrock: | | | Concession: | | 06 |
| Well Depth: | | | Concession Name: | | CON |
| Overburden/Bedrock: | | | Easting NAD83: | | |
| Pump Rate: | | | Northing NAD83: | | |
| Static Water Level: | | | Zone: | | |
| Clear/Cloudy: | | | UTM Reliability: | | |
| Municipality: | | | SOUTH ALGONA TOWNSHIP | | |
| Site Info: | | | | | |
| PDF URL (Map): | | | https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/551\5510249.pdf | | |
| <u>Additional Detail(s) (Map)</u> | | | | | |
| Well Completed Date: | | | 09/28/1990 | | |
| Year Completed: | | | 1990 | | |
| Depth (m): | | | 91.7448 | | |
| Latitude: | | | 45.5239151046277 | | |
| Longitude: | | | -77.2687379326437 | | |
| Path: | | | 551\5510249.pdf | | |
| <u>Bore Hole Information</u> | | | | | |
| Bore Hole ID: | | | 10369245 | | |
| DP2BR: | | | Elevation: | | |
| Spatial Status: | | | Elevrc: | | |
| Code OB: | | | Zone: | | |
| Code OB Desc: | | | 18 | | |
| Open Hole: | | | East83: | | |
| Cluster Kind: | | | 322826.60 | | |
| Date Completed: | | | North83: | | |
| 09/28/1990 | | | 5043657.00 | | |
| Remarks: | | | Org CS: | | |
| Loc Method Desc: | | | Lot centroid | | |
| Elevrc Desc: | | | UTMRC: | | |
| Location Source Date: | | | 9 | | |
| Improvement Location Source: | | | UTMRC Desc: | | |
| Improvement Location Method: | | | unknown UTM | | |
| Source Revision Comment: | | | Location Method: | | |
| Supplier Comment: | | | lot | | |
| <u>Overburden and Bedrock</u> | | | | | |
| <u>Materials Interval</u> | | | | | |
| Formation ID: | | | 932222240 | | |
| Layer: | | | 2 | | |
| Color: | | | 2 | | |
| General Color: | | | GREY | | |
| Mat1: | | | 21 | | |
| Most Common Material: | | | GRANITE | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | | 104.0 | | |
| Formation End Depth: | | | 301.0 | | |
| Formation End Depth UOM: | | | ft | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|----------------------|----------------------------|------------------|------|----|
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | | 932222239 | | | |
| Layer: | | 1 | | | |
| Color: | | | | | |
| General Color: | | | | | |
| Mat1: | | 24 | | | |
| Most Common Material: | | PREV. DRILLED | | | |
| Mat2: | | | | | |
| Mat2 Desc: | | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | | 0.0 | | | |
| Formation End Depth: | | 104.0 | | | |
| Formation End Depth UOM: | | ft | | | |
| <u>Method of Construction & Well Use</u> | | | | | |
| Method Construction ID: | | 965510249 | | | |
| Method Construction Code: | | 4 | | | |
| Method Construction: | | Rotary (Air) | | | |
| Other Method Construction: | | | | | |
| <u>Pipe Information</u> | | | | | |
| Pipe ID: | | 10917815 | | | |
| Casing No: | | 1 | | | |
| Comment: | | | | | |
| Alt Name: | | | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930609148 | | | |
| Layer: | | 1 | | | |
| Material: | | | | | |
| Open Hole or Material: | | | | | |
| Depth From: | | | | | |
| Depth To: | | | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930609149 | | | |
| Layer: | | 2 | | | |
| Material: | | 4 | | | |
| Open Hole or Material: | | OPEN HOLE | | | |
| Depth From: | | | | | |
| Depth To: | | 301.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Results of Well Yield Testing</u> | | | | | |
| Pumping Test Method Desc: | | PUMP | | | |
| Pump Test ID: | | 995510249 | | | |
| Pump Set At: | | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--|------------------------------|------------------------------------|--------------------------|--------------------|------------------|
| Static Level: | | 30.0 | | | |
| Final Level After Pumping: | | 300.0 | | | |
| Recommended Pump Depth: | | 275.0 | | | |
| Pumping Rate: | | 1.0 | | | |
| Flowing Rate: | | | | | |
| Recommended Pump Rate: | | | | | |
| Levels UOM: | | ft | | | |
| Rate UOM: | | GPM | | | |
| Water State After Test Code: | | | | | |
| Water State After Test: | | | | | |
| Pumping Test Method: | | 1 | | | |
| Pumping Duration HR: | | 1 | | | |
| Pumping Duration MIN: | | 0 | | | |
| Flowing: | | No | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 935077004 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 148.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934551761 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 174.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934811818 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 45 | | | |
| Test Level: | | 161.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934284119 | | | |
| Test Type: | | Recovery | | | |
| Test Duration: | | 15 | | | |
| Test Level: | | 187.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933848919 | | | |
| Layer: | | 1 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 260.0 | | | |
| Water Found Depth UOM: | | ft | | | |
| <u>Links</u> | | | | | |
| Bore Hole ID: | 10369245 | | | Tag No: | |
| Depth M: | 91.7448 | | | Contractor: | 3611 |
| Year Completed: | 1990 | | | Latitude: | 45.5239151046277 |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|--------------------|-------------------|----------------------------|------------------|------------|--------------------|
| Well Completed Dt: | 09/28/1990 | | | Longitude: | -77.2687379326437 |
| Audit No: | 89848 | | | Y: | 45.523915101398664 |
| Path: | 551\5510249.pdf | | | X: | -77.2687377729056 |

| | | | | | |
|---------------------|--------------|-----------------------|----------------|--------------------|------------|
| 8 | 1 of 1 | NW/246.5 | 207.9 / -11.00 | lot 18 con 9 ON | WWIS |
| Well ID: | 5511567 | | | Flowing (Y/N): | |
| Construction Date: | | | | Flow Rate: | |
| Use 1st: | Domestic | | | Data Entry Status: | |
| Use 2nd: | | | | Data Src: | 1 |
| Final Well Status: | Water Supply | | | Date Received: | 07/07/1993 |
| Water Type: | | | | Selected Flag: | TRUE |
| Casing Material: | | | | Abandonment Rec: | |
| Audit No: | 117418 | | | Contractor: | 3564 |
| Tag: | | | | Form Version: | 1 |
| Constructn Method: | | | | Owner: | |
| Elevation (m): | | | | County: | RENFREW |
| Elevatn Reliabilty: | | | | Lot: | 018 |
| Depth to Bedrock: | | | | Concession: | 09 |
| Well Depth: | | | | Concession Name: | CON |
| Overburden/Bedrock: | | | | Easting NAD83: | |
| Pump Rate: | | | | Northing NAD83: | |
| Static Water Level: | | | | Zone: | |
| Clear/Cloudy: | | | | UTM Reliability: | |
| Municipality: | | SOUTH ALGONA TOWNSHIP | | | |
| Site Info: | | | | | |

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/551\5511567.pdf

Additional Detail(s) (Map)

Well Completed Date: 06/07/1993
Year Completed: 1993
Depth (m): 56.388
Latitude: 45.5451958900018
Longitude: -77.28038806254
Path: 551\5511567.pdf

Bore Hole Information

| | | | |
|------------------------------|------------|------------------|-----------------------------|
| Bore Hole ID: | 10370560 | Elevation: | |
| DP2BR: | | Elevrc: | |
| Spatial Status: | | Zone: | 18 |
| Code OB: | | East83: | 321984.00 |
| Code OB Desc: | | North83: | 5046047.00 |
| Open Hole: | | Org CS: | N83 |
| Cluster Kind: | | UTMRC: | 3 |
| Date Completed: | 06/07/1993 | UTMRC Desc: | margin of error : 10 - 30 m |
| Remarks: | | Location Method: | |
| Loc Method Desc: | | | |
| Elevrc Desc: | | | |
| Location Source Date: | | | |
| Improvement Location Source: | | | |
| Improvement Location Method: | | | |
| Source Revision Comment: | | | |
| Supplier Comment: | | | |

Overburden and Bedrock Materials Interval

Formation ID: 932226935

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| Layer: | 2 | | | | |
| Color: | 2 | | | | |
| General Color: | GREY | | | | |
| Mat1: | 21 | | | | |
| Most Common Material: | GRANITE | | | | |
| Mat2: | 74 | | | | |
| Mat2 Desc: | LAYERED | | | | |
| Mat3: | | | | | |
| Mat3 Desc: | | | | | |
| Formation Top Depth: | 32.0 | | | | |
| Formation End Depth: | 185.0 | | | | |
| Formation End Depth UOM: | ft | | | | |
| <u>Overburden and Bedrock Materials Interval</u> | | | | | |
| Formation ID: | 932226934 | | | | |
| Layer: | 1 | | | | |
| Color: | 6 | | | | |
| General Color: | BROWN | | | | |
| Mat1: | 14 | | | | |
| Most Common Material: | HARDPAN | | | | |
| Mat2: | 13 | | | | |
| Mat2 Desc: | BOULDERS | | | | |
| Mat3: | 79 | | | | |
| Mat3 Desc: | PACKED | | | | |
| Formation Top Depth: | 0.0 | | | | |
| Formation End Depth: | 32.0 | | | | |
| Formation End Depth UOM: | ft | | | | |
| <u>Annular Space/Abandonment Sealing Record</u> | | | | | |
| Plug ID: | 933182090 | | | | |
| Layer: | 1 | | | | |
| Plug From: | 5.0 | | | | |
| Plug To: | 32.0 | | | | |
| Plug Depth UOM: | ft | | | | |
| <u>Method of Construction & Well Use</u> | | | | | |
| Method Construction ID: | 965511567 | | | | |
| Method Construction Code: | 4 | | | | |
| Method Construction: | Rotary (Air) | | | | |
| Other Method Construction: | | | | | |
| <u>Pipe Information</u> | | | | | |
| Pipe ID: | 10919130 | | | | |
| Casing No: | 1 | | | | |
| Comment: | | | | | |
| Alt Name: | | | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | 930611392 | | | | |
| Layer: | 2 | | | | |
| Material: | 4 | | | | |
| Open Hole or Material: | OPEN HOLE | | | | |
| Depth From: | | | | | |
| Depth To: | 185.0 | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|---|------------------------------|------------------------------------|--------------------------|-------------|-----------|
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Construction Record - Casing</u> | | | | | |
| Casing ID: | | 930611391 | | | |
| Layer: | | 1 | | | |
| Material: | | 1 | | | |
| Open Hole or Material: | | STEEL | | | |
| Depth From: | | | | | |
| Depth To: | | 37.0 | | | |
| Casing Diameter: | | 6.0 | | | |
| Casing Diameter UOM: | | inch | | | |
| Casing Depth UOM: | | ft | | | |
| <u>Results of Well Yield Testing</u> | | | | | |
| Pumping Test Method Desc: | | PUMP | | | |
| Pump Test ID: | | 995511567 | | | |
| Pump Set At: | | | | | |
| Static Level: | | 50.0 | | | |
| Final Level After Pumping: | | 150.0 | | | |
| Recommended Pump Depth: | | 150.0 | | | |
| Pumping Rate: | | 25.0 | | | |
| Flowing Rate: | | | | | |
| Recommended Pump Rate: | | 15.0 | | | |
| Levels UOM: | | ft | | | |
| Rate UOM: | | GPM | | | |
| Water State After Test Code: | | 1 | | | |
| Water State After Test: | | CLEAR | | | |
| Pumping Test Method: | | 1 | | | |
| Pumping Duration HR: | | 1 | | | |
| Pumping Duration MIN: | | 0 | | | |
| Flowing: | | No | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934807016 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 45 | | | |
| Test Level: | | 150.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 934288139 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 15 | | | |
| Test Level: | | 150.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |
| Pump Test Detail ID: | | 935072760 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 60 | | | |
| Test Level: | | 150.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Draw Down & Recovery</u> | | | | | |

| <i>Map Key</i> | <i>Number of Records</i> | <i>Direction/ Distance (m)</i> | <i>Elev/Diff (m)</i> | <i>Site</i> | <i>DB</i> |
|---------------------------------|------------------------------|------------------------------------|--------------------------|--------------------|--------------------|
| <hr/> | | | | | |
| Pump Test Detail ID: | | 934555717 | | | |
| Test Type: | | Draw Down | | | |
| Test Duration: | | 30 | | | |
| Test Level: | | 150.0 | | | |
| Test Level UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933850634 | | | |
| Layer: | | 2 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 179.0 | | | |
| Water Found Depth UOM: | | ft | | | |
| <u>Water Details</u> | | | | | |
| Water ID: | | 933850633 | | | |
| Layer: | | 1 | | | |
| Kind Code: | | 1 | | | |
| Kind: | | FRESH | | | |
| Water Found Depth: | | 152.0 | | | |
| Water Found Depth UOM: | | ft | | | |
| <u>Links</u> | | | | | |
| Bore Hole ID: | 10370560 | | | Tag No: | |
| Depth M: | 56.388 | | | Contractor: | 3564 |
| Year Completed: | 1993 | | | Latitude: | 45.5451958900018 |
| Well Completed Dt: | 06/07/1993 | | | Longitude: | -77.28038806254 |
| Audit No: | 117418 | | | Y: | 45.54519588648562 |
| Path: | 551\5511567.pdf | | | X: | -77.28038790306694 |

Unplottable Summary

Total: **6** Unplottable sites

| DB | Company Name/Site Name | Address | City | Postal |
|------|-----------------------------|---|-----------------|--------|
| CA | LAFARGE CANADA INC. | CONCESSION 6 | RENFREW TOWN ON | |
| DTNK | H D MCFARLANE TRANSPORT INC | LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA | ON | |
| EBR | Lafarge Canada Inc | Concession 6 TOWN OF RENFREW | ON | |
| FST | H D MCFARLANE TRANSPORT INC | LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA | ON | |
| FST | H D MCFARLANE TRANSPORT INC | LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA | ON | |
| PRT | H D MCFARLANE TRANSPORT INC | LOT 15 CON 8 WILBERFORCE TWP | RENFREW CO ON | |

Unplottable Report

Site: LAFARGE CANADA INC.
CONCESSION 6 RENFREW TOWN ON

Database:
CA

Certificate #: 8-4229-99-
Application Year: 99
Issue Date: //
Approval Type: Industrial air
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description: RENFREW CEMENT SILO DUST COLLECTORS
Contaminants:
Emission Control:

Site: H D MCFARLANE TRANSPORT INC
LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA ON

Database:
DTNK

**Delisted Expired Fuel Safety
Facilities**

| | | | |
|-------------------------------------|---------------------|-----------------------------|--|
| Instance No: | 10934797 | Expired Date: | |
| Status: | Inactive | Max Hazard Rank: | NULL |
| Instance ID: | | Facility Location: | LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA |
| Instance Type: | | Facility Type: | FS LIQUID FUEL TANK |
| Instance Creation Dt: | 1/19/1990 | Fuel Type 2: | NULL |
| Instance Install Dt: | 1/19/1990 | Fuel Type 3: | NULL |
| Item Description: | FS Liquid Fuel Tank | Panam Related: | NULL |
| Manufacturer: | NULL | Panam Venue Nm: | NULL |
| Model: | NULL | External Identifier: | NULL |
| Serial No: | NULL | Item: | |
| ULC Standard: | NULL | Piping Steel: | |
| Quantity: | 1 | Piping Galvanized: | |
| Unit of Measure: | EA | Tank Single Wall St: | |
| Overfill Prot Type: | NULL | Piping Underground: | |
| Creation Date: | 7/5/2009 1:22:21 AM | Tank Underground: | |
| Next Periodic Str DT: | NULL | Source: | FS Liquid Fuel Tank |
| TSSA Base Sched Cycle 2: | NULL | | |
| TSSAMax Hazard Rank 1: | NULL | | |
| TSSA Risk Based Periodic Yn: | NULL | | |
| TSSA Volume of Directives: | NULL | | |
| TSSA Periodic Exempt: | NULL | | |
| TSSA Statutory Interval: | NULL | | |
| TSSA Recd Insp Interva: | NULL | | |
| TSSA Recd Tolerance: | NULL | | |
| TSSA Program Area: | NULL | | |
| TSSA Program Area 2: | NULL | | |
| Description: | UNDERGROUND TANK | | |
| Original Source: | EXP | | |
| Record Date: | 31-JUL-2020 | | |

Site: Lafarge Canada Inc

Database:
EBR

Concession 6 TOWN OF RENFREW ON

| | | | |
|-----------------------------|--|---------------------------|--|
| EBR Registry No: | IA9E1213 | Decision Posted: | |
| Ministry Ref No: | 8422999 | Exception Posted: | |
| Notice Type: | Instrument Decision | Section: | |
| Notice Stage: | | Act 1: | |
| Notice Date: | February 28, 2000 | Act 2: | |
| Proposal Date: | October 05, 1999 | Site Location Map: | |
| Year: | 1999 | | |
| Instrument Type: | (EPA s. 9) - Approval for discharge into the natural environment other than water (i.e. Air) | | |
| Off Instrument Name: | | | |
| Posted By: | | | |
| Company Name: | Lafarge Canada Inc | | |
| Site Address: | | | |
| Location Other: | | | |
| Proponent Name: | | | |
| Proponent Address: | 7880 Keele Street, 5th Floor, Concord Ontario, L4K 4G7 | | |
| Comment Period: | | | |
| URL: | | | |

Site Location Details:

Concession 6 TOWN OF RENFREW

Site: H D MCFARLANE TRANSPORT INC
LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA ON

Database:
FST

| | | | |
|-----------------------------------|---|------------------------------|----------|
| Instance No: | 10934788 | Manufacturer: | |
| Status: | | Serial No: | |
| Cont Name: | | Ulc Standard: | |
| Instance Type: | FS Liquid Fuel Tank | Quantity: | |
| Item: | | Unit of Measure: | |
| Item Description: | FS Liquid Fuel Tank | Fuel Type: | Gasoline |
| Tank Type: | Single Wall UST | Fuel Type2: | NULL |
| Install Date: | 1/19/1990 | Fuel Type3: | NULL |
| Install Year: | NULL | Piping Steel: | |
| Years in Service: | | Piping Galvanized: | |
| Model: | NULL | Tanks Single Wall St: | |
| Description: | | Piping Underground: | |
| Capacity: | 4546 | No Underground: | |
| Tank Material: | Steel | Panam Related: | |
| Corrosion Protect: | Impressed Current | Panam Venue: | |
| Overfill Protect: | | | |
| Facility Type: | FS Liquid Fuel Tank | | |
| Parent Facility Type: | Fuels Safety Private Fuel Outlet - Self Serve | | |
| Facility Location: | | | |
| Device Installed Location: | LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA | | |

Liquid Fuel Tank Details

Overfill Protection:

| | |
|----------------------------|-----------------------------|
| Owner Account Name: | H D MCFARLANE TRANSPORT INC |
| Item: | FS LIQUID FUEL TANK |

Site: H D MCFARLANE TRANSPORT INC
LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA ON

Database:
FST

| | | | |
|--------------------------|---------------------|-------------------------|--------|
| Instance No: | 10934797 | Manufacturer: | |
| Status: | | Serial No: | |
| Cont Name: | | Ulc Standard: | |
| Instance Type: | | Quantity: | |
| Item: | | Unit of Measure: | |
| Item Description: | FS Liquid Fuel Tank | Fuel Type: | Diesel |
| Tank Type: | Single Wall UST | Fuel Type2: | NULL |
| Install Date: | 1/19/1990 | Fuel Type3: | NULL |

| | | | |
|-----------------------------------|---|------------------------------|--|
| Install Year: | NULL | Piping Steel: | |
| Years in Service: | | Piping Galvanized: | |
| Model: | NULL | Tanks Single Wall St: | |
| Description: | | Piping Underground: | |
| Capacity: | 4546 | No Underground: | |
| Tank Material: | Steel | Panam Related: | |
| Corrosion Protect: | Coating | Panam Venue: | |
| Overfill Protect: | | | |
| Facility Type: | FS Liquid Fuel Tank | | |
| Parent Facility Type: | | | |
| Facility Location: | | | |
| Device Installed Location: | LOT 15 CON 8 WILBERFORCE TWP RENFREW CO K0J 1T0 ON CA | | |

Liquid Fuel Tank Details

| | |
|-----------------------------|-----------------------------|
| Overfill Protection: | |
| Owner Account Name: | H D MCFARLANE TRANSPORT INC |
| Item: | FS LIQUID FUEL TANK |

Site: H D MCFARLANE TRANSPORT INC
LOT 15 CON 8 WILBERFORCE TWP RENFREW CO ON

Database:
PRT

| | |
|----------------------|------------|
| Location ID: | 12269 |
| Type: | private |
| Expiry Date: | |
| Capacity (L): | 9092.00 |
| Licence #: | 0001022733 |

Appendix: Database Descriptions

*Environmental Risk Information Services (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:

Provincial [AAGR](#)

The MAAP Program maintains a database of 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:

Provincial [AGR](#)

The Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry (ONDMNRF) maintains this database of pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Oct 2022

Abandoned Mine Information System:

Provincial [AMIS](#)

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-Mar 2022

Anderson's Waste Disposal Sites:

Private [ANDR](#)

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

Aboveground Storage Tanks:

Provincial [AST](#)

Historical listing of aboveground storage tanks made available by the Department of Natural Resources and Forestry. Includes tanks used to hold water or petroleum. This dataset has been retired as of September 25, 2014 and will no longer be updated.

Government Publication Date: May 31, 2014

Automobile Wrecking & Supplies:

Private [AUWR](#)

This database provides an inventory of 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: 1999-Feb 28, 2022

Borehole:

Provincial [BORE](#)

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 2018

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*

Dry Cleaning Facilities:Federal [CDRY](#)

List of dry cleaning facilities made available by Environment and Climate Change Canada. Environment and Climate Change Canada's Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations (SOR/2003-79) are intended to reduce releases of tetrachloroethylene to the environment from dry cleaning facilities.

Government Publication Date: Jan 2004-Dec 2021

Commercial Fuel Oil Tanks:Provincial [CFOT](#)

Locations of commercial underground fuel oil tanks. This is not a comprehensive or complete inventory of commercial fuel tanks in the province; this listing is a copy of records of registered commercial underground fuel oil tanks obtained under Access to Public Information.

Note that the following types of tanks do not require registration: waste oil tanks in apartments, office buildings, residences, etc.; aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Chemical Manufacturers and Distributors:Private [CHEM](#)

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: 1999-Jan 31, 2020

Chemical Register:Private [CHM](#)

This database includes a listing of locations of facilities within the Province or Territory that either manufacture and/or distributes chemicals.

Government Publication Date: 1999-Feb 28, 2023

Compressed Natural Gas Stations:Private [CNG](#)

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 2012 -Aug 2023

Inventory of Coal Gasification Plants and Coal Tar Sites:Provincial [COAL](#)

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-Sep 2023

Certificates of Property Use:Provincial [CPU](#)

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

Government Publication Date: 1994 - Sep 30, 2023

Drill Hole Database:

Provincial

[DRL](#)

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 - Oct 2022

Delisted Fuel Tanks:

Provincial

[DTNK](#)

List of fuel storage tank sites that were once found in - and have since been removed from - the list of fuel storage tanks made available by the regulatory agency under Access to Public Information.

Government Publication Date: Feb 28, 2022

Environmental Activity and Sector Registry:

Provincial

[EASR](#)

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 2011- Sep 30, 2023

Environmental Registry:

Provincial

[EBR](#)

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 - Sep 30, 2023

Environmental Compliance Approval:

Provincial

[ECA](#)

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 2011- Sep 30, 2023

Environmental Effects Monitoring:

Federal

[EEM](#)

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:

Private

[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-Sep 30, 2023

Environmental Issues Inventory System:

Federal

[EIIS](#)

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:

Provincial

EMHE

List of locations of historical occurrences of emergency events, including those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under 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 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. EMHE record details are reproduced by ERIIS under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2017.

Government Publication Date: Apr 30, 2022

Environmental Penalty Annual Report:

Provincial

EPAR

This database contains data from Ontario's annual environmental penalty report published by the Ministry of the Environment and Climate Change. These reports provide information on environmental penalties for land or water violations issued to companies in one of the nine industrial sectors covered by the Municipal Industrial Strategy for Abatement (MISA) regulations.

Government Publication Date: Jan 1, 2011 - Dec 31, 2022

List of Expired Fuels Safety Facilities:

Provincial

EXP

List of facilities and tanks for which there was once a fuel registration. This is not a comprehensive or complete inventory of expired tanks/tank facilities in the province; this listing is a copy of previously registered tanks and facilities obtained under Access to Public Information. Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc; includes tanks which have been removed from the ground.

Notes: registration was not required for private fuel underground/aboveground storage tanks prior to January 1990, nor for furnace oil tanks prior to May 1, 2002; registration is not required for waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Federal Convictions:

Federal

FCON

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:

Federal

FCS

The Federal Contaminated Sites Inventory includes information on 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. Includes fire training sites and sites at which Per- and Polyfluoroalkyl Substances (PFAS) are a concern.

Government Publication Date: Jun 2000-Jun 2023

Fisheries & Oceans Fuel Tanks:

Federal

FOFT

Fisheries & Oceans Canada maintains an inventory of 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-Sep 2019

Federal Identification Registry for Storage Tank Systems (FIRSTS):

Federal

FRST

A list of federally regulated Storage tanks from the Federal Identification Registry for Storage Tank Systems (FIRSTS). FIRSTS is Environment and Climate Change Canada's database of storage tank systems subject to the Storage Tank for Petroleum Products and Allied Petroleum Products Regulations. The main objective of the Regulations is to prevent soil and groundwater contamination from storage tank systems located on federal and aboriginal lands. Storage tank systems that do not have a valid identification number displayed in a readily visible location on or near the storage tank system may be refused product delivery.

Government Publication Date: Oct 31, 2021

Fuel Storage Tank:

Provincial

FST

List of registered private and retail fuel storage tanks. This is not a comprehensive or complete inventory of private and retail fuel storage tanks in the province; this listing is a copy of registered private and retail fuel storage tanks, obtained under Access to Public Information.

Notes: registration was not required for private fuel underground/aboveground storage tanks prior to January 1990, nor for furnace oil tanks prior to May 1, 2002; registration is not required for waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Fuel Storage Tank - Historic:

Provincial

FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

Government Publication Date: Pre-Jan 2010*

Ontario Regulation 347 Waste Generators Summary:

Provincial

GEN

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-Oct 31, 2022

Greenhouse Gas Emissions from Large Facilities:

Federal

GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO₂ eq).

Government Publication Date: 2013-Dec 2020

TSSA Historic Incidents:

Provincial

HINC

List of historic incidences of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen recorded by the TSSA in their previous incident tracking system. The 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, the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of historical fuel spills and leaks in the province. This listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

Government Publication Date: 2006-June 2009*

Indian & Northern Affairs Fuel Tanks:

Federal

IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of 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*

Fuel Oil Spills and Leaks:

Provincial

INC

Listing of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen reported to the Spills Action Centre (SAC). This is not a comprehensive or complete inventory of fuel-related leaks, spills, and incidents in the province; this listing is a copy of incidents reported to the SAC, obtained under Access to Public Information. Includes incidents from fuel-related hazards such as spills, fires, and explosions. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Landfill Inventory Management Ontario:

Provincial

LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the Ministry of the Environment, Conservation and Parks compiles new and updated information. Includes small and large landfills currently operating as well as those which are closed and historic. Operators of larger landfills provide landfill information for the previous operating year to the ministry for LIMO including: 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 include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: Mar 21, 2022

Canadian Mine Locations:

Private

MINE

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

MNR

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-Feb 2023

National Analysis of Trends in Emergencies System (NATES):

Federal

NATE

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: Dec 31, 2021

National Defense & Canadian Forces Fuel Tanks:

Federal

NDFT

The Department of National Defense 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*

National Defense & Canadian Forces Spills:

Federal

NDSP

The Department of National Defense 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-Oct 2022

National Defence & Canadian Forces Waste Disposal Sites:

Federal

NDWD

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 Energy Board Pipeline Incidents:

Federal

NEBI

Locations of pipeline incidents from 2008 to present, made available by the Canada Energy Regulator (CER) - previously the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008-Jun 30, 2021

National Energy Board Wells:

Federal

NEBP

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES):

Federal

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 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:**

Federal

NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and 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 1993-2020:**

Federal

NPR2

The National Pollutant Release Inventory (NPRI) is Canada's public inventory of pollutant releases (to air, water and land), disposals, and transfers for recycling. The inventory, managed by Environment and Climate Change Canada, tracks over 300 substances. Under the authority of the Canadian Environmental Protection Act (CEPA), owners or operators of facilities that meet published reporting requirements are required to report to the NPRI.

Government Publication Date: Sep 2020**National Pollutant Release Inventory - Historic:**

Federal

NPRI

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. This data holds historic records; current records are found in NPR2.

Government Publication Date: 1993-May 2017**Oil and Gas Wells:**

Private

OGWE

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-Aug 31, 2023**Ontario Oil and Gas Wells:**

Provincial

OOGW

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 2023**Inventory of PCB Storage Sites:**

Provincial

OPCB

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**Orders:**

Provincial

ORD

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include 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 - Sep 30, 2023

Canadian Pulp and Paper:

Private

PAP

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, 2009-2014

Parks Canada Fuel Storage Tanks:

Federal

PCFT

Canadian Heritage maintains an inventory of 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:

Provincial

PES

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

Government Publication Date: Oct 2011- Sep 30, 2023

NPRI Reporters - PFAS Substances:

Federal

PFCH

The National Pollutant Release Inventory (NPRI) is Canada's public inventory of releases, disposals, and transfers, tracking over 320 pollutants. Per - and polyfluoroalkyl substances (PFAS) are a group of over 4,700 human-made substances for which adverse environmental and health effects have been observed. This listing of PFAS substance reporters includes those NPRI facilities that reported substances that are found in either: a) the Comprehensive Global Database of PFASs compiled by the Organisation for Economic Co-operation and Development (OECD), b) the US Environmental Protection Agency (US EPA) Master List of PFAS Substances, c) the US EPA list of PFAS chemicals without explicit structures, or d) the US EPA list of PFAS structures (encompassing the largest set of structures having sufficient levels of fluorination to potentially impart PFAS-type properties).

Government Publication Date: Sep 2020

Potential PFAS Handlers from NPRI:

Federal

PFHA

The National Pollutant Release Inventory (NPRI) is Canada's public inventory of releases, disposals, and transfers, tracking over 320 pollutants. Per - and polyfluoroalkyl substances (PFAS) are a group of over 4,700 human-made substances for which adverse environmental and health effects have been observed. This list of potential PFAS handlers includes those NPRI facilities that reported business activity (NAICS code) included in the US Environmental Protection Agency (US EPA) list of Potential PFAS-Handling Industry Sectors, further described as operating in industry sectors where literature reviews indicate that PFAS may be handled and/or released. Inclusion of a facility in this listing does not indicate that PFAS are being manufactured, processed, used, or released by the facility - these are facilities that potentially handle PFAS based on their industrial profile.

Government Publication Date: Sep 2020

Pipeline Incidents:

Provincial

PINC

List of pipeline incidents (strikes, leaks, spills). This is not a comprehensive or complete inventory of pipeline incidents in the province; this listing is an historical copy of records previously obtained under Access to Public Information. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2021

Private and Retail Fuel Storage Tanks:

Provincial

PRT

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:

Provincial

PTTW

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

Government Publication Date: 1994 - Sep 30, 2023

Ontario Regulation 347 Waste Receivers Summary:

Provincial

REC

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating 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: 1986-1990, 1992-2021

Record of Site Condition:

Provincial

RSC

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-Sep 2023

Retail Fuel Storage Tanks:

Private

RST

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-Feb 28, 2023

Scott's Manufacturing Directory:

Private

SCT

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

List of spills and incidents made available by the Ministry of the Environment, Conservation and Parks. 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. The Ministry of the Environment, Conservation and Parks cites the coronavirus pandemic as an explanation for delays in releasing data pursuant to requests. This database includes spill incidents that occurred in March, May, June-October 2022, and January 2023 in addition to those listed in the Government Publication Date.

Government Publication Date: 1988-Dec 2021; see description

Wastewater Discharger Registration Database:

Provincial

SRDS

Facilities that report either municipal treated wastewater effluent or industrial wastewater discharges under the Effluent Monitoring and Effluent Limits (EMEL) and Municipal/Industrial Strategy for Abatement Regulations. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment keeps record of 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.

Government Publication Date: 1990-Dec 31, 2020

Anderson's Storage Tanks:

Private

TANK

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*

Transport Canada Fuel Storage Tanks:

Federal

TCFT

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 - Apr 2023

Variances for Abandonment of Underground Storage Tanks:

Provincial

VAR

Listing of variances granted for storage tank abandonment. This is not a comprehensive or complete inventory of tank abandonment variances in the province; this listing is a copy of tank abandonment variance records previously obtained under Access to Public Information. In Ontario, registered underground storage tanks must be removed within two years of disuse; if removal of a tank is not feasible, an application may be sought for a variance from this code requirement.

Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Waste Disposal Sites - MOE CA Inventory:

Provincial

[WDS](#)

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.

Government Publication Date: Oct 2011-Sep 30, 2023**Waste Disposal Sites - MOE 1991 Historical Approval Inventory:**

Provincial

[WDSH](#)

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, site/CA number, closure date 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.

Government Publication Date: Up to Oct 1990***Water Well Information System:**

Provincial

[WWIS](#)

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: Mar 31 2023

Definitions

Database Descriptions: 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.'

Unplottables: 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 are included as reference.

ASSESSMENT OF PAST USES ZADOW ROAD, BONNECHERE VALLEY, ONTARIO



APPENDIX B: INTERVIEW RECORD

Assessment of Past Uses Interview Form

Interviewer (MPCE) Pamela Muniz, G.I.T.MPCE Project No. CCO-23-3669Interviewee JASON ZOLARelationship to Subject Property Township Time Associated with Property: 22 yrsDate Dec 8/23

Date Property was developed: _____

| Potential Item of Concern | Interview Comments |
|-----------------------------------|-------------------------|
| Accidents/Spills | Nothing to my knowledge |
| Previous Use of Site | Swamp |
| Adjacent Properties | |
| Fuel Handling/Storage | Nothing to my knowledge |
| Maintenance/ Operational Areas | No |
| Hazardous Materials Storage | No |
| Salt Storage | No |

| Potential Item of Concern | Interview Comments |
|-------------------------------------|-------------------------------------|
| Fuel Storage Tanks | No |
| Odours | Swamp odours when change in weather |
| Potable Water | No |
| Septic and Wastewater Discharges | No |
| Pesticides | No |
| Mould | No |
| Heating and Cooling Systems | No |
| Major Mechanical Equipment | No |
| Waste Oils, Solvents, Batteries | No |
| PCBs | No |
| Asbestos | No |
| Lead Paint | No |

| Potential Item of Concern | Interview Comments |
|---|--|
| Ozon Depleting Substances (ODS) | NO |
| Electromagnetic Radiation | NO |
| Urea-formaldehyde foam insulation (UFFI) | NO |
| Mercury | NO |
| Radon Gas | NO |
| Soil and Groundwater Conditions | Stagnant if ditch is blocked by beaver's |
| Wells | NO |
| Waste Disposal and Recycling | NO |
| Fill Material | Bore hole data |
| Floor Drains/OWS (discharge locations) | NO |
| Other | |

Future use of property: Road rebuild

ASSESSMENT OF PAST USES ZADOW ROAD, BONNECHERE VALLEY, ONTARIO



APPENDIX C: PROJECT AREA PHOTOGRAPHS



Photo 1: Southern end of Project Area, at Zadow Road and Silver Lake Road intersection, facing southwest.



Photo 2: Project Area at Zadow Road, facing south. Rural residential properties adjacent to Project Area.



Photo 3: Project Area at Zadow Road, facing north. Undeveloped forested land adjacent to Project Area.



Photo 4: Project Area at Zadow Road, facing north. Vegetated ditches adjacent to Zadow Road.



Photo 5: Project Area at Zadow Road, facing north. Narrow unpaved shoulders visible. Vegetated ditches and unevaluated wetlands adjacent to Zadow Road.



Photo 6: Project Area at Zadow Road, facing west. Inferred agricultural land adjacent to Zadow Road.