

**Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10 (Pin 51052-0279)
Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope,
County of Northumberland**

Prepared For:

Ashley O'Malley
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Project #: 25-3608

March 2026



ORE

Oakridge Environmental Ltd.

Environmental and Hydrogeological Services

March 31st, 2026

4190 Wright Road
Thomstown, Ontario
L0A 1B0

Attention: **Ashley O'Malley**

Re: Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10 (Pin 51052-0279)
Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope, County of Northumberland
ORE File No. 25-3608

Dear Ashley:

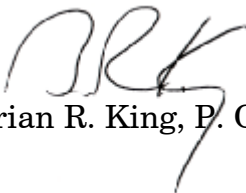
Oakridge Environmental Ltd. is pleased to present this report outlining the findings of our assessment in support of your proposed development application.

Our study provides an overview of the geological setting and constraints that would affect local aggregate resource development near your property. Our assessment is based primarily on an interpretation of available data, including published mapping and well records.

As you will see, any theoretical aggregate resources in the Study Area are highly constrained. Therefore, future pit development near the subject site appears to be highly unlikely. As such, construction of the proposed residence should not have any material affect on the aggregate resources. Similarly, in the unlikely event that a pit is someday approved nearby, the subject site should be sufficiently protected from impact.

Should you have any questions, please contact our office at any time.

Yours truly,
Oakridge Environmental Ltd.



Brian R. King, P. Geo.

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1.0 Introduction

1.1 General

This aggregate resource impact review has been prepared in support of an application to construct a single residence on the subject property situated north of Garden Hill, in the Municipality of Port Hope (Figure 1).

It is understood that the Municipality has indicated that the subject property occurs within an area of aggregate resources as illustrated on Schedule B of the Official Plan (OP). Similar to Section 2.5.2.5 of the Provincial Policy Statement (PPS), Section C of the OP states:

“Areas with high potential for aggregate extraction on which a licence for extraction has not been issued are identified on Schedule B. These areas include primary and secondary sand and gravel resources and selected bedrock resources, as mapped in the Aggregate Resources Inventory Paper for Port Hope and Hamilton Township. Deposits of tertiary significance or deposits surrounding existing aggregate operations or that are shown to be of high potential as a result of testing, and agreed to in consultation between the Municipality and the Ministry of Natural Resources and Forestry may also be shown on Schedule ‘B’ as the result of an Official Plan Amendment. Development and activities in these areas or on adjacent lands shall only be permitted if a land use compatibility study is completed to the satisfaction of Council and demonstrates that:

- a) the proposed use or development would not significantly preclude or hinder future extraction and /or operations or access to the resources; and*
- b) resource extraction and /or operations would not be feasible; or*
- c) the proposed use or development serves a greater long term public interest; and*
- d) issues of public health, safety and environmental impacts are addressed; and*
- e) the proposed use or development would be in keeping with provincial legislation, policy or guidelines and the policies of this Plan.*

For the purpose of this policy, “adjacent” shall be defined as 300 metres for sand and gravel resources and 500 metres for bedrock resources.”

An excerpt from Schedule B is presented in Figure 2.

To address the preceding, our study provides an assessment of the aggregate resource development potential on and in the vicinity of the subject site, with an examination of the potential for impacts on the proposed residence, should such development be approved.

1.2 Scope of Work

During this study, the following tasks have been completed:

- Available background data were compiled and reviewed, including published mapping, aerial photography, published geological reports and Ministry of the Environment, Conservation and Parks (MECP) well records.
- A geo-referenced constraints plan has been prepared from recent aerial photography.
- The well record data were reviewed with regard to the local stratigraphic setting.
- A brief site inspection was completed.
- Potential constraints have been examined, including the following:
 - ▶ the size and potential tonnage of the deposit(s);
 - ▶ aggregate quality;
 - ▶ topographic restrictions;
 - ▶ proximity to existing sensitive uses;
 - ▶ water table depth;
 - ▶ proximity to sensitive species or habitats, and
 - ▶ potential economic viability.
- All data were analysed, and
- This report was prepared, outlining our findings and conclusions.

1.3 Site Description

The subject site is a vacant rural property consisting of 0.84 ha (2.08 acres) situated north and adjacent to 4190 Wright Road, approximately 2.1 km north-northwest of Garden Hill. The site is within the Core Area of the Oak Ridges Moraine (ORM), thus is subject to the Oak Ridges Moraine Conservation Plan (ORMCP).

As illustrated by Figure 3, the subject site consists of a mixture of cleared land with some mature trees and the edge of a significant forest along the eastern boundary.

Although a conceptual plan has not yet been prepared for the proposed single residential development, it is expected that the structure will be constructed within the existing open area, with a driveway accessing County Road 10. It is understood that the residence will be serviced with a new drilled well and a new wastewater (septic) system.

2.0 Topography and Drainage

The subject site straddles a minor topographic trough that declines from northeast to southwest, exhibiting approximately 15 m of relief (Figure 4). The trough is a typical erosional feature of the ORM which does not contain a watercourse. While there are several small pocket “unevaluated” wetlands >300 m from the site (to the north and northwest), the only channelized watercourse near the site occurs roughly 350 m to the west, being a small tributary of the Ganaraska River system. That tributary has its headwater about 1 km north of the site.

The presence of the tributary and pocket wetlands are likely indicative of a local shallow water table condition which slopes southward, being a subdued reflection of the topography. In the site area, this water table may occur above elevation 215 masl based on the indicators, and could be associated with a perched aquifer, common to the ORM. Based on the site’s central elevation, the water table could be fairly shallow in this location, although this would depend entirely on whether a limiting soil layer is present. Otherwise, the water table would be much deeper.

3.0 Geological Setting

Figure 5 illustrates the mapped surficial geology of the Study Area. The mapping indicates that the site is situated entirely within an extensive area of glaciofluvial deposits. These are typically sequences of sand, gravel and silt, which can exhibit highly variable layering. These permeable deposits are an important part of the ORM and are the basis of the aggregate resource designation for the area, as discussed in a following section.

Within the extensive glaciofluvial deposits northeast of the site, the mapping indicates the presence of sporadic areas of glaciolacustrine silt and clay, representing comparatively deep water depositional environments. It is possible that these types of deposits could be more common than suggested by the mapping, and could also suggest that some of the glaciofluvial deposits are actually glaciolacustrine as well. As such, the extensive

glaciofluvial deposits could contain soils of finer texture. Where this occurs, the quality of any aggregate resource present would be diminished, representing an important constraint on future pit development.

Near the site, to the north, west and south, ice-contact deposits are also mapped, exhibiting hummocky topography, characteristic of the ORM. These deposits are also highly permeable, consisting largely of layered sand, with gravel and silt and can also be aggregate resources.

In contrast, deposits composed of stone-poor, carbonate derived silty to sandy till occur east of the site. This soil type is often referred to as Newmarket Till. The Newmarket Till occurs to the north, south and within (underlying) the permeable ORM sediments, and is widely recognized as a regional aquitard due to its much lower permeability. Although none are mapped in the site area, the Newmarket Till is often drumlinized, exhibiting the characteristic oblong-shaped ridges.

The mapping indicates that the southern contact of the till (east of the site) exhibits fluvial terracing. These are ancient erosional features that indicate the area was once inundated by glacial meltwater from which the glaciofluvial deposits formed. At that time, the till would have risen above the surrounding flooded area, perhaps as a small island or shoal. Although the till stratum can be discontinuous, it is likely that it underlies the glaciofluvial and ice-contact deposits throughout the site area, as a substrate.

Silty/clay-rich strata within the glaciofluvial or ice-contact deposits can form “limiting layers” above which perched groundwater can occur. The Newmarket Till can also be a limiting layer in this regard. These are relatively common throughout the ORM and can support localized perched aquifers. Where such groundwater is important as a resource (e.g., to supply water wells or support ecological functions), these aquifers can be an important constraint on the development of aggregate resources.

The geological mapping also indicates that local creek valleys, especially those south of the site) can contain appreciable thicknesses of modern alluvium. These deposits are a combination of wetland peat and floodplain sediments which do not normally constitute aggregate resources.

4.0 Aggregate Resource Mapping

Figure 6 illustrates the official provincial Aggregate Resources mapping for the Study Area.

It is important to recognize that the ARIP mapping is rather coarse and is intended for small scale maps (e.g., 1:50,000). It is not realistic to expect that the mapping can be applied with great accuracy on a larger scale (e.g., 1:10,000) as would be utilized for a Building Permit application. Nevertheless, the mapping fits the geology and topography reasonably well. However, the provincial (GIS) mapping does not provide all of the relevant information from the source, which is Aggregate Resources Inventory Paper 142 (ARIP 142), prepared by the Ontario Geological Survey (1994). As such, an excerpt from the source map is provided in Figure 7.

ARIP 142 describes the local aggregate resources as being within an area of Secondary Significance. These are defined as:

“Deposits of secondary significance are ... believed to contain significant amounts of sand and gravel. Although deposits of secondary significance are not considered to be the "best" resources in the report area, they may contain large quantities of sand and gravel and should be considered as part of the aggregate supply of the area.”

ARIP 142 provides a general description of the aggregate resources that include the site area, as follows:

“Another area of secondary significance is the Oak Ridges Moraine, extending from the western edge of Selected Sand and Gravel Resource Area 2 to the western boundary of Hope Township. Field mapping in this area indicates a predominance of fine-grained sediments, however, good aggregate material could be buried at depth. As discussed earlier, the material that constitutes the Oak Ridges Moraine is quite variable both horizontally and vertically. Extensive drilling would be required to delineate higher quality granular material.”

The above description is consistent with the published geological mapping and highlights the fact that the resources are theoretical in extent and quality, rather than being well defined with any certainty. Most important in the description is the comment that “extensive drilling would be required” to identify a viable resource.

The mapping presented in ARIP 142 also indicates that no existing/historical pits are known to exist on or anywhere near the subject site. This strongly suggests that despite pit operators being present only a few kilometres to the northeast, the Study Area has not garnered any interest with respect to pit development.

For its data sources, while the geological mapping is the primary source, ARIP 142 provides the following regarding other information:

“Water well records, held by the Ontario Ministry of the Environment and Energy, are used in some areas to corroborate deposit thickness estimates or to indicate the presence of buried granular material. These records are used in conjunction with

other evidence.”

In this regard, the mapping indicates the locations of the selected boreholes and water wells used for their analyses. As illustrated by Figure 7, no water well records nor boreholes near the subject site appear to have been utilized to define the resources. The closest wells or boreholes within the Secondary Significance resources were situated >2 km to the west and northwest. As such, it is clear that at the time of the ARIP mapping, which is more than 30 years old, some well record data may not have been available.

To check the validity of the ARIP mapping, we have reviewed up-to-date well record logs in the following section.

5.0 Well Record Data Review

MECP well records representing recorded wells within an approximately 500 m radius of the subject site have been reviewed as part of this assessment. A plot of the well locations is provided by Figure 8. Despite the comparative remoteness of the site and paucity of nearby development, there are several local recorded wells in the MECP database that provide useful insight into the local subsurface conditions. Copies of the well records representing the closest recorded wells are provided in Appendix B.

Among the nearby wells, drilled well No. 1902188 plots a short distance northeast of the subject site. According to the formation log, the driller reported encountering only 3.3 m of sand above “clay” (likely till). Below the till, the driller reported “quicksand”. Other than a thin upper layer of sand, no aggregate resources of potential economic interest were encountered.

In contrast, another well (No. 4504594), which also plots close to the site, encountered 3.7 m of sand and gravel above a sand layer. That well is a large diameter bored well which reportedly had a static water level of 2.7 m, indicating the presence of a shallow aquifer within the sand and gravel, possibly occurring in a perched condition. In this instance, the substrate layer could have been a sandy part of the Newmarket Till, rather than a clean sand.

Further from the site (to the west, along Forest Crescent), the log for well No. 4509968 indicates that the driller encountered sand, extending to a depth of 48.8 m, underlain by clay. No gravel or aggregate resources were indicated in the formation log.

Northwest of the site (just off County Road 10), well No. 1903025 encountered 24.4 m of sand, above a soft clay stratum with sandy layers (likely glaciolacustrine deposits) that

extended to 42.7 m, above a substrate of till, similar to No. 4509968, above. No gravel or aggregate resources were indicated in the formation log.

South and east of the site, wells No. 1904230 and No. 4506109 provide the only local indication that some aggregate resources of interest may be present.

At No. 1904230 (situated about 200 m south of the site), the driller reported “open hole” for the initial 7.6 m, indicating that this was an existing well being deepened. As such, it is not possible to know whether any aggregate resource was present. However, from 7.6 m to 15.2 m, the driller reported encountering sand and gravel, with a thick stratum of fine sand below. Although we cannot be certain, it is reasonable to expect that this was originally a bored well (like 4504594, described above) that tapped into a comparatively shallow, perched aquifer.

At No. 4506109 (situated east of the site, along Wright Road beyond the Study Area), the driller reported encountering 3.7 m of sand above an 11 m thick layer of gravel, overlying a thick stratum of sandy clay. While the upper sandy layer might constrain economic extraction of the buried gravel at this location, the gravel could represent an aggregate resource.

From the preceding, it is clear that the well record data do not support the presence of any viable aggregate resources on or near the subject site, with the possible exception of buried gravel south and southeast of the site, as suggested by well Nos. 1904230 and 4506109. At those locations the gravel appears to be highly constrained (i.e., buried and of limited thickness), although testing would be required to verify this. Further south (beyond the study area), the log of well No. 4504787 indicates only the presence of clay to a depth of 19.2 m, indicating that any aggregate resource present appears to be restricted to a narrow buried zone south of Wright Road.

6.0 Shallow Water Table

As discussed above, there are some topographic and well record indicators for a shallow water table in the Study Area. From the topographic and drainage mapping (Figure 4), it is apparent that a shallow water table could be present above about elevation 215 masl. From the well record data, we note that bored well No. 4504594 exhibited a static water level of 2.7 m. As this well plots within or very close to the site, the reported static level would be consistent with this interpretation, for a *perched aquifer*.

The presence of a shallow aquifer in the Study Area is supported by some topographic indicators such as wetlands and a headwater tributary. In addition, two of the local well records suggest that shallow groundwater was encountered, although one of those was

replaced by a deeper drilled well. In addition, an on-site dug well was also noted to have a static water level <3 m deep (see discussion, below).

Some perched aquifers in the ORM can be reliable and others are highly seasonal. It is not known whether the shallow aquifer is (or was) a reliable water source. Regardless, the likely presence of a shallow aquifer in the Study Area represents a potential constraint on the future development of any aggregate resources, as it would need to be protected as a water supply. Moreover, if the aquifer was found to be a reasonably stable feature, any proposed pit would need to stay a minimum of 1.5 m above the static water level (“established groundwater table”) to meet the Provincial Standards under the Aggregate Resources Act (ARA). Since the aquifer depth at well No. 4504594 was only 2.7 m deep, any resources could be highly constrained.

7.0 Natural Environment

As partially indicated by Figure 2, the OP Schedule B mapping indicates that the subject site and parts of the Study Area occur within the Oak Ridges Moraine (ORM) and are associated with a variety of potentially sensitive features. According to the ORMCP GIS data and Schedule G of the OP (Appendix B), these include:

- Natural Core Area under the ORMCP;
- Significant Woodland;
- Habitat of a endangered, rare and threatened species, and
- Area of Natural and Scientific Interest (ANSI) - Earth Science.¹

Each of the above represent potential constraints on future development of aggregate resources within (and surrounding) the Study Area, as discussed in a following section.

8.0 Site Inspection

Brief inspections of the site and surrounding area were conducted on September 13, 2025 (from County Road 10 and Wright Road) and on September 26, 2025 (as part of a parallel Natural Heritage Assessment). Site observations are summarized below with relevant

¹ It is understood that this was a “candidate ANSI” at the time of the Official Plan, however, has since been removed by the Ministry of Natural Resources (MNR). As such, its importance, if any, is not known.

features plotted on Figure 3.

Our field observations confirm the topographic setting and geological mapping (surficial soils) as outlined above. In particular, the Study Area is dominated by extensive sandy soils and exhibits highly undulatory topography. Although minimal intrusive testing has been conducted, sandy soils were identified in the manual auger probes, with no gravel.

The western boundary of the subject site is affected by the raised bed of County Road 10, forming a local topographic “bowl” in the southwestern portion. No evidence of an existing or former pit was noted on the subject site. However, some evidence of historical grading was noted, possibly related to the construction or re-alignment of County Road 10.

No well was identified on the subject site. A concrete lid covering what appears to be a dug well was identified at 4190 Wright Road, a neighbouring property to the south also owned by the applicant.² Upon inspection, the water level was estimated to be <3 m below the ground surface, suggesting the well taps a shallow aquifer.

Site observations also confirm that Significant Woodland (a Key Natural Heritage Feature protected under the ORMCP) occurs significantly within the subject site and is extensive to the north and east. The forest consists of pine plantation with some Black Oak.

9.0 Constraints Assessment

9.1 Distribution of Aggregate Resources

As indicated by Figures 2, 5, 6 and 7, the subject site occurs within an area of granular glacio-fluvial and glacio-lacustrine deposits that have been classified as being of “secondary” significance. There is no evidence that any of these theoretical resources have an established history of economic production nor have any ever been tested, despite the nearby presence of commercial aggregate production.

While the aggregate resource mapping appears to be well founded by the published geological mapping, our review of local well records suggests that the majority of deposits in the Study Area are comprised of sand, with minimal gravel. As such, these deposits are not likely to be of economic interest. The possible exception to this is a narrow band of buried gravel that may extend across the southern part of the Study Area, south of Wright Road. However, those deposits would require considerable testing to define, if they exist. This is consistent with the Ontario Geological Survey’s findings in ARIP 142.

²

A similar well construction is visible on the west side of the neighbouring residence at 4218 Wright Road, although was not opened or inspected.

As required by the Municipal OP and Provincial Policy, any proposed development must not sterilize potentially exploitable aggregate resources on-site or within 300 m. Figure 9 illustrates the 300 m Study Area radius with respect to the possible band of buried gravel south of Wright Road. As illustrated, the radius imposes slightly on part of this potential gravel zone. However, most of the gravel, if confirmed by testing, occurs south of Wright Road and any pit would be set-back from the road by 30 m under the Provincial Standards. As such, much of the possible gravel resource would occur outside of the Study Area. Moreover, the proposed residence would be separated from any future pit by the road and the existing residential uses along Wright Road, which would represent a substantial buffer.

9.2 Groundwater Constraints

Aggregate resource development can be highly constrained by groundwater issues. An elevated water table can limit the extractable volume of aggregate, as the Provincial Standards require the pit floor to remain at least 1.5 m above the established water table elevation. Operating a pit below the water table is possible, however, doing so requires significant dewatering due to the highly permeable materials. At that scale, dewatering can affect nearby sensitive environmental features. As such, dewatering in a pit operation is a fairly rare situation, unlike quarries.

Given the presence of private wells and sensitive environmental features in the area, including Natural Heritage Features associated with the ORM, it is highly unlikely that an aggregate development on or near the subject site would be licensed to operate below the water table. Therefore, the water table elevation will constrain the available tonnage.

As indicated by the well record data (above), while the majority of drilled wells utilize a deep aquifer, there are at least two instances of comparatively shallow, recorded bored wells in the site area (i.e., well Nos. 4504594 and 1904230) which tap (or formerly tapped) an upper aquifer. At No. 4504594, the reported static water level was only 2.7 m. At No. 1904230, the static water level was not indicated prior to the well being deepened, although it would have been above 7.6 m.

In both instances, the shallow groundwater level could significantly constrain any future pit development. A (presumably) unrecorded dug well also occurs on the subject site, further increasing the probability of a shallow aquifer. While these data are fairly conclusive, a hydrogeological study would need to be conducted (in accordance with the Provincial Standards under the ARA) to verify the extent of this constraint, which appears to be representative of the entire Study Area.

9.3 Surface Water Constraints

A tributary of Ganaraska River occurs immediately west of the Study Area, conveying flows to the south. While outside of the Study Area, this feature could constrain any future development of an aggregate pit in the westernmost part of the Study Area, as it is a cold water feature that would likely require an environmental setback. In addition, as a system that likely receives shallow groundwater discharge, protection of the tributary could impose constraints on any disturbance (e.g., pit) that might affect a shallow aquifer.

The extent of any such constraint would need to be assessed as part of the water study required by the Provincial Standards under the ARA. Such constraints would reduce the footprint of any potential aggregate pit operation.

9.4 Ecological Constraints

The Natural Core area of the ORM is considered to be the most sensitive with regard to potential impacts. While the ORMCP allows aggregate pit development in some areas, the ORMCP does not include aggregate operations as an allowable use in a Natural Core area. As such, any potential resource within or near the Study Area would not appear to be approvable at this time. However, the ORMCP is subject to periodic review and this restriction could change. In any case, the restrictive requirements of the ORMCP would be significant constraints on the future development of any aggregate resources in the Study Area.

The Significant Woodland is a Key Natural Heritage Feature (KNHF) comprising a large interconnected forest area within the ORM that is protected under the ORMCP. The ORMCP appears to prohibit most large-scale development/disturbances within Significant Woodlands, especially within the Natural Core areas.

The published mapping and our field investigations indicate that the subject site is partially covered by Significant Woodland. Gaps in the woodland tend to be fairly small and are not likely of sufficient size to support a pit operation. In any case, should a future pit development be considered, it would need to be supported by an ecological study prepared to meet the requirements of the Provincial Standards under the ARA, which would define potential impacts and recommend suitable mitigation to protect the KNHF and its mandatory buffer areas. Those constraints would further reduce the area available for a pit.

The habitat of endangered and threatened species is also considered to be a KNHF under the ORMCP. As such, a large part of the Study Area, including lands south of Wright Road (where possible buried gravel may occur) could be excluded from future development. Similar to the Significant Woodland, this species-related KNHF would need to be assessed

as part of an ecological study that would define potential impacts and recommend suitable mitigation. This KNHF could impose significant constraints on any future pit development.

A large part of the Study Area occurs within an Area of Natural and Scientific Interest (ANSI) identified in the Official Plan, pertaining to an Earth Science feature, identified within the ORM. While it is understood that the ANSI is no longer a feature of concern, it is worthy of note that the ANSI was likely an extension of a similar feature that occurs immediately to the south, referred to as the Garden Hill Glacial Landforms. These are typically areas that contain examples of rare geology, landforms or depositional environments. In any case, the Garden Hill Glacial Landforms ANSI is listed as being “non-sensitive” with “no restrictions needed”. It is not clear whether this feature would trigger any requirements or constraints in the event of a future pit licence application, to verify that the development would not impact the ANSI.

9.5 Setbacks

Any future development of aggregate resources in the Study Area would be constrained by the applicable setbacks mandated by the ARA. The expected minimum setback requirements (based on the Operational Standards) include 15 m from property boundaries and 30 m from adjacent roads. Setbacks from sensitive environmental features (such as the Significant Forest) will vary according to the type and sensitivity of those features. In general, 30 m setbacks will apply in most instances.

9.6 Property Divisions

It is not uncommon for lot fabric to be a constraint on development, as numerous small properties are unlikely to be amalgamated to create a pit operation due to the complexity of assembling a suitable “land package”. In this instance, however, property parcels are comparatively large, especially north and south of Wright Road. As such, property divisions are not likely to be a significant constraint on future pit development.

9.7 Existing Residential Uses

Similar to property divisions, the presence of nearby residential uses (especially on generally smaller lots) can be a significant constraint on future pit development. The constraints related to larger boundary setbacks, berming and screening to prevent noise and dust impacts, and traffic concerns.

While there are several existing residential uses situated along Wright Road within the

Study Area (and others further east), these are not likely to be significant constraints. In contrast, existing uses along Forest Crescent would represent significant constraints, in the central and western part of the Study Area. These constraints would also include consideration of any potential impacts on private water wells and drainage.

9.8 Discussion

Figure 9 presents a compilation of the various *imposed* constraints that would apply to any theoretical aggregate resource in the Study Area. A constraint that cannot be illustrated, as outlined by the Ontario Geological Survey (OGS), pertains to quality of the resource, as per:

“...Field mapping in this area indicates a predominance of fine-grained sediments, however, good aggregate material could be buried at depth. As discussed earlier, the material that constitutes the Oak Ridges Moraine is quite variable both horizontally and vertically. Extensive drilling would be required to delineate higher quality granular material.”

In other words, these resources are theoretical and have not been proven. Moreover, the OGS recognizes that the aggregate (gravel) resources may be buried below sand overburden and would require considerable exploration to delineate. This is entirely consistent with our findings, especially as indicated by local well record logs. In fact, the well logs suggest that the only potential aggregate resource in or near the Study Area occurs below a thick sand layer, extending in a band south of Wright Road. Notwithstanding, as the well record data are not extensive, it is not possible to completely exclude other parts of the Study Area from having some gravel potential.

While aggregate resources could theoretically occur anywhere in the Study Area, the combination of existing uses and ecologically sensitive features, including being within the Core Area of the ORM, significantly constrain any such resources from future development. In fact, none of the resources, if present, could be developed at this time due to the ORM Core Area designation. However, since the ORMCP is reviewed periodically, this could change in the future, although this would require a substantial revision. Even in the unlikely event of an ORMCP change, large parts of the Study Area would remain highly constrained.

For example, Significant Woodland covers much of the northeastern Study Area, including a large part of the subject site. In contrast, lands south of Wright Road, south of Pine Grove Lane and west/northwest of Forest Crescent are less forested. As such, although all are within the ORM Core Area, these would be less constrained. However, the western and southwestern part of the Study Area could be constrained by the presence of the tributary, which is a sensitive feature. A large part of the southern Study Area also

appears to be affected by the mapped “significant portions of the habitat of endangered, rare and threatened species”, which could impose additional constraints, depending on the species and mitigation needed to protect it.

Given the numerous constraints that would limit pit development (including apparent lack of the resource over much of the Study Area), it is our opinion that the most likely area for future pit development (should such be permitted) would be south of Wright Road, labelled as “Area A” on Figure 9. In that area, the well record data suggest that some buried gravel may be present. Area A is also less forested than much of the Study Area and is contained within three large parcels. Pit development in Area A would also (presumably) have access directly to County Road 10, rather than the smaller municipal roads (such as Wright Road). However, Area A would still be potentially constrained by any species-related protection and hydrogeological concerns (e.g., shallow aquifer), thus would require a significant testing program to verify that the resource is present and economically viable. As such, any resources in Area A are at best, speculative.

As Area A is already separated from the subject property by Wright Road and the existing residential uses associated with 4190 and 4218 Wright Road (including the setbacks that would be applicable and protection of their private wells, etc.), future construction of a single residence at the subject site would not further constrain a pit application. Similarly, in the very unlikely event that a pit were to be licensed in Area A, impacts to the proposed single residential development (e.g., noise, dust, traffic, groundwater issues, etc.) would not be significant.

Despite the mapped aggregate resource covering a large part of the Municipality, it is unlikely that a viable aggregate pit could ever be established in the Study Area, largely due to the poor quality of the deposits. Instead, future aggregate development would be more likely to occur further to the east, closer to the existing (above water) Kidd Pit (#3469, Brisbin Sand & Gravel Ltd) situated in Lot 2, Concession 8, where the OGS has identified a large body of aggregate resources classified as being of Primary Significance.

10.0 Conclusions and Recommendations

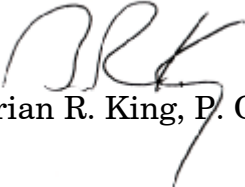
- 10.1 The results of our investigation indicate that aggregate resource mapping (by the Ontario Geological Survey) on and near the subject site is reasonably accurate. However, the majority of the resources comprise gravel-poor deposits for which little data available. As such, the presence of any potential (economically) viable aggregate resources is largely inferred, not proven or indicated. The only potential gravel resources suggested by the available data appear to occur in a narrow band south of Wright Road. However, those occur below a thick overburden layer of sand and are at best, inferred from minimal data. As such, extensive testing would be required to delineate any resource in that area.
- 10.2 Potential aggregate resources in the Study Area are highly constrained by the Oak Ridges Moraine Conservation Plan (Natural Core), extensive Significant Woodlands and the habitat of endangered, rare and threatened species. Any future pit development in the Study Area would likely require a comprehensive ecological study to support a licence application. The results of such study could impose a variety of constraints on the available area, thereby reducing the area and tonnage of the available resource.
- 10.3 The well record and topographic/geological data indicate that the Study Area may contain a shallow aquifer. Two recorded wells in the Study Area appear to have intersected this feature and at least one of those wells may still be utilizing it. Moreover, an existing dug well at 4190 Wright Road, the neighbouring property to the south, appears to utilize a shallow aquifer.
- It is possible that the groundwater occurs in a “perched aquifer”, which is not uncommon in the Oak Ridges Moraine. While some perched aquifers can be removed, if found to be of no importance, this would need to be determined as part of a comprehensive hydrogeological study prepared in support of a pit licence application. If the shallow aquifer is important for supplying any local wells or ecological functions, as appears to be the case, it would need to be protected, imposing a potentially significant constraint on pit development, including possibly eliminating the resource from development consideration.
- 10.4 Based on our findings as presented above, it is our opinion that the OP-mapped aggregate resources are so highly constrained by issues of quality, extent, environment and existing uses that future development of a pit in the Study Area is highly unlikely. However, if a pit operation could be approved despite the very low probability, it would likely be limited to a narrow corridor south of Wright Road. Any future pit in that area would be separated from the proposed residence by Wright Road and other existing uses. As such, the proposed residence would not impose any additional constraints on the resources.

Similarly, the theoretical pit's separation and access to County Road 10 would limit any impact on the proposed single residential development, which would also be subject to the protections associated with the pit licence application.

Given the above, it is our recommendation that the proposed single residential development be approved.

* End of Report *

Respectfully Submitted,
Oakridge Environmental Ltd.


Brian R. King, P. Geo.



Selected References

Barnett, P.J., *Quaternary Geology of Ontario*; in Geology of Ontario, Ontario Geological Survey, Special Volume 4 (Part 2), Ministry of Northern Development and Mines, 1992.

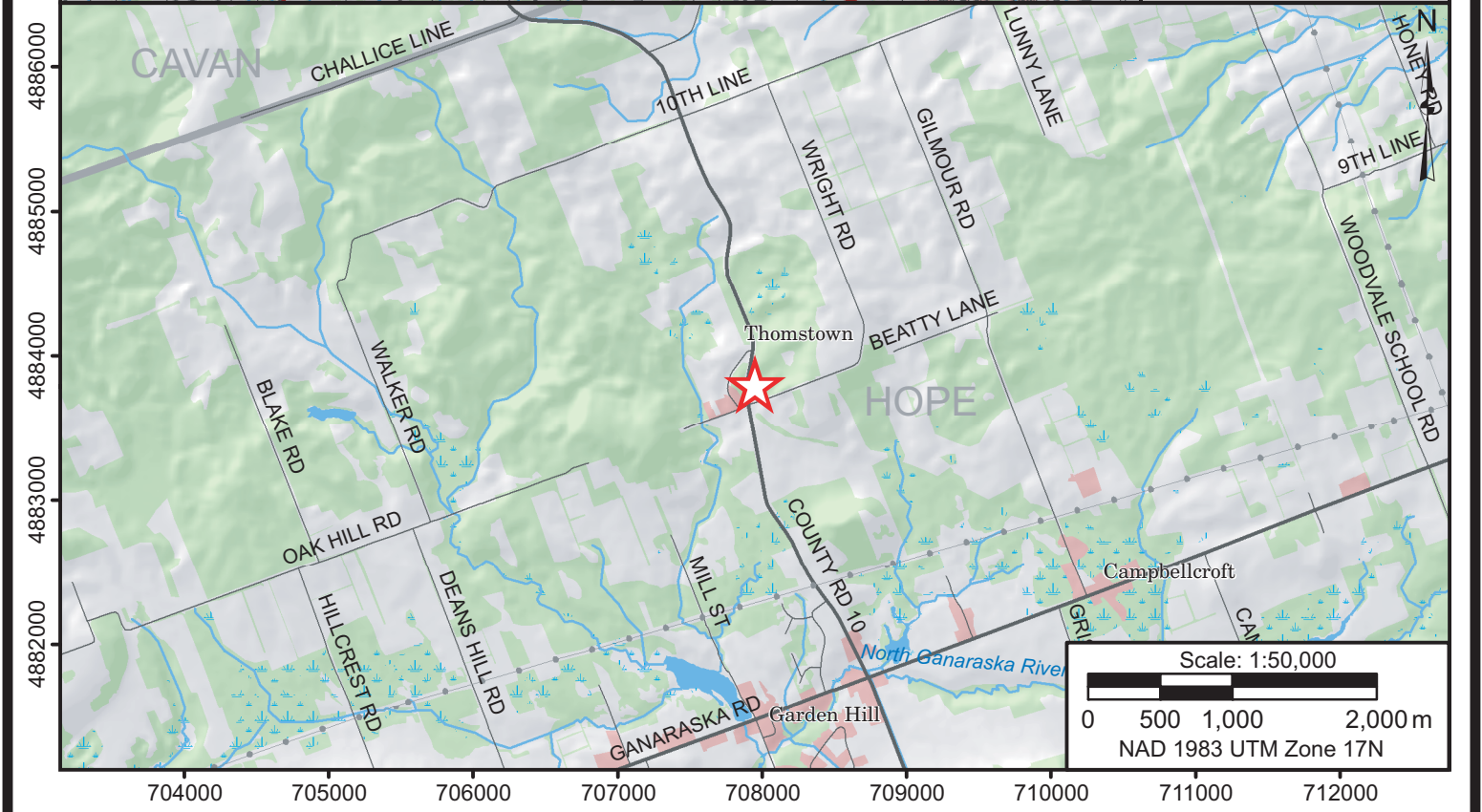
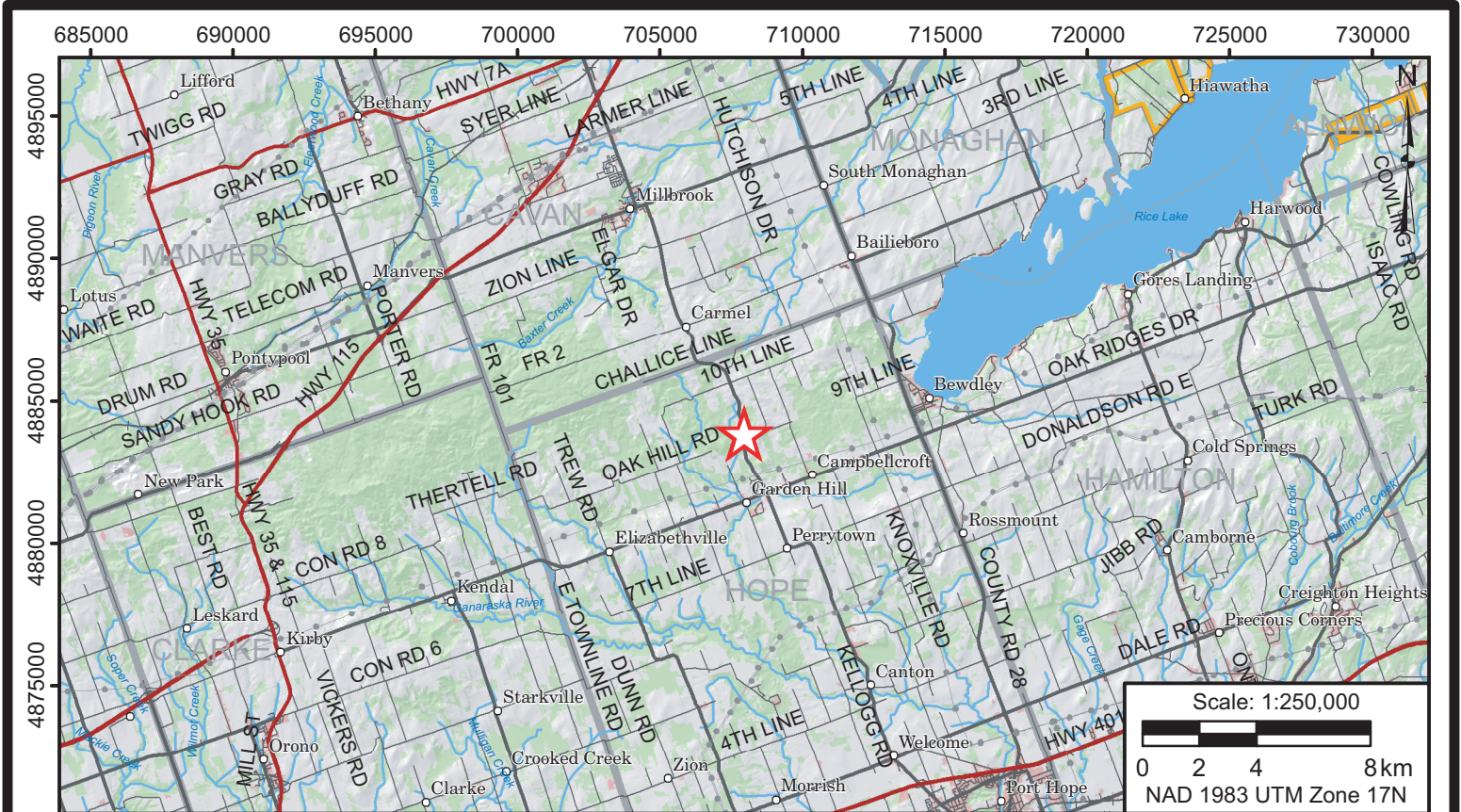
Chapman, L.J. & Putnam D.F., *The Physiography of Southern Ontario*, Map 2226, Ontario Department of Mines, 1984 (Rev).

Ontario Geological Survey (Engineering and Terrain Geology Section), *Aggregate Resources Inventory of Hope & Hamilton Townships, Northumberland County*, Aggregate Resources Inventory Paper 142, 1994.

Ontario Ministry of Natural Resources, *Mineral Aggregate Resource Reference Manual for Policy 2.2 of the Provincial Policy Statement*, Discussion Draft, January 2001.

Ontario Ministry of Natural Resources, *Aggregate Resources of Ontario: Provincial Standards, Version 1.0*, 1997.

FIGURES



Approximate Site Location

**Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)**

Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope,
County of Northumberland



ORE
Oakridge Environmental Ltd.
Environmental and Hydrogeological Services

North American Datum (NAD) 1983

TITLE

General Location Plan

PROJECT #

25-3608

DATE

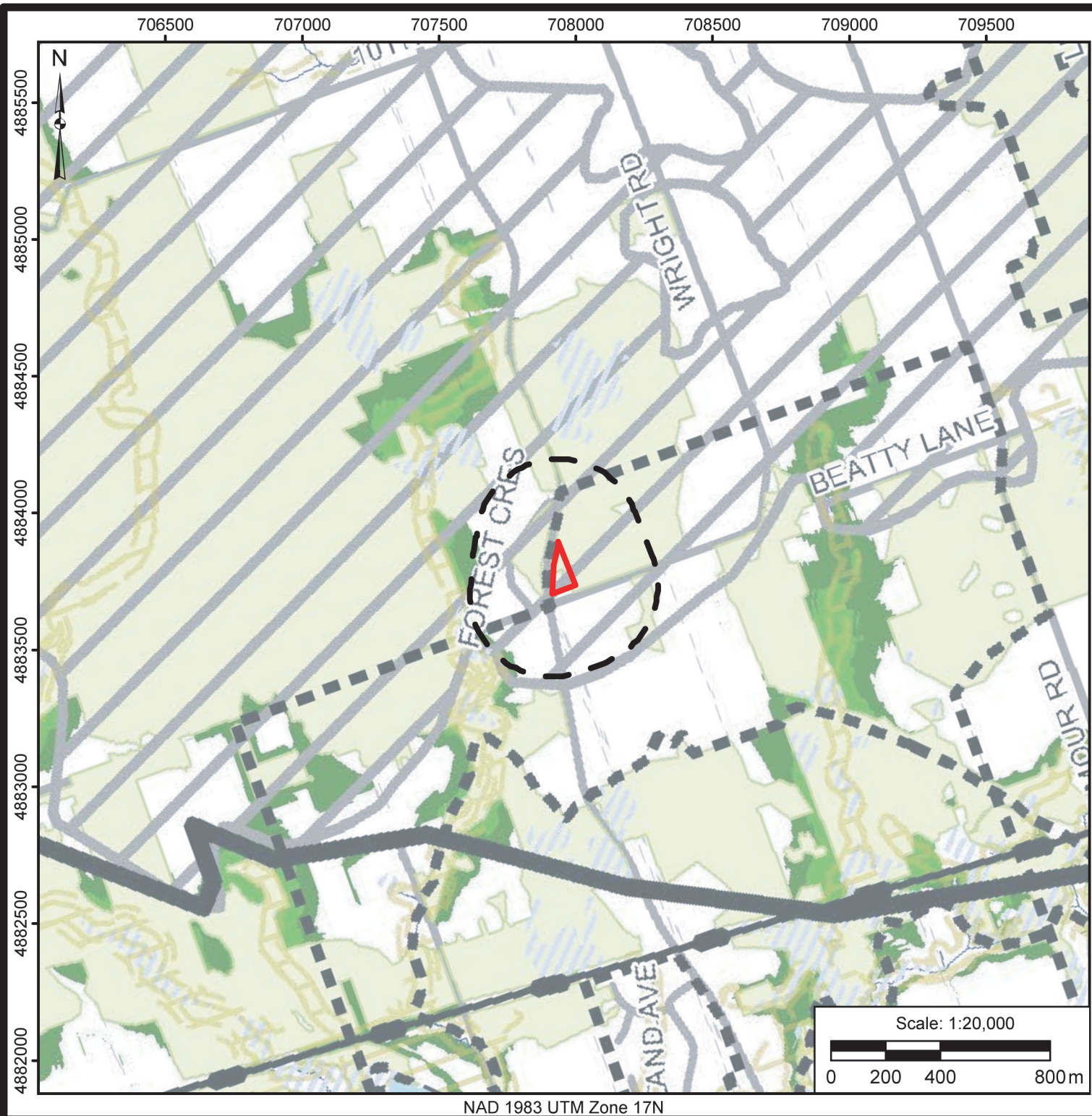
March 2026

FIGURE NO.

1

Notes:
Base mapping provided by the Ontario Ministry of Natural Resources and Forestry (MNR) Land Information Ontario (LIO) database, copyright the King's Printer (2025)

Optimized for Oakridge Environmental Ltd. printing



Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)
 Part of Lot 15, Concession 9 (Hope)
 Municipality of Port Hope,
 County of Northumberland

-  **Approximate Property Boundary**
 (Elliott and Parr Surveyors Ltd., 2025)
-  **Study Area (300 m)**
-  **Long Term Target Natural Cover**
-  **Short Term Target Natural Cover**
-  **Areas of Natural and Scientific Interest (ANSI)**
-  **Valleylands**
-  **Wetland (Evaluated)**
-  **Wetland (Unevaluated)**
-  **Provincially Significant Wetland**
-  **Significant Woodlands**
-  **Oak Ridges Moraine Boundary**
-  **Hydro Corridor**
-  **Aggregate Resources Area**

Notes:
 Excerpt provided by the Municipality of Port Hope
 via their Official Plan, Schedule B - Development
 Constraints (November 22, 2016)

*Approximate property boundary provided by Elliott and
 Parr Surveyors Ltd.'s Topographic Sketch
 (December 23, 2025)*

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TITLE
**Excerpt from Official
 Plan (Schedule B)**



PROJECT #
 25-3608

FIGURE NO.
2

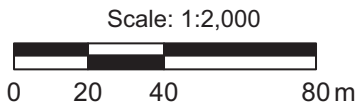
DATE
 March 2026



NAD 1983 UTM Zone 17N

**Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)**
Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope,
County of Northumberland

- Approximate Property Boundary
(Elliott and Parr Surveyors Ltd., 2025)
- Oak Ridges Moraine (ORM)
Significant Woodland
- ORE Mapped Significant Woodland
[ORE, 2025]
- Existing Septic [ORE, 2025]
- + Dug Well



Notes:
Base mapping provided by the Ontario Ministry of Natural Resources and Forestry (MNRF) Land Information Ontario (LIO) database, copyright the King's Printer (2025)

Imagery provided by Google Earth (2023)

Approximate property boundary provided by Elliott and Parr Surveyors Ltd.'s Topographic Sketch (December 23, 2025)

Feature locations determined by differential GPS (+/- 3.0 m)

Optimized for Oakridge Environmental Ltd. printing

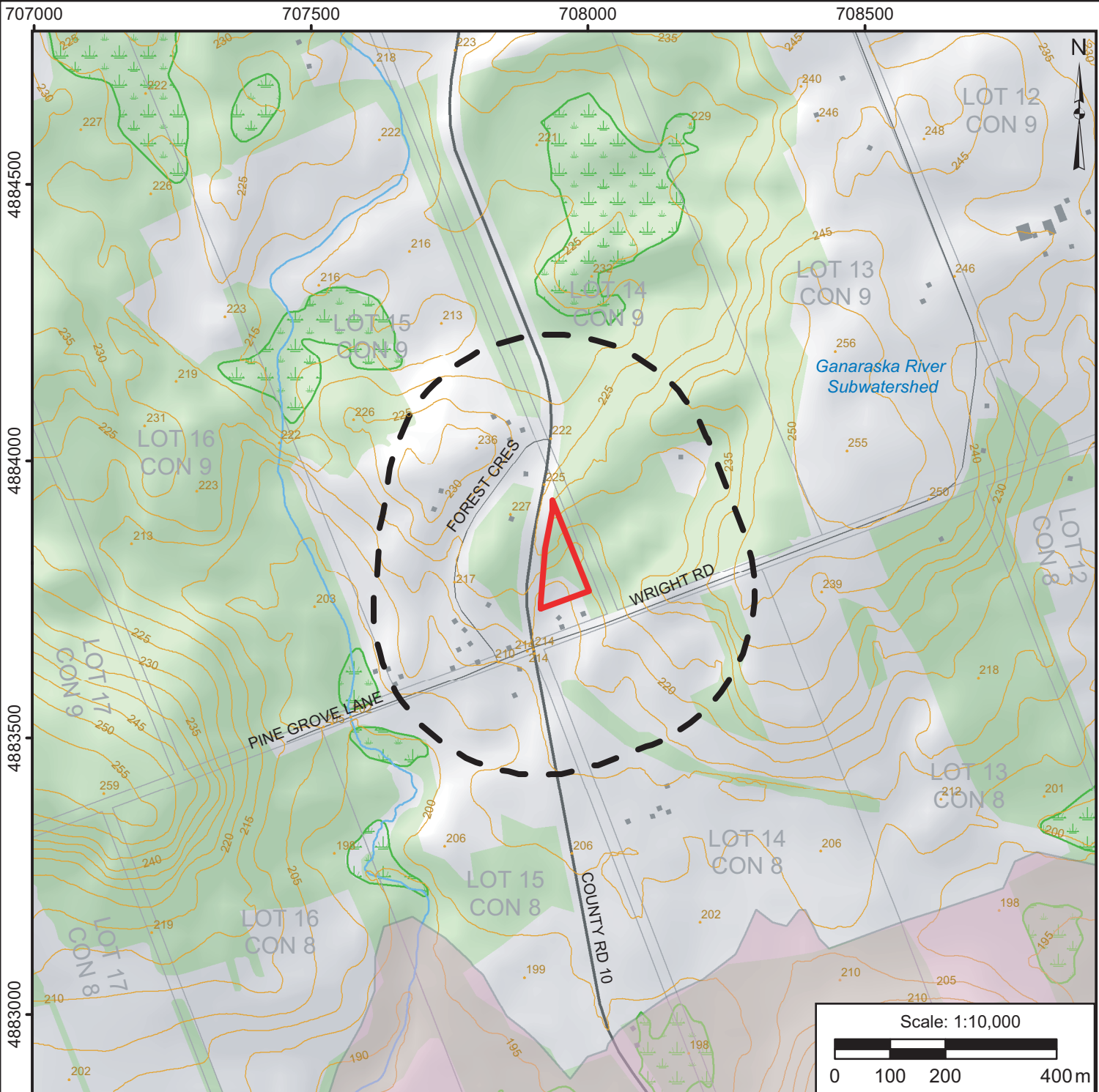
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Existing Site Features
















PROJECT #
25-3608

FIGURE NO.
3

DATE
March 2026



**Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)**
Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope,
County of Northumberland

-  **Approximate Property Boundary**
[Elliott and Parr Surveyors Ltd., 2025]
-  **Study Area (300 m)**
-  **Wetland (Unevaluated)**
-  **Area of Natural and Scientific Interest (ANSI), Earth Science - Garder Hill Glacial Landforms**
-  **Wooded Area**
-  **Building (to scale)**
-  **Geographic Lot Fabric**
-  **Watercourse**
-  **Arterial Road**
-  **Road**
-  **Contour (5m Intervals)**
-  **Building (symbol)**
-  **Spot Height (m asl)**

Notes:
Base mapping provided by the Ontario Ministry of Natural Resources and Forestry (MNRF) Land Information Ontario (LIO) database, copyright the King's Printer (2025)

Approximate property boundary provided by Elliott and Parr Surveyors Ltd.'s Topographic Sketch (December 23, 2025)

Optimized for Oakridge Environmental Ltd. printing

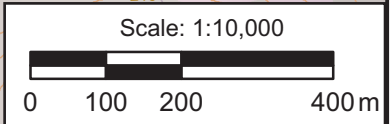
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Topography and Drainage Plan



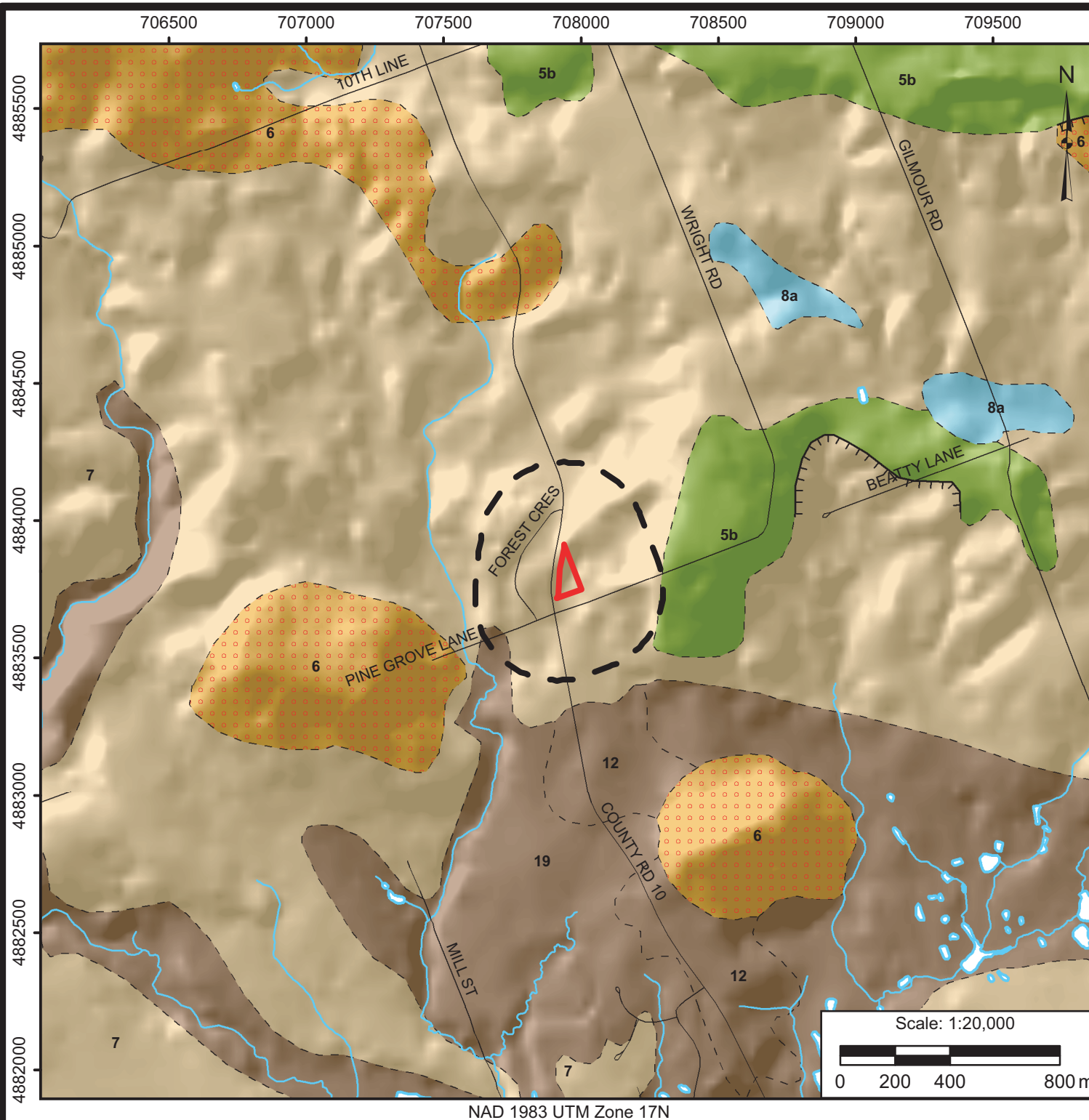
PROJECT #
25-3608

FIGURE NO.
4














DATE
March 2026



NAD 1983 UTM Zone 17N



**Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)**
Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope,
County of Northumberland

-  **Approximate Property Boundary**
(Elliott and Parr Surveyors Ltd., 2025)
-  **Study Area (300 m)**
-  **Fluvial Terrace**
-  **Contact (approximate/assumed)**
-  **Hummocky Topography**
-  **5b** **Glacial Deposits (Till):**
Stone-poor, carbonate-derived
silty to sandy till
-  **6** **Ice-contact stratified deposits**
-  **7** **Glaciofluvial deposits**
-  **8a** **Fine-textured
glaciolacustrine deposits:**
Massive-well laminated
-  **12** **Older alluvial deposits**
-  **19** **Modern alluvial deposits**
-  **Waterbody**
-  **Watercourse**

Notes:
Base maps provided by Ontario Geological Survey (OGS), copyright the King's Printer (MRD-128REV, 2011)

Approximate property boundary provided by Elliott and Parr Surveyors Ltd.'s Topographic Sketch (December 23, 2025)

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TITLE
Surficial Geology Map

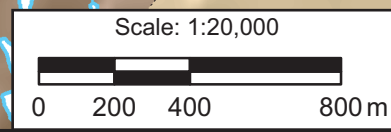


PROJECT #
25-3608

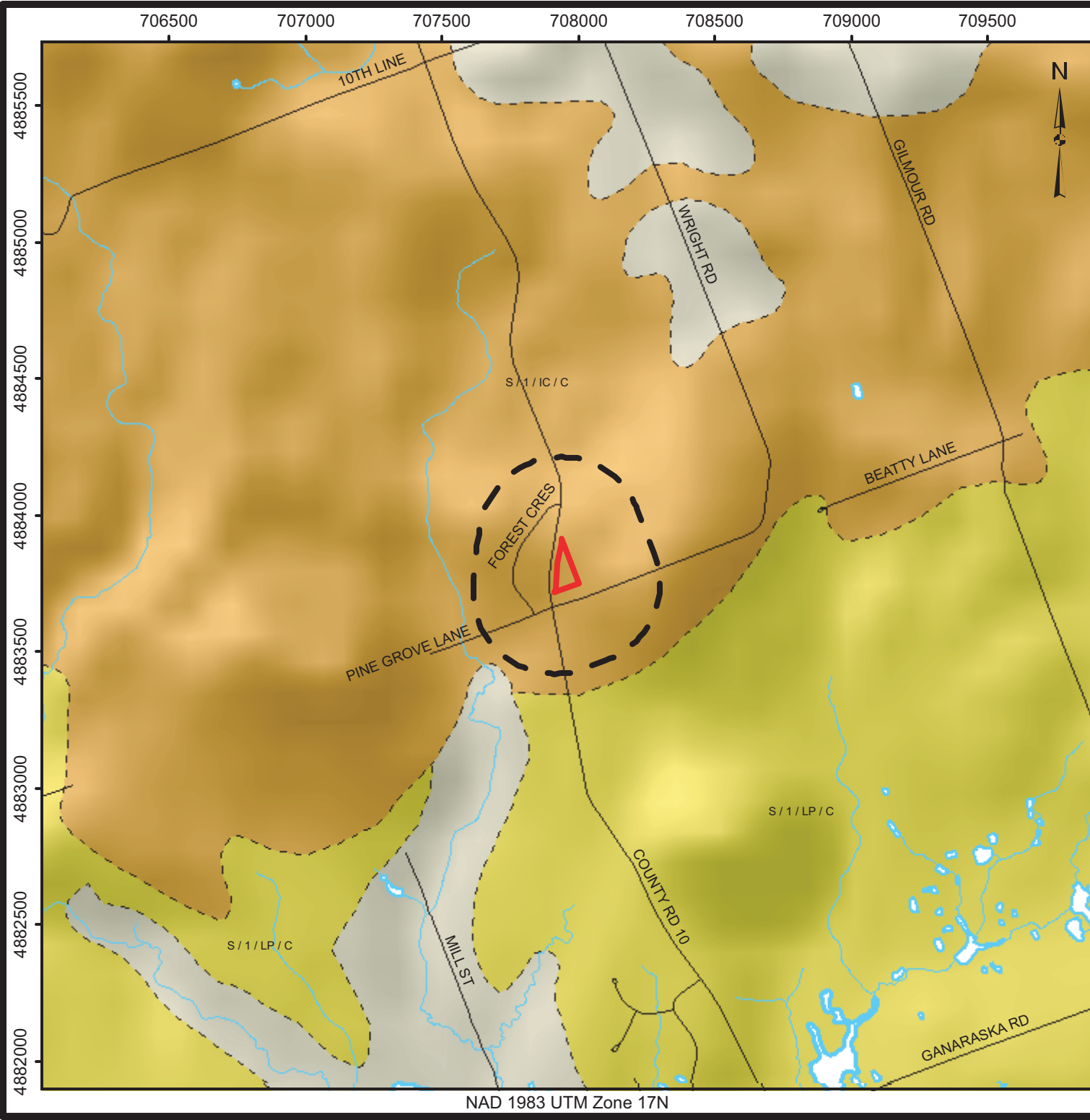
FIGURE NO.

DATE
March 2026







5







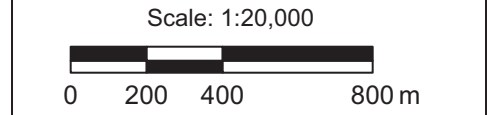
NAD 1983 UTM Zone 17N



Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)
 Part of Lot 15, Concession 9 (Hope)
 Municipality of Port Hope,
 County of Northumberland

-  Approximate Property Boundary
(Elliott and Parr Surveyors Ltd., 2025)
-  Study Area (300 m)
-  Waterbody
-  Watercourse
-  Road
-  Contact (approximate/assumed)

- Aggregate Significance:**
-  Primary
 -  Secondary
 -  Tertiary
 -  None



Notes:
 Base maps provided by Land Information Ontario and Natural Resources Canada (2025).

Approximate property boundary provided by Elliott and Parr Surveyors Ltd.'s Topographic Sketch (December 23, 2025)

Optimized for Oakridge Environmental Ltd. printing.

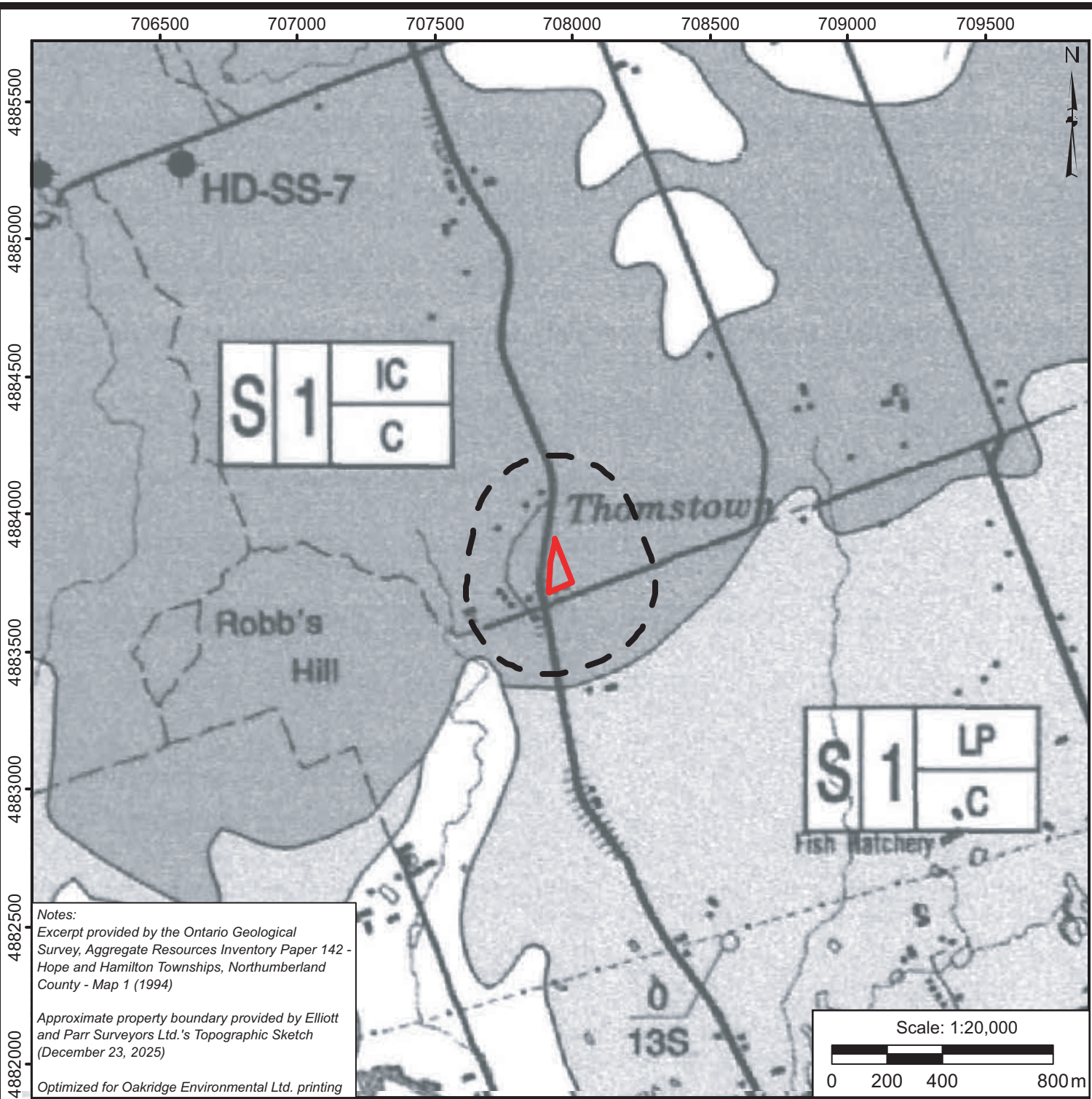
TITLE **Provincial Aggregate Resource Mapping**



PROJECT #
25-3608

FIGURE NO.
6

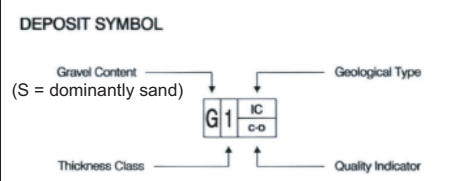
DATE
March 2026



**Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)**
Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope,
County of Northumberland

- Approximate Property Boundary
(Elliott and Parr Surveyors Ltd., 2025)
- Study Area (300 m)
- Selected Sample Site:
Identification Number
- Selected Water Well Location
- Deposit Symbol (See Below)

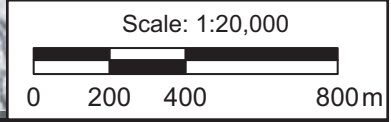
- Aggregate Significance:**
- Primary
 - Secondary
 - Tertiary
 - Other Surficial Deposits or Exposed Bedrock



Notes:
Excerpt provided by the Ontario Geological Survey, Aggregate Resources Inventory Paper 142 - Hope and Hamilton Townships, Northumberland County - Map 1 (1994)

Approximate property boundary provided by Elliott and Parr Surveyors Ltd.'s Topographic Sketch (December 23, 2025)

Optimized for Oakridge Environmental Ltd. printing



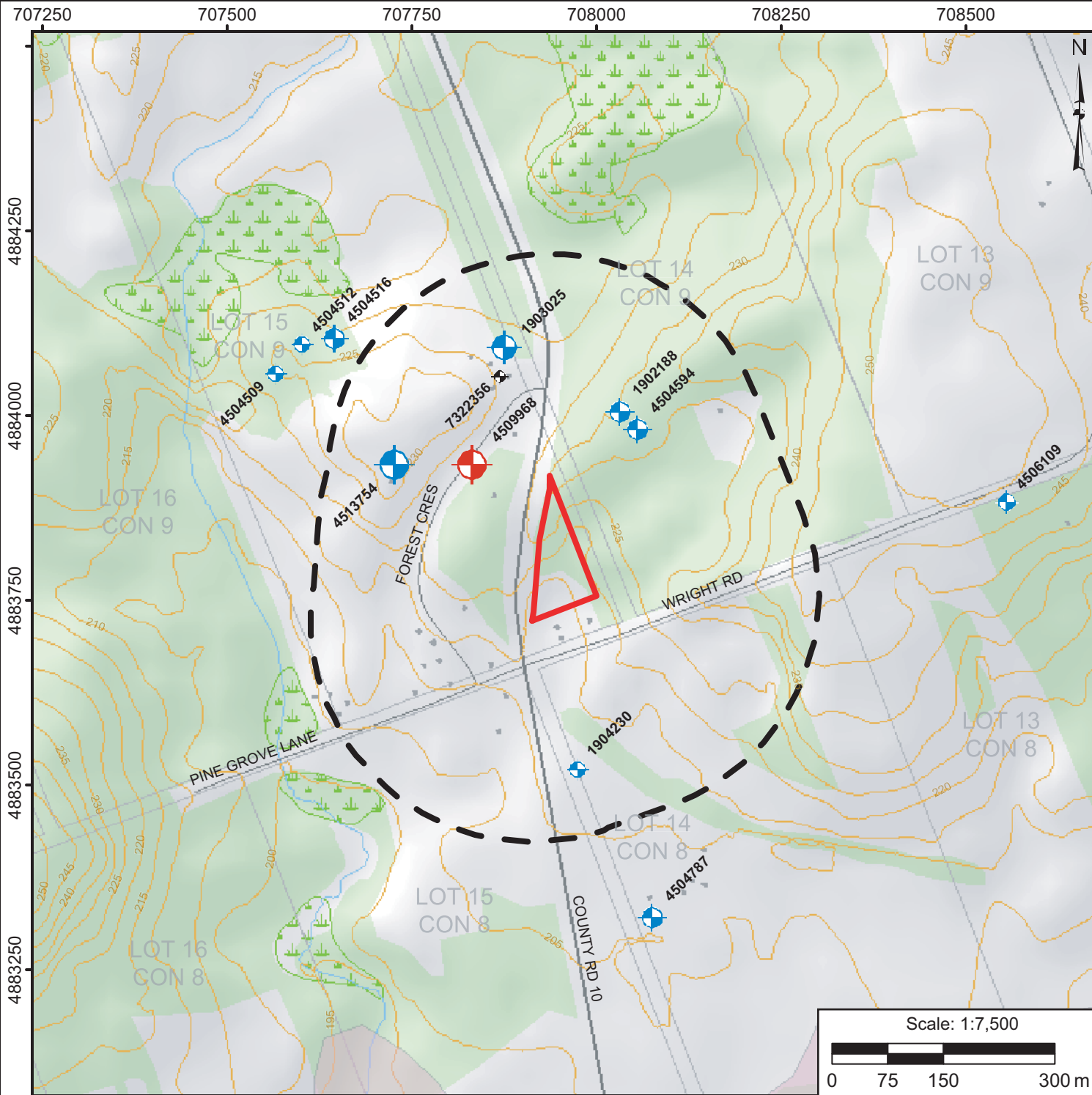
TITLE
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142 Mapping**





PROJECT #
25-3608

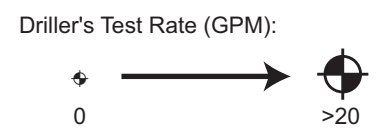
FIGURE NO.
7

DATE
March 2026



**Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)**
Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope,
County of Northumberland

-  Approximate Property Boundary
(Elliott and Parr Surveyors Ltd., 2025)
-  Study Area (300 m)
-  Domestic Well
-  Abandoned/Unknown Well
-  Commercial Well



Notes:
Base mapping provided by the Ontario Ministry of Natural Resources and Forestry (MNRF) Land Information Ontario (LIO) database, copyright the King's Printer (2025)

Wells from the Water Well Information System, Ministry of the Environment, Conservation and Parks (MECP), 2023

Approximate property boundary provided by Elliott and Parr Surveyors Ltd.'s Topographic Sketch (December 23, 2025)

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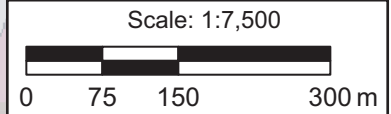
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Well Location Plan



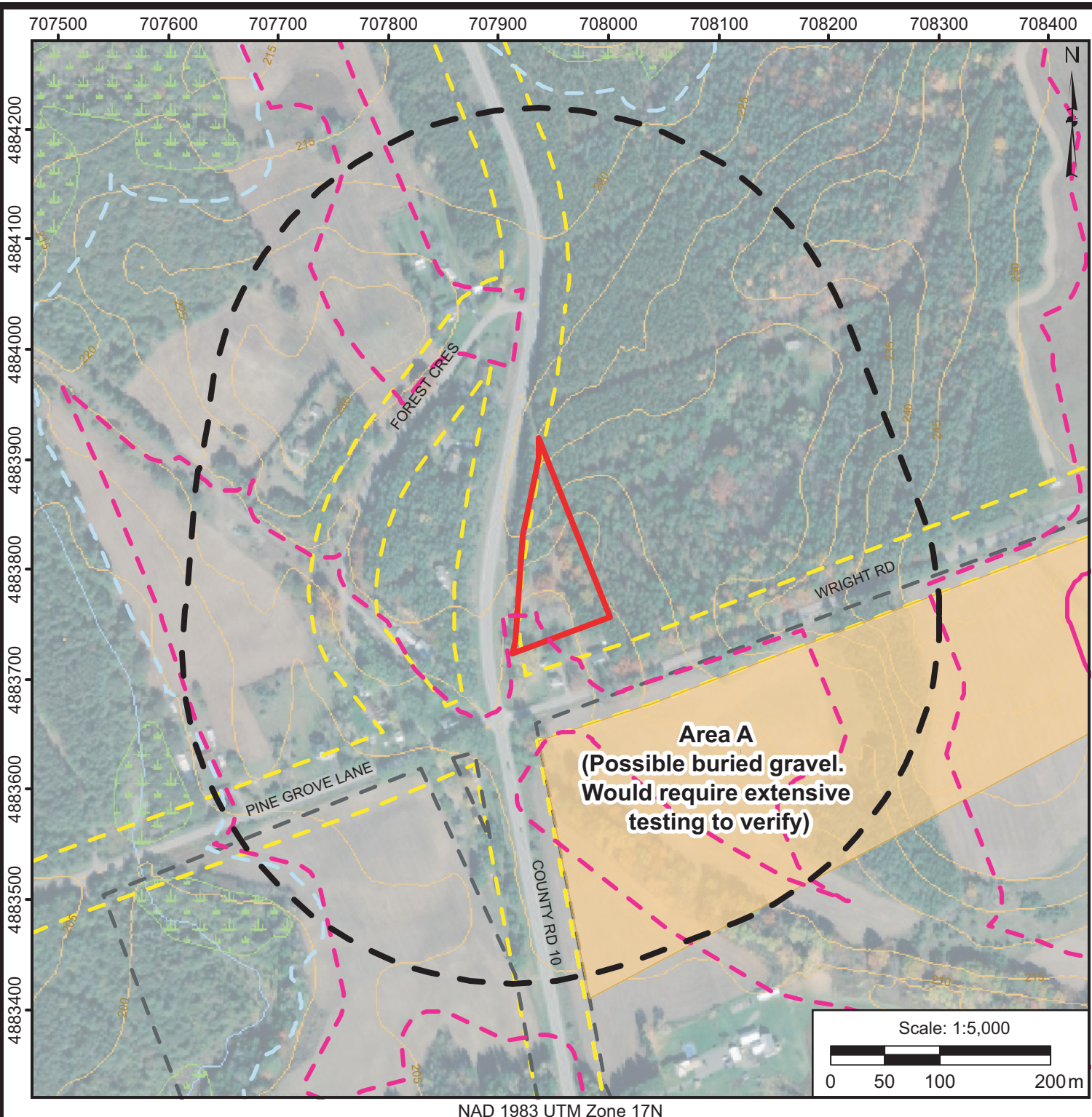
PROJECT #
25-3608

FIGURE NO.
8












DATE
March 2026



NAD 1983 UTM Zone 17N



**Aggregate Resource Impact Review
Proposed Single Residential Development
Vacant Lot on County Road 10
(Pin 51052-0279)**
Part of Lot 15, Concession 9 (Hope)
Municipality of Port Hope,
County of Northumberland

-  Approximate Property Boundary
(Elliott and Parr Surveyors Ltd., 2025)
-  Study Area (300 m)
-  Theoretical Aggregate Resource
-  Wetland (Unevaluated)
-  Watercourse
-  ARA Hydrological Feature Setback (30 m)
-  ARA Property Boundary Setback (15 m)
-  ARA Road Setback (30 m)
-  Significant Woodland Setback (30 m)
-  Contour (5 m Intervals)
-  Spot Height (m asl)

Notes:
Base mapping provided by the Ontario Ministry of Natural Resources and Forestry (MNRF) Land Information Ontario (LIO) database, copyright the King's Printer (2025)

Approximate property boundary provided by Elliott and Parr Surveyors Ltd.'s Topographic Sketch (December 23, 2025)

Imagery provided by ESRI (Maxar, 2014)

ARA = Aggregate Resources Act

Optimized for Oakridge Environmental Ltd. printing

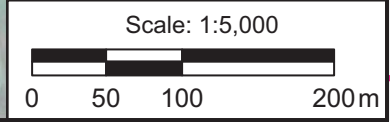
TITLE
Constraints Plan



PROJECT #
25-3608

FIGURE NO.
9

DATE
March 2026



NAD 1983 UTM Zone 17N

APPENDIX A

Well Record Data

Water Well Records

September 16, 2025

9:35:13 AM

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
HOPE TOWNSHIP CON 08 014	17 708075 4883323 W	1977-07 4761	6	FR 0068	20/30/10/1:30	ST	0103 4	4504787 ()	LOAM SOFT DKCL 0003 CLAY SOFT LTCL 0063 SAND CLAY LTCL 0080 FSND HARD LTCL 0103 SAND FGVL LTCL 0105
HOPE TOWNSHIP CON 08 014	17 707975 4883523 W	1975-09 1572	6	FR 0120	70/110/3/2:0	DO	0116 10	1904230 ()	PRDG 0025 BRWN SAND GRVL 0050 BRWN FSND 0120 BRWN CSND 0126
HOPE TOWNSHIP CON 09	17 707869 4884054 W	2018-07 2662						7322356 (Z285092) A235753	
HOPE TOWNSHIP CON 09 014	17 708055 4883983 W	1976-09 3129	30	FR 0012	9/19/7:	DO		4504594 ()	LOAM 0001 SAND GRVL 0012 CSND 0020
HOPE TOWNSHIP CON 09 014	17 707644 4884106 W	1975-08 2104	6	FR 0096	95/105/10/3:0	DO	0112 4	4504516 ()	BRWN LOAM 0002 GREY CLAY 0060 BRWN SILT CLAY 0080 GREY CLAY 0096 BRWN MSND 0121
HOPE TOWNSHIP CON 09 014	17 707601 4884097 W	1974-12 2104	6	FR 0277	90/275/4/12:0	DO	0268 4	4504512 ()	PRDR 0251 BRWN FSND 0277 BRWN SAND GRVL 0280
HOPE TOWNSHIP CON 09 014	17 707566 4884059 W	1974-02 2104	6	FR 0247	99/241/5/3:0	DO	0241 4	4504509 ()	GREY CLAY STNS 0010 GREY FSND 0240 GREY FSND 0247 GREY GRVL SAND 0251
HOPE TOWNSHIP CON 09 014	17 707875 4884093 W	1970-03 4713	6	FR 0207	110/135/20/2:0	DO	0203 4	1903025 ()	BRWN MSND STNS 0080 BRWN CLAY MSND 0140 BLUE CLAY STNS 0200 BRWN GRVL MSND 0207
HOPE TOWNSHIP CON 09 014	17 708031 4884007 W	1948-05 2116	4	FR 0035	30/150/8/3:0	PS		1902188 ()	MSND 0010 CLAY 0035 QSND 0134 GRVL 0214
HOPE TOWNSHIP CON 09 015	17 707725 4883935 W	2004-02 7115	5.98	FR 0007	115/1112/8/2:0	DO	0216 4	4513754 (Z00594) A000504	BRWN SAND GRVL HARD 0125 GREY CLAY HARD 0205 GREY CLAY SILT HARD 0215 BRWN FSND HARD 0220
HOPE TOWNSHIP CON 09 015	17 707832 4883936 W	1993-04 2104	6	FR 0226	60/200/40/4:15	CO	0220 12	4509968 (128170)	BRWN SAND 0060 GREY SAND 0130 BRWN SAND 0160 GREY CLAY MGRD 0207 BRWN SAND 0228 GREY CLAY 0232

TOWNSHIP CON LOT UTM DATE CNTR CASING DIA WATER PUMP TEST WELL USE SCREEN WELL FORMATION

Notes:

UTM: **UTM** in Zone, Easting, Northing and Datum is NAD83; **L**: UTM estimated from Centroid of Lot; **W**: UTM not from Lot Centroid
 DATE CNTR: **D**ate Work Completed and **W**ell Contractor Licence Number
 CASING DIA: **D**iameter in inches
 WATER: **D**nit of Depth in Feet. See Table 4 for Meaning of Code

PUMP TEST: **S**tatic Water Level in Feet / **W**ater Level After Pumping in Feet / **D**ump Test Rate in GPM / Pump Test Duration in Hour : Minutes
 WELL USE: See Table 3 for Meaning of Code
 SCREEN: **S**creen Depth and Length in feet
 WELL: **W**EL (**A**UDIT #) Well Tag . **A**: Abandonment; **P**: Partial Data Entry Only
 FORMATION: See Table 1 and 2 for Meaning of Code

1. Core Material and Descriptive terms

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
BLDR	BOULDERS	FCRD	FRACTURED	IRFM	IRON FORMATION	PORS	POROUS	SOFT	SOFT
BSLT	BASALT	FGRD	FINE-GRAINED	LIMY	LIMY	PRDG	PREVIOUSLY DUG	SPST	SOAPSTONE
CGRD	COARSE-GRAINED	FGVL	FINE GRAVEL	LMSN	LIMESTONE	PRDR	PREV. DRILLED	STKY	STICKY
CGVL	COARSE GRAVEL	FILL	FILL	LOAM	TOPSOIL	QRTZ	QUARTZITE	STNS	STONES
CHRT	CHERT	FLDS	FELDSPAR	LOOS	LOOSE	QSND	QUICKSAND	STNY	STONEY
CLAY	CLAY	FLNT	FLINT	LTCL	LIGHT-COLOURED	QTZ	QUARTZ	THIK	THICK
CLN	CLEAN	FOSS	FOSILIFEROUS	LYRD	LAYERED	ROCK	ROCK	THIN	THIN
CLYY	CLAYEY	FSND	FINE SAND	MARL	MARL	SAND	SAND	TILL	TILL
CMTD	CEMENTED	GNIS	GNEISS	MGRD	MEDIUM-GRAINED	SHLE	SHALE	UNKN	UNKNOWN TYPE
CONG	CONGLOMERATE	GRNT	GRANITE	MGVL	MEDIUM GRAVEL	SHLY	SHALY	VERY	VERY
CRYS	CRYSTALLINE	GRSN	GREENSTONE	MRBL	MARBLE	SHRP	SHARP	WBRG	WATER-BEARING
CSND	COARSE SAND	GRVL	GRAVEL	MSND	MEDIUM SAND	SHST	SCHIST	WDFR	WOOD FRAGMENTS
DKCL	DARK-COLOURED	GRWK	GREYWACKE	MUCK	MUCK	SILT	SILT	WTHD	WEATHERED
DLMT	DOLOMITE	GVLY	GRAVELLY	OBDN	OVERBURDEN	SLTE	SLATE		
DNSE	DENSE	GYPG	GYPGUM	PCKD	PACKED	SLTY	SILTY		
DRTY	DIRTY	HARD	HARD	PEAT	PEAT	SNDS	SANDSTONE		
DRY	DRY	HPAN	HARDPAN	PGVL	PEA GRAVEL	SNDY	SANDY OAPSTONE		

2. Core Color

Code	Description
WHIT	WHITE
GREY	GREY
BLUE	BLUE
GRN	GREEN
YLLW	YELLOW
BRWN	BROWN
RED	RED
BLCK	BLACK
BLGY	BLUE-GREY

3. Well Use

Code	Description	Code	Description
DO	Domestic	OT	Other
ST	Livestock	TH	Test Hole
IR	Irrigation	DE	Dewatering
IN	Industrial	MO	Monitoring
CO	Commercial	MT	Monitoring TestHole
MN	Municipal		
PS	Public		
AC	Cooling And A/C		
NU	Not Used		

4. Water Detail

Code	Description	Code	Description
FR	Fresh	GS	Gas
SA	Salty	IR	Iron
SU	Sulphur		
MN	Mineral		
UK	Unknown		



MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act
WATER WELL RECORD

31 0/0

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK CORRECT BOX WHERE APPLICABLE

11 4504594 45011 C/PN 09

COUNTY OR DISTRICT: NORTHUMBERLAND TOWNSHIP: HOPE CON. BLOCK: 9
 DATE COMPLETED: DAY 07 MO 09 YR 76
 ELEVATION: 88376.0 4 0770 5 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
			TOP SOIL	0'	1'
			SAND & GRAVEL	1'	12'
			COARSE SAND	12'	20'

31 0001 02 0012 0811 0020 10
 32

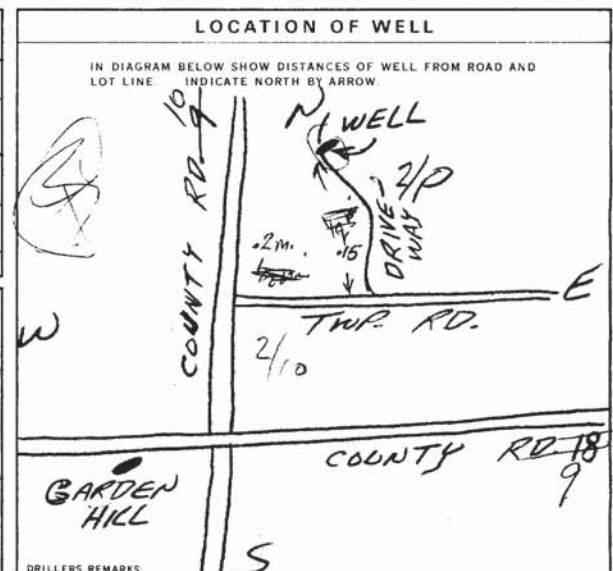
4 WATER RECORD
 WATER FOUND: 0-12'
 KIND OF WATER: 1 FRESH, 2 SALTY, 3 SULPHUR, 4 MINERAL

5 CASING & OPEN HOLE RECORD
 INSIDE DIAMETER: 30" x
 MATERIAL: CONCRETE
 WALL THICKNESS: 3" 0' 0000
 DEPTH - FEET: 30'

SCREEN
 SIZE(S) OF OPENING: 31-33
 DIAMETER: 34-38
 LENGTH: 39-40
 MATERIAL AND TYPE: 41-44
 DEPTH TO TOP OF SCREEN: 45-50

61 PLUGGING & SEALING RECORD
 DEPTH SET AT - FEET: FROM TO
 MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.):

71 PUMPING TEST METHOD: 1 PUMP, 2 BAILER
 PUMPING RATE: 0007 GPM
 DURATION OF PUMPING: 15-16 HOURS, 17-18 MINS
 WATER LEVELS DURING PUMPING: 019, 014, 016, 018, 019 FEET
 RECOMMENDED PUMP TYPE: SHALLOW
 RECOMMENDED PUMP SETTING: 018 FEET
 RECOMMENDED PUMPING RATE: 0006 GPM



FINAL STATUS OF WELL: 1 WATER SUPPLY
 WATER USE: 01 DOMESTIC
 METHOD OF DRILLING: 6 BORING

CONTRACTOR: Keko Well Drilling Ltd. 3129
 ADDRESS: Goro's Landing, Ont.
 NAME OF DRILLER OR BORER: Terry Keko
 SIGNATURE OF CONTRACTOR: Terry Keko
 LICENCE NUMBER: 3129
 SUBMISSION DATE: DAY MO YR

OFFICE USE ONLY
 DATA SOURCE: 1
 CONTRACTOR: 3129
 DATE RECEIVED: 2501.7
 DATE OF INSPECTION: INSPECTOR
 REMARKS: #40 2320
 WI
 CSS.S8



Ministry
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Environment
Ontario

The Ontario Water Resources Act WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK CORRECT BOX WHERE APPLICABLE

11 4509968 MUNICIPAL 450111 CON. CAN. 09

COUNTY OR DISTRICT: **Northumberland** TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: **Hope** CON. BLOCK TRACT SURVEY ETC.: **Conc. 09** LOT: **25-27**

OWNER (SURNAME FIRST): **Corp. of the County of Northumberland** ADDRESS: **860 William St, Cobourg, ON K9A 3A9** DATE COMPLETED: **27 04 93**

ZONE EASTING NORTHING RC ELEVATION RC BASIN CODE II III IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)					
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Sand			0	60
Grey	Sand			60	130
Brown	Sand			130	160
Grey	Clay		Medium	160	207
Brown	Sand			207	228
Grey	Clay			228	232
Tail Pipe Set From 228 to 232 feet					
Screen set from 224 to 228 feet					

31 32

41 WATER RECORD

WATER FOUND AT - FEET: **226'**

KIND OF WATER:

10-13	<input checked="" type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS	6 <input type="checkbox"/> GAS
15-18	<input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS	6 <input type="checkbox"/> GAS
20-23	<input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS	6 <input type="checkbox"/> GAS
25-28	<input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS	6 <input type="checkbox"/> GAS
30-33	<input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERALS	6 <input type="checkbox"/> GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
			FROM TO
6 1/2"	<input checked="" type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC	.188	0 224
17-18	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC		20-23
24-25	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE <input type="checkbox"/> PLASTIC		27-30

SCREEN

SIZE(S) OF OPENING (SLOT NO.): **12** DIAMETER: **5 INCHES** LENGTH: **12' 2" FEET**

MATERIAL AND TYPE: **Stainless Steel** DEPTH TO TOP OF SCREEN: **220 FEET**

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
FROM TO		
10-13		
18-21		
24-29		

71 PUMPING TEST

PUMPING TEST METHOD: AIR PUMP BAILER

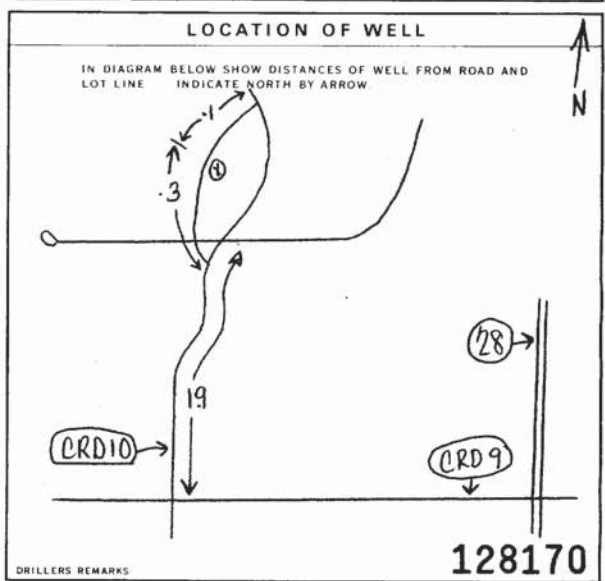
PUMPING RATE: **40 GPM** DURATION OF PUMPING: **4 HOURS 15 MIN**

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING PUMPING				
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES	RECOVERY
60 FEET	200 FEET	100 FEET	150 FEET	200 FEET	200 FEET	

IF FLOWING, GIVE RATE: **180 GPM** PUMP INTAKE SET AT: **180 FEET** WATER AT END OF TEST: CLEAR CLOUDY

RECOMMENDED PUMP TYPE: SHALLOW DEEP

RECOMMENDED PUMP SETTING: **180 FEET** RECOMMENDED PUMPING RATE: **40 GPM**



71 FINAL STATUS OF WELL

WATER SUPPLY ABANDONED - INSUFFICIENT SUPPLY
 OBSERVATION WELL ABANDONED - POOR QUALITY
 TEST HOLE UNFINISHED
 RECHARGE WELL DEWATERING

WATER USE

DOMESTIC COMMERCIAL
 STOCK MUNICIPAL
 IRRIGATION PUBLIC SUPPLY
 INDUSTRIAL COOLING OR AIR CONDITIONING
 OTHER NOT USED

METHOD OF CONSTRUCTION

CABLE TOOL BORING
 ROTARY (CONVENTIONAL) DIAMOND
 ROTARY (REVERSE) JETTING
 ROTARY (AIR) DRIVING
 AIR PERCUSSION DIGGING OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: **FAULKNER WELL DRILLING CO. LTD.** WELL CONTRACTOR'S LICENCE NUMBER: **2104**

ADDRESS: **789 Erskine Avenue, Peterborough K9J 5V1**

NAME OF WELL TECHNICIAN: **Robert McLean** WELL TECHNICIAN'S LICENCE NUMBER: **T-0013**

SIGNATURE OF TECHNICIAN/CONTRACTOR: *Robert McLean* SUBMISSION DATE: **28 04 93**

OFFICE USE ONLY

DATE RECEIVED: **MAY 06 1993**

CONTRACTOR: **2104**

INSPECTOR: **CSS.ES**



The Ontario Water Resources Commission Act WATER WELL RECORD

31D/1W

Water management in Ontario 1. PRINT ONLY IN SPACES PROVIDED

2. CHECK CORRECT BOX WHERE APPLICABLE

11

1903025

MUNICIP. 19005

CON. 014

109

COUNTY OR DISTRICT <i>Durham</i>	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE <i>Haldon</i>	SECTION, BLOCK, TRACT, SURVEY, ETC. <i>IX</i>	LOT <i>014</i>
DATE COMPLETED DAY <i>18</i> MO <i>03</i> YR <i>70</i>			
IND. NO. <i>103870</i>	RC. <i>44</i>	ELEVATION <i>107.25</i>	RC. <i>5</i>
BASIN CODE <i>244</i>			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
<i>tan</i>	<i>sand</i>	<i>clay</i>	<i>hard</i>	<i>0</i>	<i>80</i>
<i>brown</i>	<i>clay</i>	<i>sand layers</i>	<i>soft</i>	<i>80</i>	<i>140</i>
<i>blue</i>	<i>clay</i>	<i>stones</i>	<i>hard</i>	<i>140</i>	<i>200</i>
<i>brown</i>	<i>gravel</i>	<i>sand</i>	<i>hard</i>	<i>200</i>	<i>207</i>

31	<i>00800912</i>	<i>014000509</i>	<i>020030512</i>	<i>020701109</i>
32				

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13 <i>0207</i>	<input checked="" type="checkbox"/> FRESH <input type="checkbox"/> SALTY
15-18	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY
20-23	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY
25-28	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY
30-33	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY

51 CASING & OPEN HOLE RECORD

INSIDE DIAMETER INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
<i>6.75</i>	<input checked="" type="checkbox"/> STEEL	<i>1.185</i>	<i>0</i> to <i>203</i>
<i>06</i>	<input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE		<i>203</i> to <i>207</i>
<i>17-18</i>	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE		<i>207</i> to <i>208</i>
<i>24-25</i>	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE		<i>208</i> to <i>210</i>

SCREEN

SIZE(S) OF OPENING (SLOT NO.)
3/16" x 1/8" 05#000

DIAMETER INCHES
04

LENGTH FEET
04

MATERIAL AND TYPE
Steel

DEPTH TO TOP OF SCREEN FEET
0203

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	
18-21	
26-29	

71 PUMPING TEST

PUMPING TEST METHOD
 PUMP BAILER

PUMPING RATE
0020 GPM

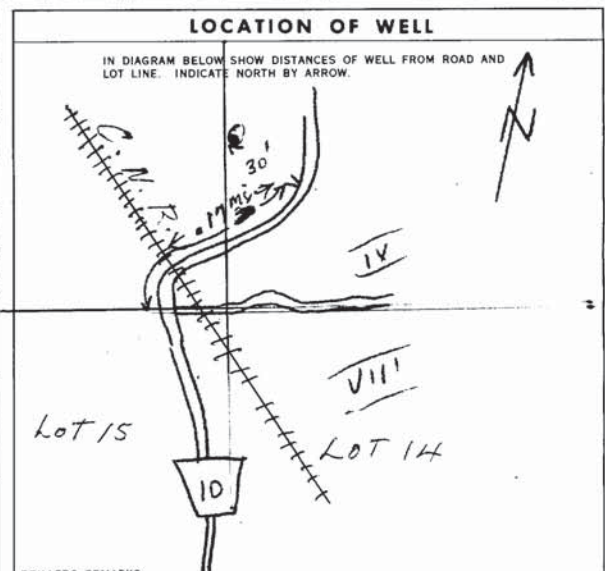
DURATION OF PUMPING
02 HOURS *00* MINS

WATER LEVEL END OF PUMPING	WATER LEVELS DURING
<i>100</i> FEET	<i>135</i> FEET
<i>135</i> FEET	<i>125</i> FEET
<i>135</i> FEET	<i>135</i> FEET
<i>135</i> FEET	<i>135</i> FEET
<i>135</i> FEET	<i>135</i> FEET

RECOMMENDED PUMP TYPE
 SHALLOW DEEP

RECOMMENDED PUMP SETTING
140 FEET

RECOMMENDED PUMPING RATE
0005 GPM



FINAL STATUS OF WELL

WATER SUPPLY

WATER USE

01 DOMESTIC

METHOD OF DRILLING

CABLE TOOL

CONTRACTOR

NAME OF WELL CONTRACTOR
H. Sanderson

ADDRESS
Durham

NAME OF DRILLER OR BORER
H. Sanderson

SIGNATURE OF CONTRACTOR
H. Sanderson

LICENCE NUMBER
4713

SUBMISSION DATE
DAY *27* MO *1* YR *71*

OFFICE USE ONLY

DATA SOURCE
1

CONTRACTOR
4713

DATE RECEIVED
040271

DATE OF INSPECTION
APR. 7/71

REMARKS
P/J.B. WI KM



Ontario

WATER WELL RECORD

310/12

1. PRINT ONLY IN SPACES PROVIDED
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11 | 1904230 | 45011 CON | 08

COUNTY: Durham TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Hope (THOMASVILLE) 15 CON., BLOCK, TRACT, SURVEY, ETC.: VIII BC \$014

DATE COMPLETED: DA 04 MO 09 YR 75

ELEVATION: 883300 4 0705 5 04

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
		Open Hole		0	25
BROWN	SAND + GRAVEL			25	50
BROWN	SAND fine			50	120
BROWN	SAND Course			120	126

31 | 0025 23 | 005062811 | 0120608 | 0126610

32

41 WATER RECORD

WATER FOUND AT FEET: 0120
120

KIND OF WATER:

1 FRESH 3 SULPHUR 14
2 SALTY 4 MINERAL

15-18 1 FRESH 3 SULPHUR 19
2 SALTY 4 MINERAL

20-23 1 FRESH 3 SULPHUR 24
2 SALTY 4 MINERAL

25-28 1 FRESH 3 SULPHUR 29
2 SALTY 4 MINERAL

30-33 1 FRESH 3 SULPHUR 34
2 SALTY 4 MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE INCHES: 06 1/4

MATERIAL: STEEL 12
CONCRETE 188

WALL THICKNESS INCHES: 188

DEPTH - FEET: 00/21

17-18 1 STEEL 19
2 GALVANIZED
3 CONCRETE
4 OPEN HOLE

24-25 1 STEEL 26
2 GALVANIZED
3 CONCRETE
4 OPEN HOLE

SCREEN

SIZE(S) OF OPENING (SLOT NO.): 008

DIAMETER: 05000 10
DEPTH TO TOP OF SCREEN: 0116 FEET

MATERIAL AND TYPE: Course Sand

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET:

FROM TO MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

10-13 14-17

18-21 22-25

26-29 30-33 80

71 PUMPING TEST

PUMPING METHOD: 1 PUMP 2 BAILER

PUMPING RATE: 0003 GPM

DURATION OF PUMPING: 02 00 HOURS

17-18 1 PUMPING 2 RECOVERY

STATIC LEVEL: 070 FEET

WATER LEVELS DURING:

19-21 22-24 15 MINUTES 30 MINUTES 45 MINUTES 60 MINUTES

110 080 090 100 110

IF FLOWING GIVE RATE: 125 GPM

PUMP INTAKE SET AT: 125 FEET

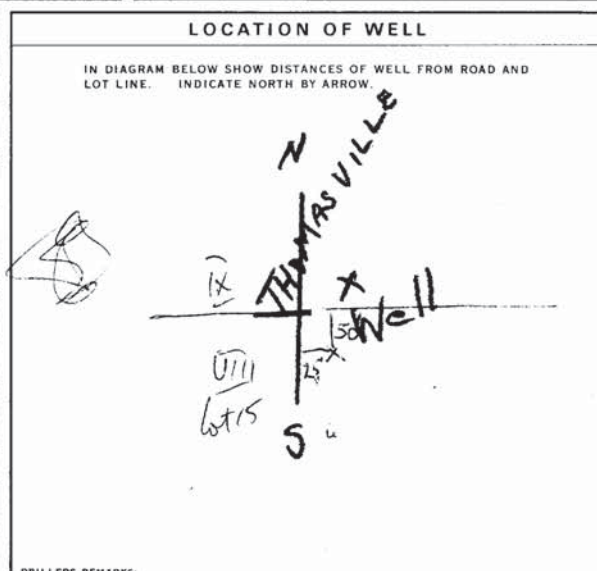
WATER AT END OF TEST: 0001 GPM

RECOMMENDED PUMP TYPE: SHALLOW DEEP

RECOMMENDED PUMP SETTING: 125 FEET

RECOMMENDED PUMPING RATE: 0001 GPM

50-53 GPM / FT. SPECIFIC CAPACITY



FINAL STATUS OF WELL

1 WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY
2 OBSERVATION WELL 6 ABANDONED, POOR QUALITY
3 TEST HOLE 7 UNFINISHED
4 RECHARGE WELL

WATER USE

1 DOMESTIC 5 COMMERCIAL
2 STOCK 6 MUNICIPAL
3 IRRIGATION 7 PUBLIC SUPPLY
4 INDUSTRIAL 8 COOLING OR AIR CONDITIONING
 OTHER HOUSE 9 NOT USED

METHOD OF DRILLING

1 CABLE TOOL 6 BORING
2 ROTARY (CONVENTIONAL) 7 DIAMOND
3 ROTARY (REVERSE) 8 JETTING
4 ROTARY (AIR) 9 DRIVING
5 AIR PERCUSSION

CONTRACTOR

NAME OF WELL CONTRACTOR: CATHAR VELL DRILLING 1572

ADDRESS: PO Partypool Ont

NAME OF DRILLER OR BORER: 7 Badler

SIGNATURE OF CONTRACTOR: 7 Badler

LICENCE NUMBER: 1572

SUBMISSION DATE: DAY 9 MO 19 YR 75

OFFICE USE ONLY

DATE RECEIVED: 061075

DATE OF INSPECTION: 1572

INSPECTOR: CSS.SS

REMARKS: PM 10/27/77

WI



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Ontario

The Ontario Water Resources Act

WATER WELL RECORD

31014

1. PRINT ONLY IN SPACES PROVIDED
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(11)

4506109

MUNICIPAL 450111

CON CAN

08

COUNTY OR DISTRICT: [REDACTED] TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: [REDACTED] CON. BLOCK, TRACT, SURVEY, ETC: CON 8 LOT: 013

DATE COMPLETED: DAY 16 MONTH 08 YEAR 84
#1, Campbellcroft, Ontario

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
BROWN	SAND			0	12
BROWN	GRAVEL		COARSE	12	48
BROWN	CLAY	SAND	FINE	48	222
BROWN	GRAVEL		COARSE	222	227

FEB 12 1987

31 0012628 0048631 022200598 0227631

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0227	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
15-18	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
10-11	1 <input checked="" type="checkbox"/> STEEL		0 - 188
17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE		188 - 202
24-25	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE		202 - 227

SCREEN

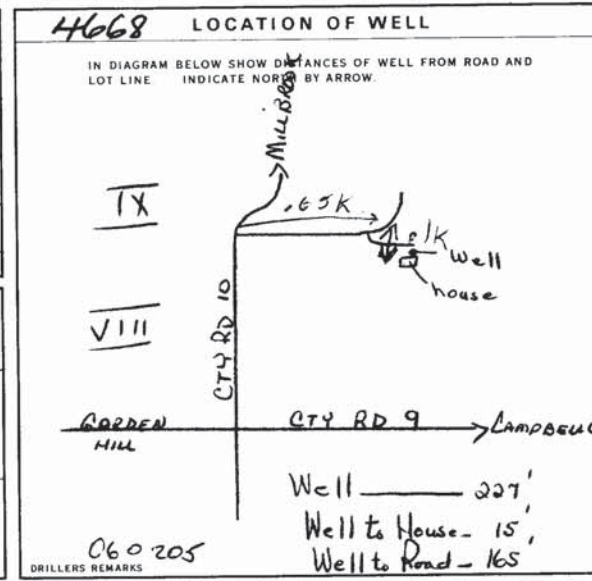
SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	
18-21	
26-29	

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILEY	0020 GPM	04 HOURS 00 MINS
19-21	22-24	15 MINUTES
105 FEET	147 FEET	26-28
		30 MINUTES
		45 MINUTES
		60 MINUTES
		32-34
		35-37



34 FINAL STATUS OF WELL

1 WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY
2 OBSERVATION WELL 6 ABANDONED POOR QUALITY
3 TEST HOLE 7 UNFINISHED
4 RECHARGE WELL

35-36 WATER USE

1 DOMESTIC 5 COMMERCIAL
2 STOCK 6 MUNICIPAL
3 IRRIGATION 7 PUBLIC SUPPLY
4 INDUSTRIAL 8 COOLING OR AIR CONDITIONING
9 OTHER 9 NOT USED

37 METHOD OF DRILLING

1 CABLE TOOL 4 BORING
2 ROTARY (CONVENTIONAL) 5 DIAMOND
3 ROTARY (REVERSE) 6 JETTING
4 ROTARY (AIR) 7 DRIVING
5 AIR PERCUSSION

CONTRACTOR

NAME OF WELL CONTRACTOR: ROBERT RUTH WELLDRIILLING LTD. LICENCE NUMBER: 463 5
ADDRESS: R. R. #2, CANAN, Ontario
NAME OF DRILLER OR BORER: same
SIGNATURE OF CONTRACTOR: [Signature] SUBMISSION DATE: DAY 14 MO 9 YEAR 84

OFFICE USE ONLY

DATE SOURCE: 1 CONTRACTOR: 4635 03 12 84
DATE OF INSPECTION: INSPECTOR: [Signature]
REMARKS: Verified loc'n
CSS.ES



Ontario

WATER WELL RECORD

31D1d

1. PRINT ONLY IN SPACES PROVIDED
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11

4504787

MUNICIPALITY 45011

CON

08

COUNTY OR DISTRICT: DURHAM
 TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: HOPE
 CON., BLOCK, TRACT, SURVEY, ETC: 8 ar
 LOT: 014 OR
 DATE COMPLETED: DAY 22, MO 07, YR 77
 BASIN CODE: 5 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Dark		Top Soil	Soft	0	3
Light		Clay	"	3	63
"		Sand & clay	"	63	80
"		Fine Sand	Hard	80	103
"		Sand & Fine Gravel	"	103	105

31 0003 0218565 0063 058575 0090 28575 0010 0103 0875 0105 282975
 32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0-13	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
15-18	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
20-23	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
25-28	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
30-33	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
0-11	STEEL	1/4	0-105
17-18	STEEL		20-23
24-25	STEEL		27-30

SCREEN

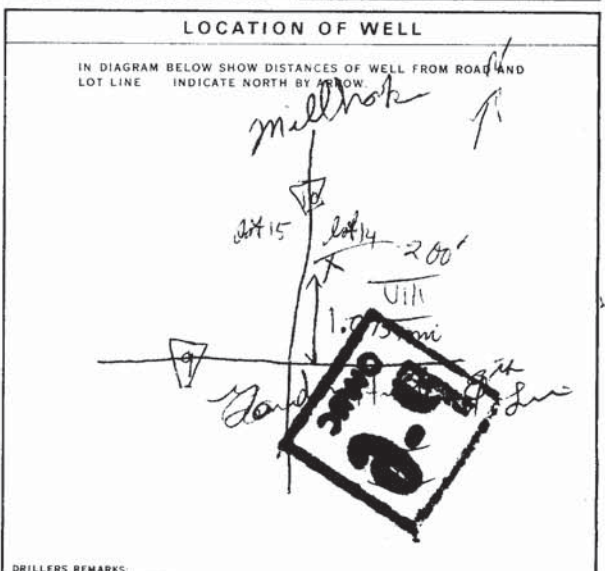
SIZE(S) OF OPENING (SLOT NO.): 05250 04
 DIAMETER: 4 INCHES
 LENGTH: 80 FEET
 MATERIAL AND TYPE: Slotted Pipe
 DEPTH TO TOP OF SCREEN: 0103 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
10-13		
18-21		
26-29		

71 PUMPING TEST METHOD

1 PUMP 2 MILLER
 PUMPING TEST: 020, 030, 020, 025, 030, 030
 PUMP INTAKE SET AT: 60 FEET
 RECOMMENDED PUMP TYPE: SHALLOW
 RECOMMENDED PUMP SETTING: 060 FEET
 RECOMMENDED PUMPING RATE: 0010 GPM



FINAL STATUS OF WELL: 1 WATER SUPPLY
 WATER USE: 02 DOMESTIC STOCK
 METHOD OF DRILLING: 1 CABLE TOOL

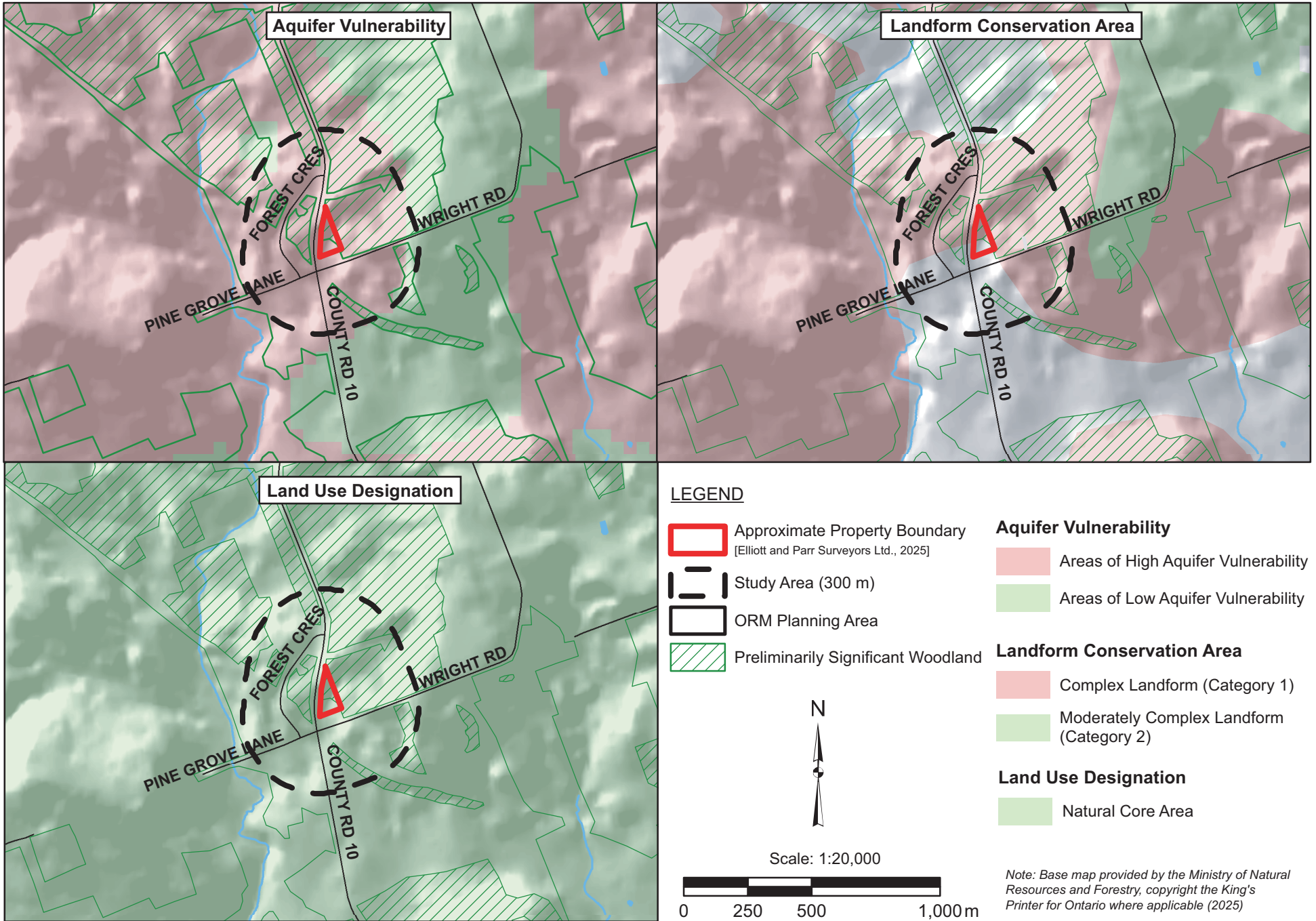
CONTRACTOR: Name: Huxon Well Drilling, License Number: 4761
 Name of Driller or Borer: H. BLUNDEN, License Number: 4761
 Submission Date: DAY 30, NO 7, YR 77

OFFICE USE ONLY

DATA SOURCE: 1, CONTRACTOR: 4761, DATE RECEIVED: 141077
 DATE OF INSPECTION: 1, INSPECTOR: [Signature]
 REMARKS: [Blank]
 P: [Signature], WI



APPENDIX B



Oak Ridges Moraine Mapping



LEGEND

-  Approximate Property Boundary
[Elliott and Parr Surveyors Ltd., 2025]
-  Study Area (300 m)
-  ORM Planning Area
-  Preliminarily Significant Woodland

- Aquifer Vulnerability**
-  Areas of High Aquifer Vulnerability
 -  Areas of Low Aquifer Vulnerability

- Landform Conservation Area**
-  Complex Landform (Category 1)
 -  Moderately Complex Landform (Category 2)

- Land Use Designation**
-  Natural Core Area



Scale: 1:20,000



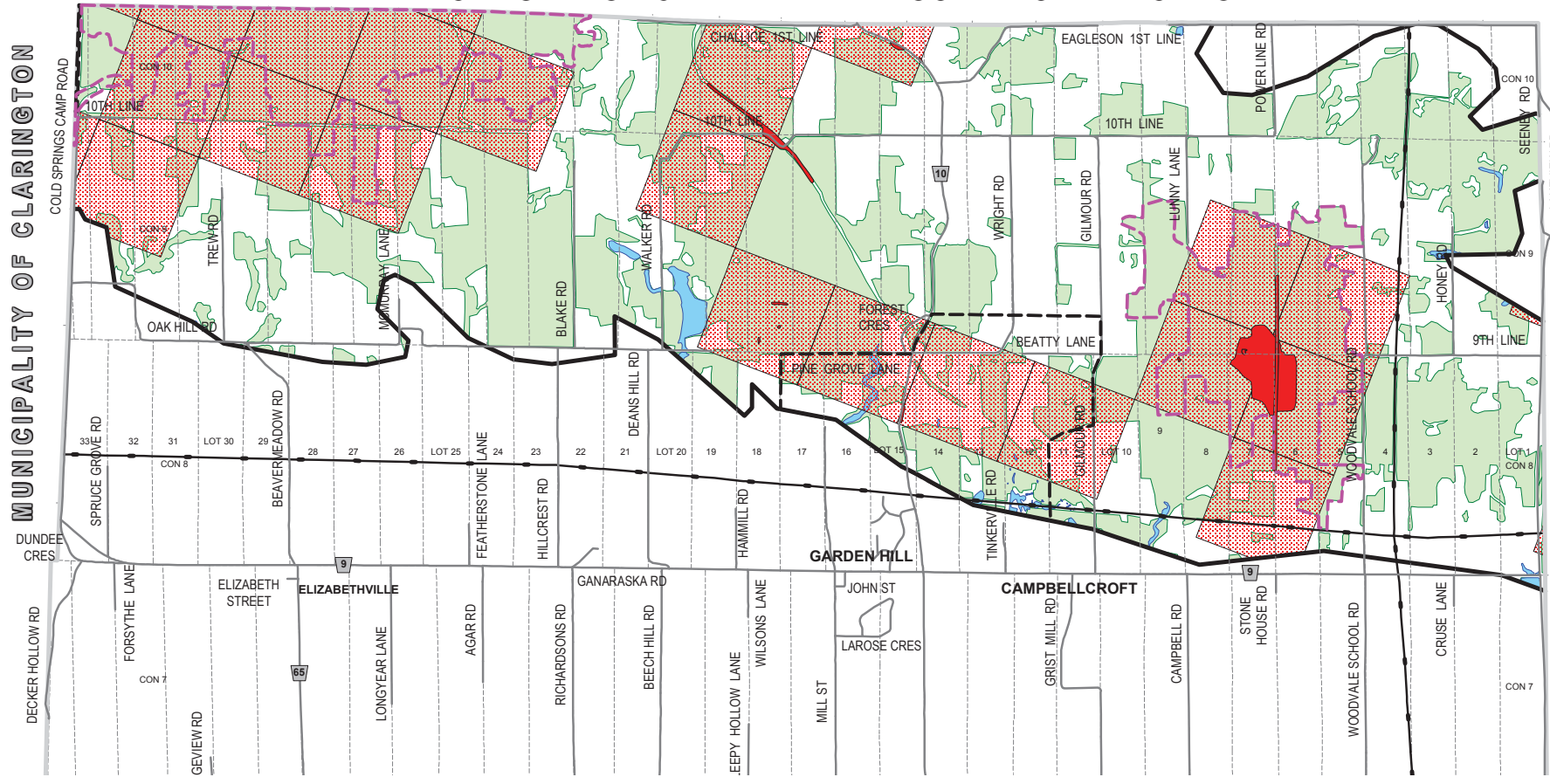
Note: Base map provided by the Ministry of Natural Resources and Forestry, copyright the King's Printer for Ontario where applicable (2025)

Approximate property boundary provided by Elliott and Parr Surveyors Ltd.'s Topographic Sketch (December 23, 2025)

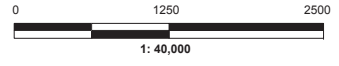
TOWNSHIP OF CAVAN - MILLBROOK - NORTH MONAGHAN

MUNICIPALITY OF CLARINGTON

TOWNSHIP OF HAMILTON



- LEGEND**
- OAK RIDGES MORAIN - NATURAL HERITAGE FEATURES
 - SIGNIFICANT WOODLANDS
 - WETLANDS
 - SAND BARRENS, SAVANNAHS AND TALL GRASS PRAIRIES
 - SIGNIFICANT PORTIONS OF THE HABITAT OF ENDANGERED, RARE AND THREATENED SPECIES
 - AREAS OF NATURAL AND SCIENTIFIC INTEREST - EARTH SCIENCE
 - AREAS OF NATURAL AND SCIENTIFIC INTEREST - LIFE SCIENCE
 - OTHER
 - OAK RIDGES MORAIN BOUNDARY



THE MUNICIPALITY OF PORT HOPE

SCHEDULE G

OAK RIDGES MORAIN

KEY NATURAL HERITAGE FEATURES

THIS MAP APPLIES TO "SECTION F" ONLY

SEPTEMBER 26, 2006

MUNICIPALITY OF PORT HOPE\OPNEW SCHEDULES\ORM PLANS\SCHEDULE D - KEY NATURAL HERITAGE FEATURES\KEY NATURAL HERITAGE FEATURES.WOR