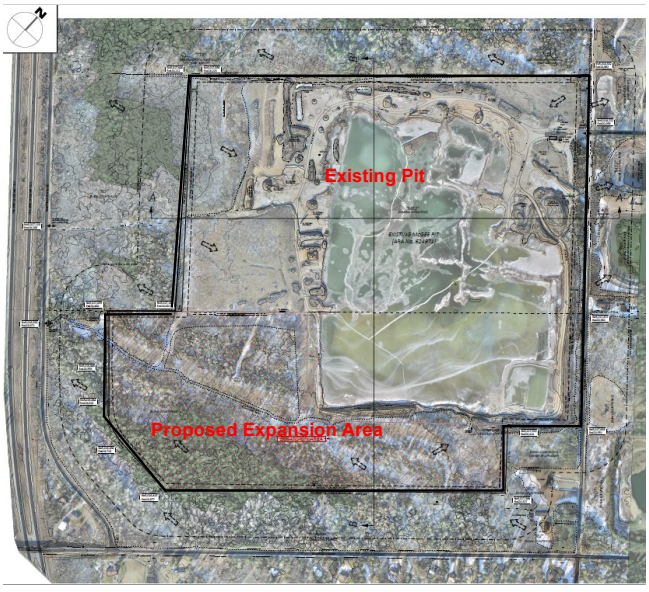
AGGREGATE RESOURCES ACT SUMMARY REPORT

For McGee Pit Licence Expansion Application

Prepared for: Karson Holdings Inc., 3725 Carp Road, Ottawa, **for a Class "A" pit licence to excavate move than 20,000 tonnes annually** from above and below water table, pursuant to the Provincial Standards, Parts 1, 2 and 4 adopted by ***Ontario Regulation 244/97 under the Aggregate Resources Act***.

Location of site: Part Lots 11 and 12, Conc. IV
Geographic Township of Huntley,
City of Ottawa
(For detailed location refer to MPAC Roll No in Figure 4.0)



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1.0 INTRODUCTION

Milestone Aggregate Consulting Services Inc. has undertaken the preparation of a Summary Report which consolidates all technical requirements and notification and consultation requirements for an **application for a Class "A" pit licence to excavate more than 20,000 tonnes annually** above and below water table, pursuant to Provincial Standards, Parts 1, 2 and 4 adopted by ***Ontario Regulation 244/97 under the Aggregate Resources Act***.

Applicant:	Karson Holdings Inc. 3725 Carp Road, Box 517, Ottawa Ontario
Site Location:	Part Lots 11 and 12, Conc. IV Geographic Township of Huntley, City of Ottawa (For detailed location refer to MPAC Property Roll Numbers in **Figure 4.0**)
Project:	Class "A" Pit Licence Expansion Application to extract sand and gravel from lands adjacent to existing licence "McGee Pit". The existing Licence is 81.9 hectares with a restricted output of 500,000 tonnes annually. The expansion application is 31.4 hectares for a total combined licence area of 113.3 ha. The new licence, if approved, would have a combined output of 500,000 tonnes annually under one Licence Number. The 31.4 ha expansion has a new extraction area of 28.3 hectares for a total of 104.9 hectare extractable area. The expansion will be subject to Part 1, 2 and 4 of the Provincial Standards under the Aggregate Resources Act. A concurrent application for a zoning by-law amendment will be submitted to the City of Ottawa.
Pit Name:	McGee Pit Expansion
Owners:	Karson Holdings Inc.

This report was triggered by an application for an expansion to a current pit operation pursuant to the compilation of the 3 Provincial Standards (Part 1: ARO, Site Plan Standards, Part 2: ARO Technical Report and Information Standard; Amendment Standard; and Part 4: ARO Circulation Standards), adopted by Ontario Regulation 244/97 under the Aggregate *Resources Act.*

The **Summary Report** contains the following:

- Application Form (Appendix A);

- Summary Statement (embedded in the Summary Report under Section 4);

- Site plans (Appendix B); and

- Technical Reports (Natural Environment, Archeological, Maximum Predicted Water Table and Level 1 and Level 2 Study, and Acoustical Report) included as Appendices C through F.

The Recommended References in each of the 3 Provincial Standards were also considered subject to ***Ontario Regulation 244/97 under the Aggregate Resources Act pertaining to Application for Licences and Permits (including Notification and Consultation Requirements*** and subject to the relevant sections of the ***Aggregate Resources Program Policy and Procedures Manual (MNRF, 2006*****).** *e.g. A.R. 2.01.02 Licence Applications: New Properties and A.R.2.01.05, Licence Application: Summary Statement Report Standards, etc.).*

This report may also serve to support a Planning Report for an application for a ZBL amendment under the Planning Act and Municipal Act.

The McGee Pit, owned and licenced by **Karson Holdings Inc.**, was initially licenced to West Carleton Sand and Gravel Ltd. (WCSG) around 1990. On May 6, 2010, the Ministry of Natural Resources and Forestry issued an expanded Class A pit licence to WCSG, for an 80.0-hectare pit for Pt. Lot 11 and 12, Concession IV, geographic Township of Huntley, formally West Carleton Township, now the City of Ottawa. The **existing pit licence (Lic. No. 624971) was transferred to Karson Holdings Inc. on** January 1, 2018 and is now operated by Karson Sand and Gravel Ltd.

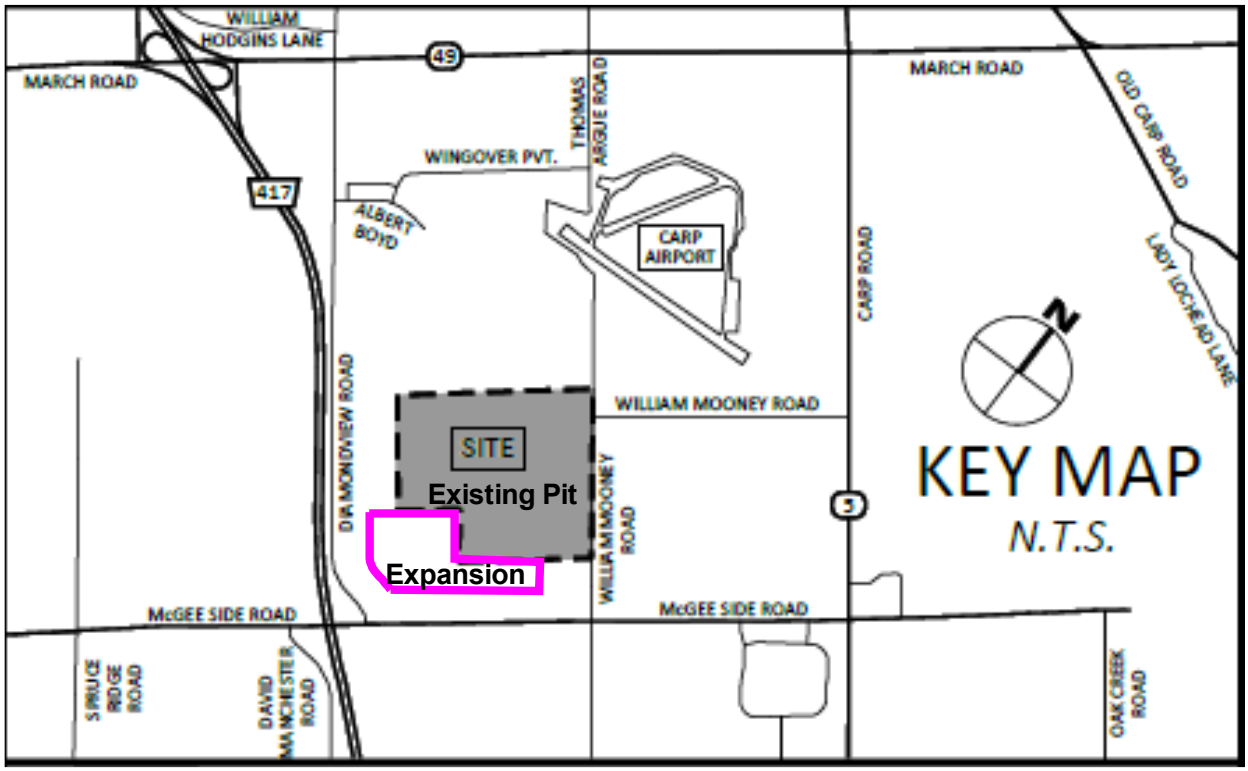
The Ontario Geological Survey, Aggregate Assessment for the City of Ottawa ARIP 191 maps the Karson site as good quality, granular A, 5/8's coarse aggregate. The existing operation, test pit digging and water well drilling on site, confirm these materials exist into the expansion area and below the water table. There is a dominant sand ridge feature through the centre of the proposed expansion area. The existing licenced pit has extracted sand and gravel to the southern extent of the setback limit which abuts the expansion area. Some reserves in the existing licence are being mined in a westerly direction above and below water table.

The sand and gravel are considered a specialty aggregate and is in great demand in the Ottawa market area for use in asphalt for road building, concrete manufacturing and structures, and filtration for water and sewer systems as well as for granular fill.

2.0 KEY PLAN - Satellite Images of McGee Pit expansion

Figure 1.0

Existing licence pit and expansion area between William Mooney Road, Diamondview Road, McGee Side Road and the Carp Airport



The “McGee Pit” expansion
1200 Diamondview Road,
Pt. Lot 11 and 12, Concession IV, Geo. Twp. of Huntley, City of Ottawa

Figure 1.1

Except from Existing Features Site Plan, prepared by EGIS Canada from Topographic Mapping and Digital Imagery by Tech Surveys 2020

3.0 SITE PLAN STANDARDS

Site Plans are the primary regulatory instrument used to indicate existing land uses, sensitive areas and control social and environmental impacts associated with the operation and rehabilitation of pits and quarries. The site plans for this particular site were prepared pursuant to Part 1 of the Provincial Site Plan Standards, as adopted by ***Ontario Regulation 244/97 under the Aggregate Resources Act***. The proposed new replacement site plans, prepared by EGIS Canada will be an amalgamation of the current licenced Pit (previously approved site plans prepared by Nova Tech Engineering) and the proposed expansion site abutting to the south (see **Figure 1.1 above**). The new site plans for the existing McGee pit will provide updated drawings however, the final depth and perimeter setbacks and intended operational Phasing will not change. The intent is to operate the expansion site as one contiguous operation with the expansion extending the life of the current operation which is nearly depleted. The Natural Environment and Natural Heritage Technical Reports will primarily focus on the foot print of the expansion area as assessments were previously done for both the initial application for the McGee Pit and the Pit expansion. The Water Report and Noise Impact Assessment were prepared in consideration of the whole site operating under one license. The site plans incorporate mitigation measures identified for previous applications for the McGee Pit as well as recommended mitigation subject to the recently prepared Technical Reports and current Standards and Regulations. The internal and external haul routes, weigh scales, stockpile staging and processing areas, and water taking and discharge systems currently in place under the current licence will continue to be utilised for the expansion area. Processing plants will follow active pit faces.

4.0 SUMMARY STATEMENT

The Summary Statement was prepared by Milestone Aggregate Consulting Services pursuant to Part 2 of the Provincial Standards entitled **Aggregate Resources of Ontario: Technical Reports and Information Standards, August 2020**. The terms of reference for the Summary Statement is identified in Part 1.0 of this Standard, and acts as a summary of the findings, potential impacts and recommended mitigation measures proposed from the technical reports which are placed into enforceable conditions and added to the site plan. The Aggregate Resources Program Policies and Procedures manual (MNR, 2006), particularly, ***Licence Applications – Summary Statement Report Standards, section A.R. 2.01.05*** was referenced in preparation of this report.

NOTE: *For the purpose of this report, references made to the north west boundary of the expansion site will be referred to as the north boundary and the northeast, south east and southwest boundaries will be referred to as east, south and west boundaries respectively.*

The “McGee Pit Expansion” site is directly south of the current McGee Pit Licence 624971 and west of the Badger Pit licence No. 4090. There are also three surrendered

pit licences to the east of the expansion area. The old Wilson Pit in the south west quadrant of Carp Road and McGee side Road is now an established subdivision (Emerald Lake Estates). Another old Wilson Pit bordering north and west sides of William Mooney Road is used as a water ski course and recreation property. Directly east of McGee Pit is the rehabilitated Spratt "Whyte Pit" which contains an open water pond and small 3 season homes. The location of current and surrendered pit sites can be viewed on **Figure 3.0.**

The existing Karson "McGee Pit" Class A licence, is 80.0 hectares in size with an extraction area of 74.0 hectares. The existing licence is restricted to 500,000 tonnes annually. The expansion application is for an additional 31.4 hectares (28.#. extraction area) . The total licence area for the two sites, if approved would be 113.3 hectares with an extraction area of 104.9 hectares. The maximum annual tonnage limit for the existing McGee Pit and expansion area shall be no more than 500,000 tonnes remaining the same restriction as the current licence. Rehabilitation of the existing licenced pit has commenced with sloping and seeding along the east end of the north boundary to the water's edge. Sloping will continue along the north boundary heading west as sand and gravel is depleted. Progressive rehabilitation will continue to occur along the east and west boundaries in a staged progression southerly as resources are depleted.

The Summary Statement shall consider planning and land use compatibility, effects on agricultural resources, impacts to source water protection, the quality and quantity of resource, impacts from traffic, haulage routes, and entrance/exit locations, suitability of the progressive and final rehabilitation for the site and adjacent lands. This report further includes statements regarding the potential for any surface water and ground water impacts to water table, and direction of surface water runoff.

4.1. Any planning and land use considerations (section 1.2 of the Summary Statement Standard)

Provincial Policy Statement (PPS) 2024

Provincial interests in land use planning are implemented through the Provincial Policy Statement (PPS) *(Ministry of Municipal Affairs, 2024)* issued under Section 3 of the *Planning Act*. All decisions affecting planning matters made by any planning authority "shall be consistent" with the policies contained in the PPS.

The PPS provides the framework for land use planning and development policies in the local Official Plan (O.P.). The City of Ottawa is a single tier municipality meaning it has one Official Plan and Zoning By-law to plan and control land use.

The PPS, 2024 protects mineral aggregate resources for long term use.

Section 4.5 of the 2024 Provincial Policy Statement discusses how **Minerals Aggregate Resources** should be protected for long-term use. The policy statements relevant to this report include the following excerpts:

> ***4.5.2 Protection of Long-Term Resource Supply***
> *1. As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible. Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere.*
> *2. Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts.*
> *3. Mineral aggregate resource conservation shall be undertaken, including through the use of accessory aggregate recycling facilities within operations, wherever feasible.*
> *4. Mineral aggregate operations shall be protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact. Existing mineral aggregate operations shall be permitted to continue without the need for official plan amendment, rezoning or development permit under the Planning Act. Where the Aggregate Resources Act applies, only processes under the Aggregate Resources Act shall address the depth of extraction of new or existing mineral aggregate operations. When a license for extraction or operation ceases to exist, policy 4.5.2.5 continues to apply.*
> *5. In known deposits of mineral aggregate resources and on adjacent lands, development and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:*
> *a) resource use would not be feasible; or*

b) the proposed land use or development serves a greater long-term public interest; and

c) issues of public health, public safety and environmental impact are addressed.

These provincial policies for protection of *Aggregate Resources*, are adequately reflected in the City of Ottawa Official Plan policies.

The PPS also addresses progressive and final rehabilitation of the extraction site. This policy is adequately implemented through the **Aggregate Resources Act, Ontario Regulation 244/97** and the Site Plan Standards implemented by these regulations.

PPS 2024, Section 4.5.3 states:

Rehabilitation

1. Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.

2. Comprehensive rehabilitation planning is encouraged where there is a concentration of mineral aggregate operations.

3. In parts of the Province not designated under the Aggregate Resources Act, rehabilitation standards that are compatible with those under the Act should be adopted for extraction operations on private lands.

The Aggregate Resources Act supports the PPS by requiring the site to be rehabilitated back to its former use or a use compatible with the surrounding land use. In this particular case, the site will be moved from marginal farm land, pasture, and mixed bush, to a lake and wetland marsh environment similar to the lands directly north currently under licence. The rehabilitation plan supports the natural environment values to the south and would not detract from surrounding passive agricultural use, mixed forest to the west with residential development existing to the south and new development proceeding to the north of the current pit site.

The McGee Pit is already established and licenced. Expansion of the current operation at the location proposed, appears to be good aggregate resource management provided adequate environmental and social impacts are adequately avoided or mitigated. The site is situated on a known glaciofluvial deposit containing active and depleted sand and gravel sources directly east along the sand and gravel deposit identified adjacent to Carp and McGee Side Roads. The Carp Road Corridor is a primary truck route that is already used for the haulage of specialty aggregates, (sand and gravel) for use in asphalt, concrete and filter sands to service the local and regional markets. The Carp Road is recognized in the City Official Plan as an established

industrial, commercial and manufacturing hub and haul route to regional and provincial markets.

City of Ottawa Official Plan

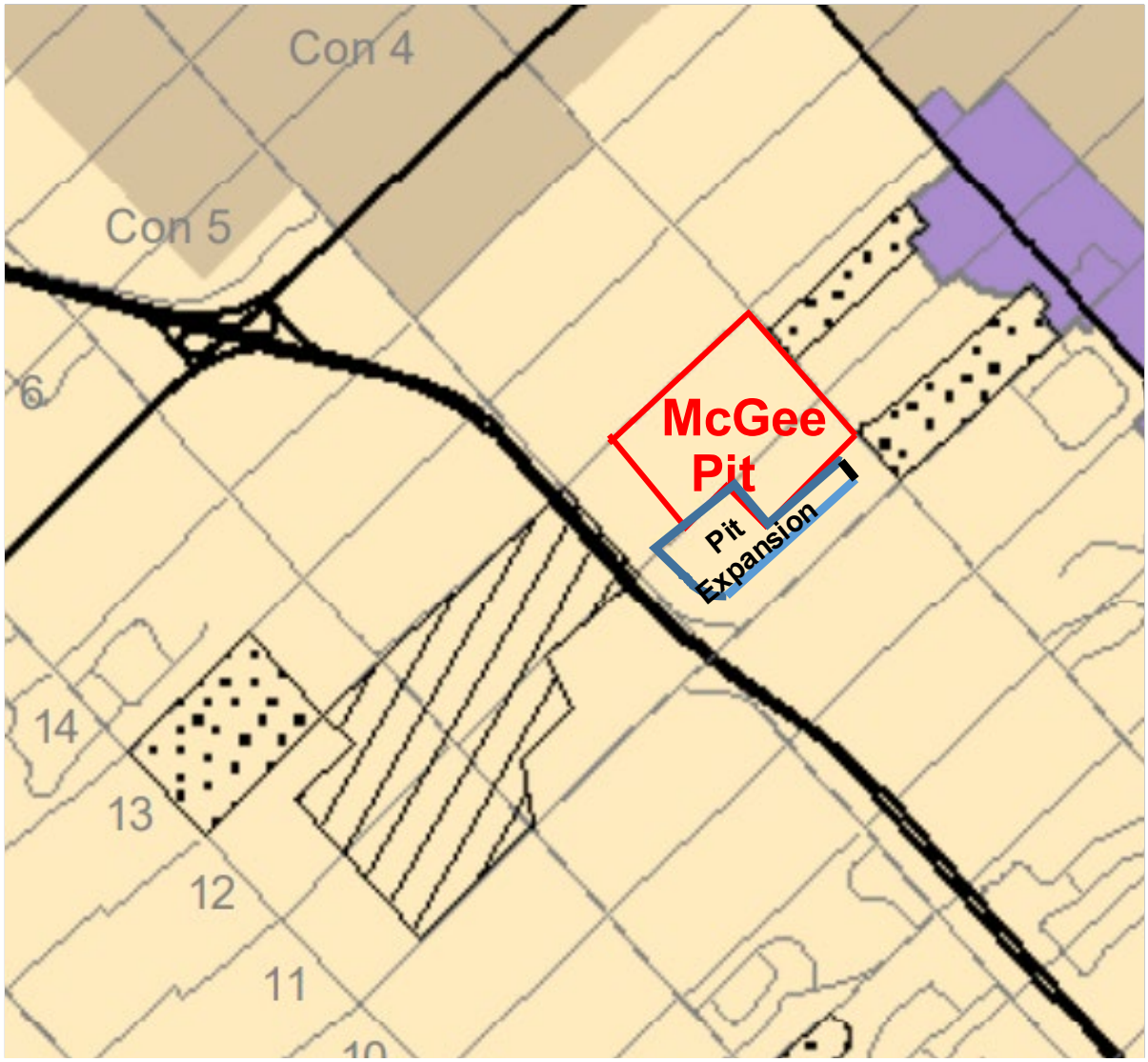
The Official Plan for the City of Ottawa contains policies that protect sand and gravel and bedrock resources using the overlay map identified as **Schedule B9, Rural Transect Plan.** The pertinent policy area is located under **section 10, Health and Safety** more specifically, the **Environmental Noise control** policy section of the O.P.

The Official Plan for the City of Ottawa designates the subject site as ***Rural Communities on Schedule B Rural Transect Map.*** The sand and gravel overlay does not cover the application area. The OP maps identify the licence sites and many of the primary and secondary class sand and gravel but don't cover many of the tertiary deposits.

The O.P. Land use map Schedule "B", Rural Transect, maintains the rural area and designates the lands as Rural Community (RU) with Sand and Gravel Resource overlays recognizing existing licenced pits and the Limestone Bedrock overlay to the west. This report will focus, particularly in this case, on the Aggregate Assessment Mapping ARIP 191 and the effort to identify aggregate resource areas on mapping schedules of the OP to reflect the ARIP mapping.

A Zoning By-law amendment (ZBA) will be applied for concurrently with the ARA Pit application. A sand and gravel pit is permitted in the RU designation and an OPA is not required.

Figure 2.0 City of Ottawa Official Plan Schedule B, Rural Transect Plan Map (showing Land use designations and sand and gravel and bedrock constraint overlays)



Official Plan / Plan officiel

Schedule B9 - Rural Transect
Annexe B9 - Transect Secteur rural

Approved on November 4, 2022
Approuvé le 4 novembre 2022

DESIGNATIONS / DÉSIGNATIONS

- Agricultural Resource Area / Zone de ressources agricoles
- Rural Countryside / Campagne rurale
- Greenspace / Espace vert
- Rural Industrial and Logistics / Industrie rurale et logistique
- Village / Village
- Village Core / Centre du village

OTHER / AUTRE

- Solid Waste Disposal Site / Site d'enfouissement des déchets solides
- Urban Boundary / Périmètre d'urbanisation

OVERLAYS / AFFECTATION SUPPLÉMENTAIRE

- Bedrock Resource Area Overlay / Superposition de la ressource en substrat rocheux
- Sand and Gravel Resource Area Overlay / Superposition de la ressource en sable et en gravier

Zoning (By-Law 2008- 250), City of Ottawa

The proposed extraction site is located within a Rural zone according to the geo Ottawa Map zoning layer from Geoportal (Teranet Enterprises Inc. 2020).

The expansion area abuts RU zone to the south, west and east, ME2 zone to the north (existing McGee Pit) and a RU [177r] Rural Residential zone located further south on the south side of McGee Side Road. This residential zone is beyond the 150-metre site setback (noise influence zone) proposed during the planning stages of the application.

The following are excerpts from pertinent sections of the Ottawa Zoning By-Law with bolded font to highlight policies that are relevant to this application:

ME – Mineral Extraction Zone (Sections 213-214)

Purpose of the Zone

The purpose of the ME – Mineral Extraction Zone is to:

*(1) permit licensed mineral extraction operations in areas mainly designated as **Sand and Gravel Resource Area** or Limestone Resource Area in the Official Plan;*

(2) allow a limited range of permitted uses which are related to or compatible with mineral extraction operations, as well as interim uses that would not sterilize the potential of future mineral extraction operation on the lands within the ME zones;

(3) impose regulations to minimize the impact of mineral extraction operations on the surrounding area.

213. In the ME Zone:

Permitted Uses

(1) The following uses are permitted subject to:

(a) the provisions of subsections 213(3) and (4);

*agricultural use**,** see Part 2, Section 62*
agriculture-related use, see Part 3, Section 79B (By-law 2021-222)
environmental preserve and educational area
equestrian establishment
forestry operation
kennel, see Part 3, Section 84
on-farm diversified use, see Part 3, Section 79A (By-law 2019-41) (By-law 2021-222)
*leaf and yard waste composting facility **mineral extraction operation***

(2) The following conditional uses are permitted subject to the following: (a) the provisions of subsections 213(3) and (4);

*(b) the use is located on the same lot as an operating **mineral extraction operation**;*

(c) the use mobile home is for a security guard or caretaker;

(d) the waste processing and transfer facility is limited to inert construction materials such as concrete and asphalt;

Figure 2.1 City of Ottawa Zoning Schedule By-law according to GEO Ottawa GIS Map

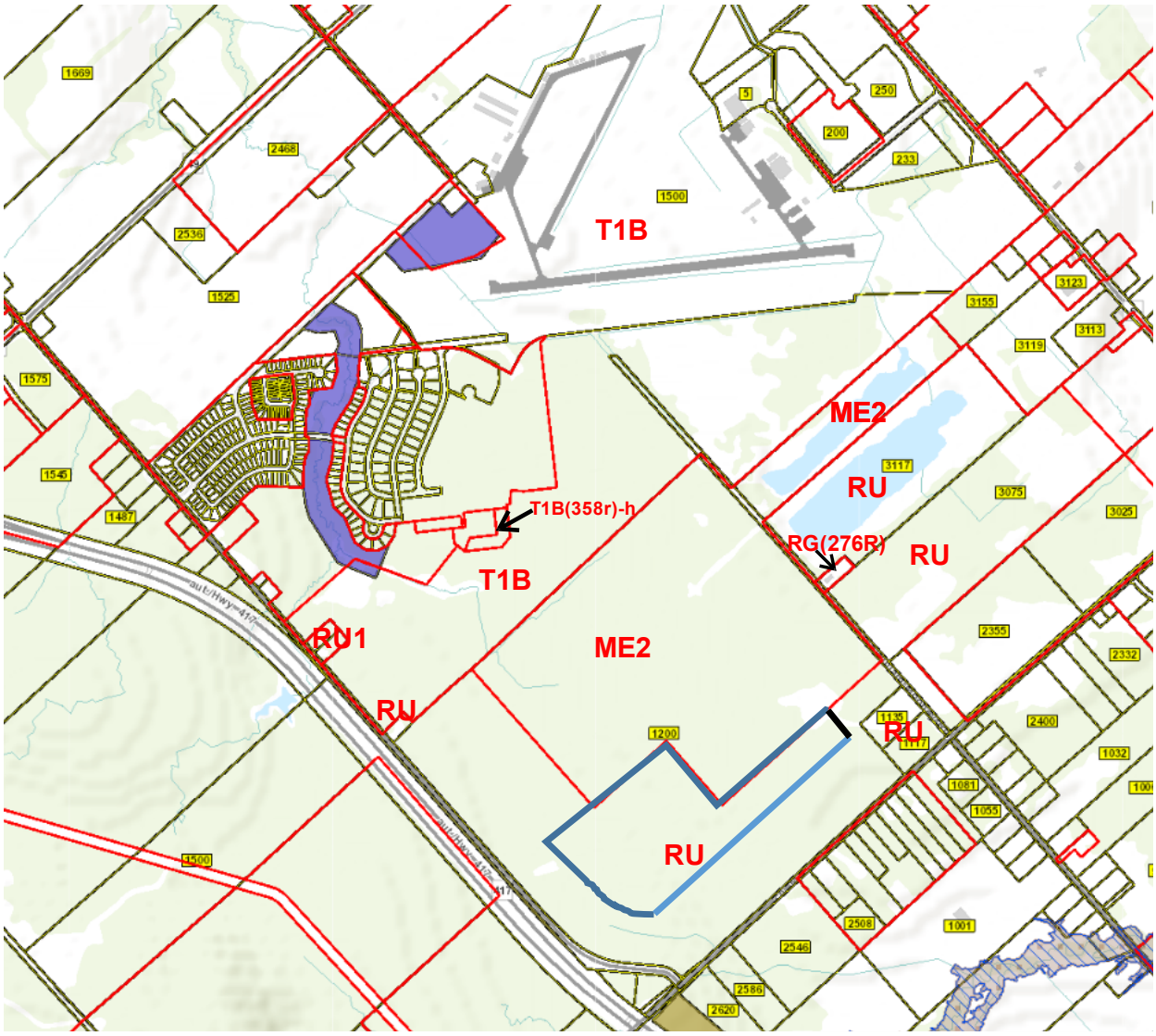
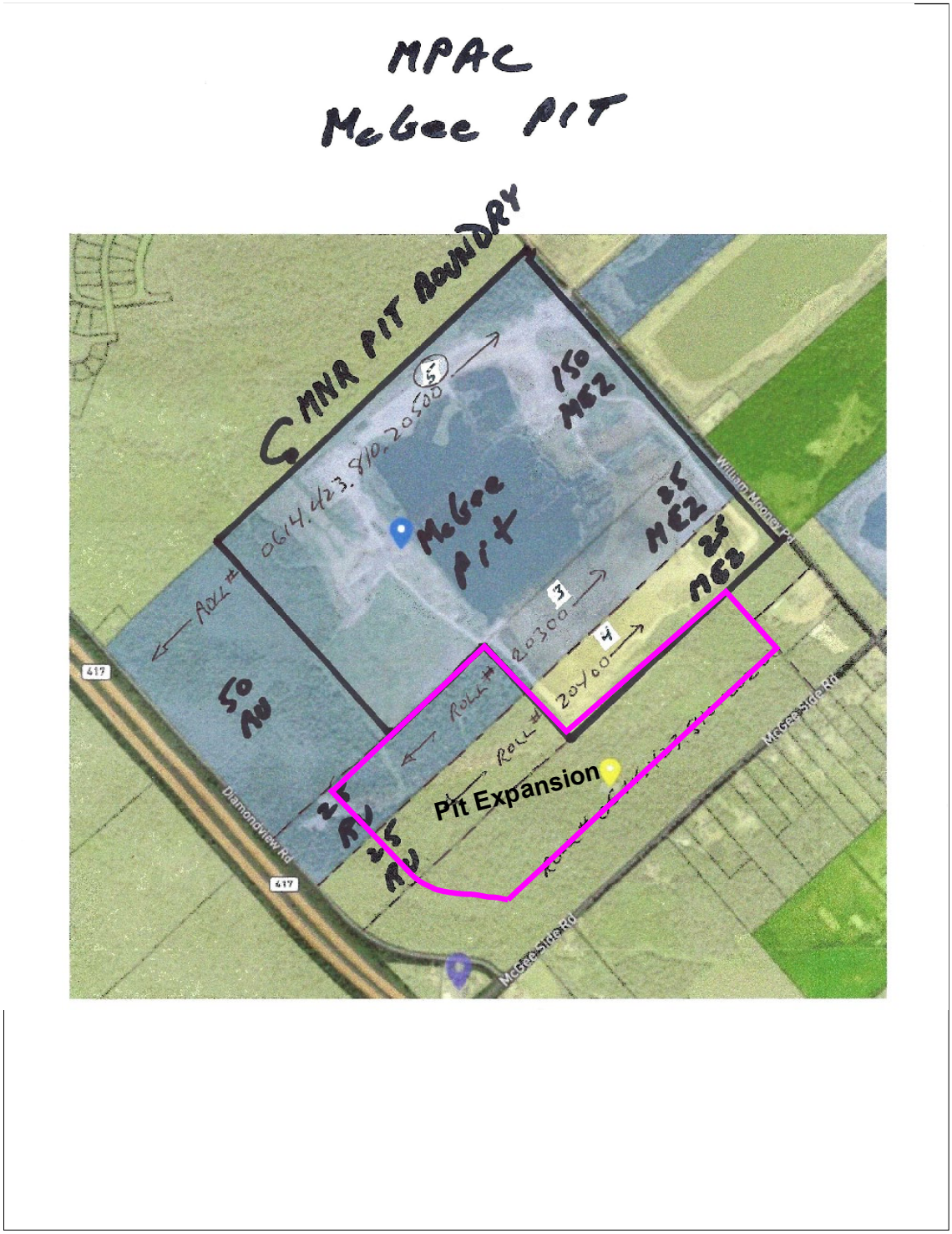


Figure 3.0 Google Earth Satellite Image showing surrounding land uses

Figure 4.0 MPAC Tax Roll Map



4.2 Agriculture classification, Canada Land Inventory (CLI) for soils

The Canada Land Inventory (CLI) is the primary basis for determining soil classification and capability for agriculture and competing land uses in Ontario. Proponents and approval authorities for pit and quarry applications need to consider CLI information to meet PPS policies 4.3.1.3 Agricultural (protection of prime agricultural areas) and 4.5.4 (pit rehabilitation requirements in prime agricultural areas on prime agricultural land). CLI classification is also considered when applying for a license under the Aggregate Resources Act. Section 1.1 of the Summary Statement standard, indicates that the CLI map shall be used to determine classification of soils and rehabilitation techniques if the site is to be returned to agricultural land use.

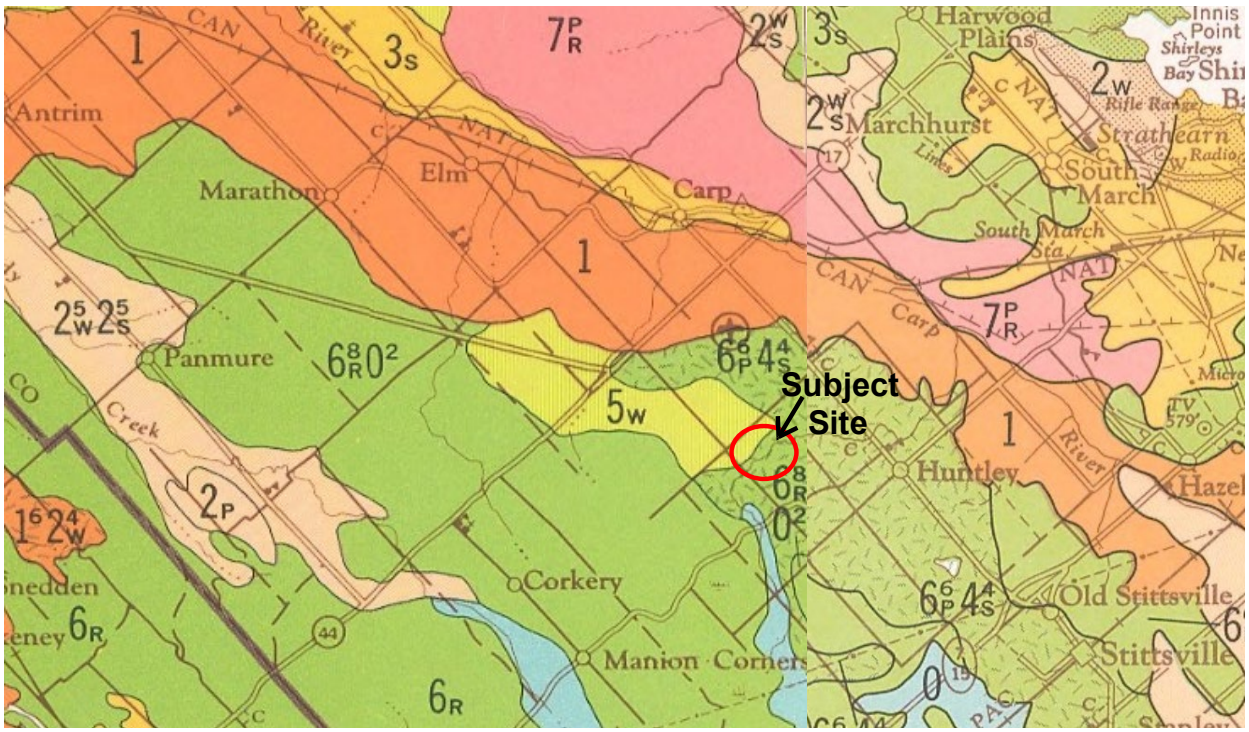
The agricultural classification of the proposed site, using Canada Land Inventory Classes;

The Canada Land Inventory (CLI) *(Department of Agriculture, 1966)* for soils lists this site as **Class 6** soils limited to producing forage crops (**See figure 5**). Class 6 soils class contain no arable culture or permanent pasture capability. The glacial fluvial deposit laying beneath the Marine Plain (refer to section 4.3 below), supports the Class 6 agricultural soils mapping. The site has most recently been used for aggregate extraction, natural mixed forest management (harvesting).

This land is not considered as prime agricultural land and is outside the boundary of the four “provincial plans” (Oak Ridges Moraine Conservation Plan; Greenbelt Plan; A Place to Grow: Growth Plan for the Greater Golden Horseshoe; and the Niagara Escarpment Plan). For these reasons, an Agricultural Impact Assessment report was not required for this site.

The final slopes and pit floor above the water table will be seeded to a grass/legume mixture to restore nitrogen then eventually planted with a mixture of tree nursery stock indigenous to the region and left to rejuvenate naturally with native species. Evasive species will be managed and removed by the licensee on a continue basis. The slopes and upland areas will be returned to a mixed forest ecosystem with flora and fauna complimentary to the man-made lake. The majority of the pit area extracted below water table will form a shallow small lake with some humics or islands which will also compliment the lake/wetland environment and is compatible with the surrounding rural setting.

Figure 5.0 Canada Land Inventory Map Soils



CLASS 1 SOILS IN THIS CLASS HAVE NO SIGNIFICANT LIMITATIONS IN USE FOR CROPS.

The soils are deep, are well to imperfectly drained, hold moisture well, and in the virgin state were well supplied with plant nutrients. They can be managed and cropped without difficulty. Under good management they are moderately high to high in productivity for a wide range of field crops.

CLASS 2 SOILS IN THIS CLASS HAVE MODERATE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE MODERATE CONSERVATION PRACTICES.

The soils are deep and hold moisture well. The limitations are moderate and the soils can be managed and cropped with little difficulty. Under good management they are moderately high to high in productivity for a fairly wide range of crops.

CLASS 3 SOILS IN THIS CLASS HAVE MODERATELY SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE SPECIAL CONSERVATION PRACTICES.

The limitations are more severe than for Class 2 soils. They affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. Under good management they are fair to moderately high in productivity for a fair range of crops.

CLASS 4 SOILS IN THIS CLASS HAVE SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE SPECIAL CONSERVATION PRACTICES, OR BOTH.

The limitations seriously affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. The soils are low to fair in productivity for a fair range of crops but may have high productivity for a specially adapted crop.

CLASS 5 SOILS IN THIS CLASS HAVE VERY SEVERE LIMITATIONS THAT RESTRICT THEIR CAPABILITY TO PRODUCING PERENNIAL FORAGE CROPS, AND IMPROVEMENT PRACTICES ARE FEASIBLE.

The limitations are so severe that the soils are not capable of use for sustained production of annual field crops. The soils are capable of producing native or tame species of perennial forage plants, and may be improved by use of farm machinery. The improvement practices may include clearing of bush, cultivation, seeding, fertilizing, or water control.

CLASS 6 SOILS IN THIS CLASS ARE CAPABLE ONLY OF PRODUCING PERENNIAL FORAGE CROPS, AND IMPROVEMENT PRACTICES ARE NOT FEASIBLE.

The soils provide some sustained grazing for farm animals, but the limitations are so severe that improvement by use of farm machinery is impractical. The terrain may be unsuitable for use of farm machinery, or the soils may not respond to improvement, or the grazing season may be very short.

CLASS 7 SOILS IN THIS CLASS HAVE NO CAPABILITY FOR ARABLE CULTURE OR PERMANENT PASTURE.

This class also includes rockland, other non-soil areas, and bodies of water too small to show on the maps.

0 ORGANIC SOILS (Not placed in capability classes).

4.3 The quality and quantity of aggregate on site (section 1.4 of the Summary Statement Standard)

An Ontario Geological Survey, has prepared an ***Aggregate Resource Inventory Report 191 for the City of Ottawa, Southern Ontario.*** This report is a refinement of the earlier Fletcher/Klugman Report***, Aggregate Assessment report for the Regional Municipality of Ottawa = Carleton 1979.***

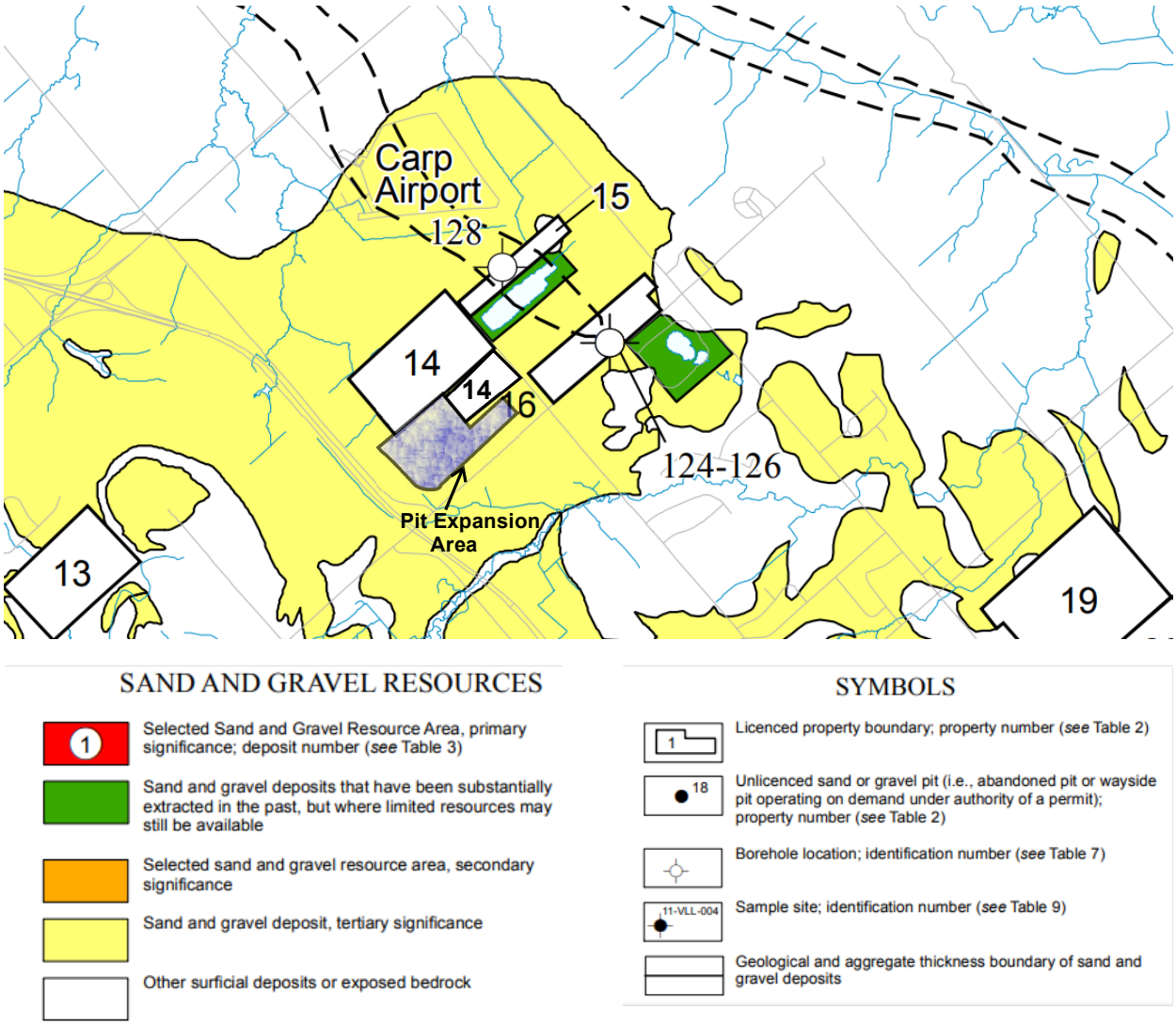
The ARIP 191 indicates a marine plain deposit of tertiary significance south of the Carp Airport containing a cluster of licenced and depleted sand pits. Extraction in this area consists of removal of materials from a Glacial fluvial deposit buried beneath the marine plain. The depths of these pits as supported by well water data and bore hole testing indicate a 5 to 6 metre depth of fine gravel and sand in a shallow water table zone. There is a fine silty sand layer at the bottom of the extraction depth and depending on the thickness of this lens, it may be feasible to extract materials to greater depth using dredging methods of extraction. These resources would require further geotechnical work to confirm presence and quality and quantity the resource available below the silt layer.

The Karson Group and Karson Sand and Gravel are presently extracting sand and gravel by excavator and dragline from the existing McGee Pit to a current depth of 6 metres (elevation 173 metres ASL), to supply the local market with a variety of aggregate commodities. Screening and blending of the tertiary materials are providing specialty aggregates of a secondary classification such as filter media sand.

The proponent intends to continue to extract reserves from above and below the water table using excavators, dragline, and dredging methods. There is an approved Permit to Take Water (PTTW) for discharge of surface and ground water to extract sand from a dry operation in closed cells. There are possibly 1 to 2 million tonnes of reserves available on the expansion site. The maximum annual extraction from the site is restricted to 500,000 tonnes for the combined McGee Pit licences and proposed expansion area. The sand pit will be operated as one site.

This deposit has a history of supplying quality aggregates to supply the local and regional market area, and development of the expansion area would extend the current licence operation and continue to service this area with quality aggregate resources.

Figure 6.0 Aggregate Resources Inventory Paper 191 MAP 1 Sand and Gravel Resources for the City of Ottawa

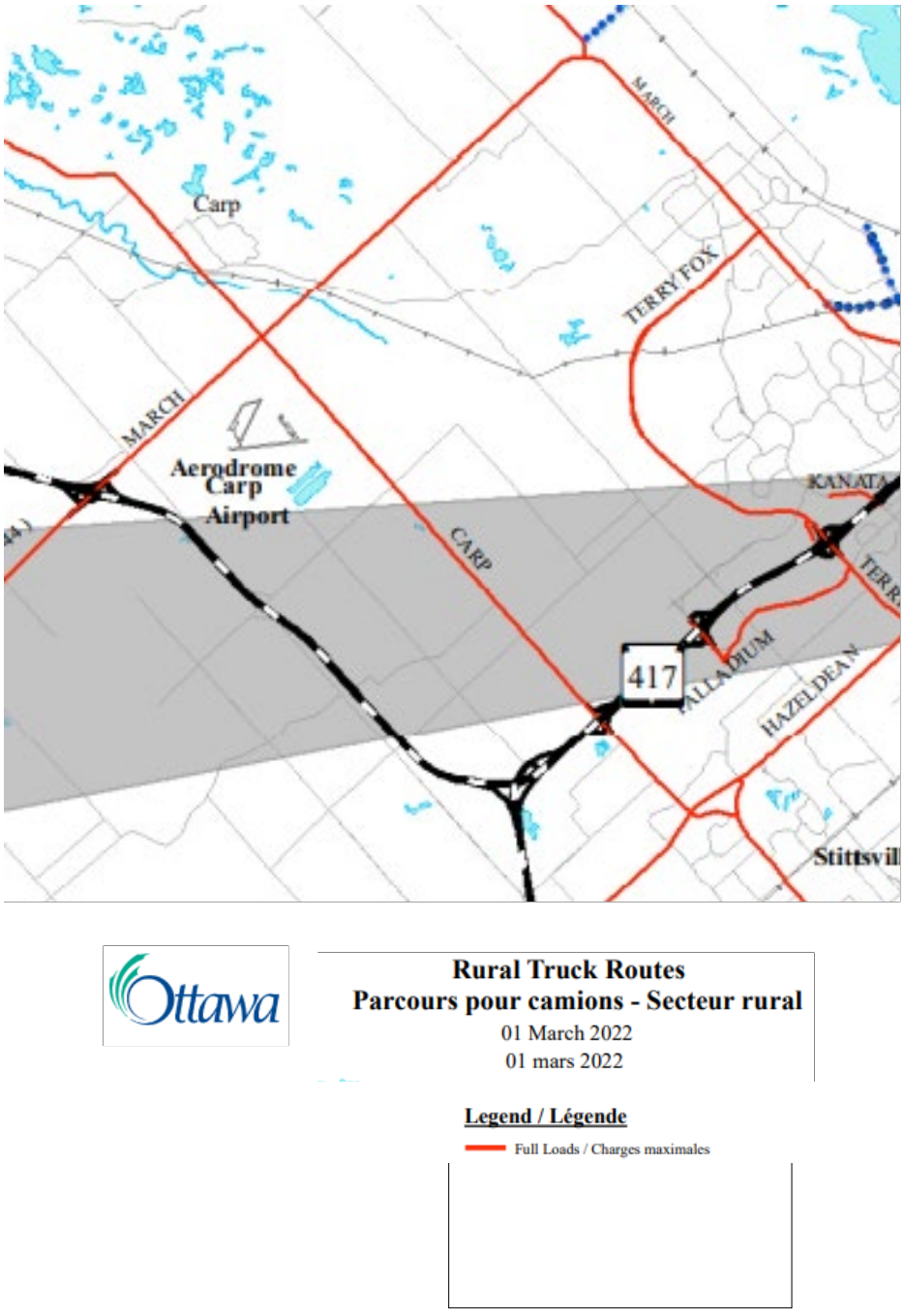


4.4 Haulage routes, truck traffic and entrance permits (Section 1.5. of the Summary Statement Standards)

The current McGee pit operation accesses the market via an established commercial entrance from the McGee Pit, along an established leased haul route that accesses the Carp Road, then north and south depending on the market requirements. The Carp Road is a regional full load year-round truck route (see **Figure 7**) designated to transport heavy haul trucks to regional and provincial markets. There are several industrial, commercial and manufacturing plants and buildings located along the Carp Road corridor between Stittsville and County Road 44. Annual output from the combined licence pit (McGee Pit and Expansion site), will not exceed the current

McGee Pit limit of 500,000 tonnes annually, so will have no additional increase in truck traffic. There is an existing secondary entrance onto Diamond View Road from the expansion property used for forestry operations and recreational use.

Figure 7.0 City of Ottawa Rural Truck Traffic Routes



4.5 Suitability of Progressive and Final Rehabilitation having regard for adjacent land use *(Section 1.6. of the Summary Statement Standard)*;

It is anticipated that the good quality material will be removed from above and below water to elevation 173.0 m ASL as a continuation of the rehabilitation for the Existing McGee Pit. The lake area will be expanded with the removal of the setback between the two sites. Sides of the pit will be sloped to the small lake then an angle of repose will naturally occur from the below water extraction. A littoral zone will be created along the east boundary setback to encourage amphibian, fish and aquatic habitat and water fowl with a south easterly facing slope. The shallow slope along portions of the north and east setbacks may be enhanced with on-site oversize rock, stumps and grubbing materials to provide structure for aquatic species. The final rehabilitation will move away from marginal farmland and mixed forest toward more of a natural environment ecosystem with a small lake/wetland and enhanced by mixed forest woodland area around the perimeter of the site. The vegetation around the water's edge will be a mixture of natural rejuvenation with plantings of lowland tree and shrub species and aquatic species. Upland areas will be planted to tree species indigenous to the area (e.g., Sugar Maple, White pine, etc.) while evasive non indigenous species will be removed from the rehabilitated areas on an on-going basis.

The lake may be enhanced in some areas with extraction leaving shallow humics or islands where below water extraction is terminated prematurely and piles of large stone, stumps and logs added to provide structure for amphibians, fish and other wildlife. The rehabilitation plan will complement the lake/wetland and mixed forest ecosystem on the existing McGee Pit immediately north.

The aquatic feature resulting from below water extraction when pit operations cease will enhance regional biodiversity by providing fish habitat, wetland habitat, waterfowl habitat, wading bird habitat, turtle habitat, amphibian habitat, turtle wintering, waterfowl staging habitat, and marsh bird breeding habitat. Consideration into the structure of the closure area should include features that support these habitats with a focus on wetland interspersion, variable\depths, habitat islands, and shoals.

4.6 Source Water Protection area and drinking water threats *(section 1.3 of the Summary Statement Standards)*;

GRI was retained to prepare a Maximum Predicted Water Table and level 1 and 2 Water Study to access the impacts of below water extraction in the expansion area, on to ground and surface water resources. The study confirmed that the un-confined aquifer containing the quality sand and gravel is sufficiently separated from the residential water well aquifer by a thick clay aquitard that ranges across the site from 6 to 20 metres in depth. Since domestic water wells draw from the underlying aquifer and bedrock wells, they are unlikely to be affected by sand and gravel extraction in the higher aquifer.

The maximum water table elevation was confirmed to be 118.6 mASL from long term ground water monitoring. The final elevation of below water extraction has been determined at 113.0 mASL providing a 5.6 vertical buffer from the water table. Groundwater flow direction in the unconfined aquifer is northeastward, consistent with regional trends.

The site is located within the Mississippi Valley Source Protection Area (Ministry of the Environment, Conservation and Parks 2024). The available information indicates the site is not within a Wellhead Protection Area for Quantity or Quality, an Intake Protection Zone, or a Significant Groundwater Recharge Zone.

The current water monitoring program will continue as specified by the recommendations of the Hydro Geological analysis. (see conditions specified in the Technical Recommendation and Monitoring Program page of the site plan). The monitoring wells will be measured and tested in accordance with the conditions of the PTTW and the ECA during the year, and the data will be summarized in an annual report by a qualified professional and any significant fluctuations noted and mitigated where necessary. It is not anticipated that there would be any impact on residential water wells to the south, east or west of the pit expansion area which contain a minimum of 150 metre setback to the closest residence.

4.7 Ground Water

The ground surface at the proposed expansion area has an average elevation of approximately 119 m above sea level (mASL). The aggregate in the expansion area will be excavated down to an elevation of 113.0 mASL, the licensed excavation depth of the existing pit, for a final excavation of approximately 6 m. The highest water table elevation is confirmed at 118.6 mASL. The elevations shown on the site plan and used in the Hydrogeological Report dated July 2024, are geodetic.

Once the aggregate license is issued, a well survey should be undertaken at 1117 William Mooney Dr and 1135 William Mooney Dr before operations in the expansion area begin. The testing program is voluntary will only be executed with the land owners

permission. The terms of reference for the survey are described on the Technical Report and Monitoring Conditions page of the site plan. Well monitoring is in accordance with the PTTW and ECA. An annual report will be prepared by a qualified person at the end of each monitoring season. The annual report shall direct an adaptive management plan to trigger mitigation plans to correct or alter operations to avoid or correct negative impacts.

A Spills Continency and Response Plan already exists for the established McGee Pit and is posted in the on-site Weigh Scale Building.

There is a valid Permit To Take Water (PTTW P-300-5229047655) and an ECA for water discharge approved by MECP with specific conditions regarding pumping and discharge operations.

From review of the well water records, it was determined that the wells in the unconfined aquifer were approximately 13 metres below the existing pit floor at McGee Pit. Where the wells were drilled through into bedrock, as well as in most of the overburden wells, a clay layer separates the aggregate resource layer from the water bearing zones. No wells within 500 m of the site reported yields less than 5 GPM.

Extraction above and below water table is occurring in the unconfined aquifer that is contained by a deep-water clay deposit below the shoreline sand and gravel deposit. The interface aquifer is isolated from the upper sand at the site by this thick layer of clay. The average potentiometric groundwater elevation at MW6A (118.2 mASL) is higher than the elevation at MW6B (116.2 mASL) indicating an upward vertical hydraulic gradient. The groundwater shows a seasonal fluctuation of 0.87 m and the peaks and lowest levels occur at least a month before the water levels measured in the unconfined aquifer. The majority of water wells exist in the Interface aquifer and the bedrock aquifer below the clay lens.

The three on site monitoring wells were used to measure the fluctuating levels of static water in accordance with the PTTW, where surface and ground water were being pumped and discharged to access below water sand and gravel. Levels were further assessed to analyze recovery of static water levels in the wells. Monitoring of the wells will continue as a condition of licensing to assemble an on-going record of the water levels over time to predict outcomes and to assist in investigations of potential complaints from well users off site. An Adaptive Management Plan (AMP) has been created to mitigate water interference reacting to complaints and any significant variations predicted through patterns observed. The monitoring and AMP recommendations from the 2025 GRI Hydro G Report have been reworded to form mandatory enforceable conditions on the Technical Recommendation and AMP page of the site plan.

Long-term groundwater level monitoring shows that the maximum observed water table elevation is 118.6 mASL. The proposed excavation base of 113.0 mASL maintains a 5.6 m vertical buffer, meeting MNRF requirements. Groundwater flow direction in the unconfined aquifer is northeastward, consistent with regional trends. No surface water features or provincially significant wetlands (PSW) are located within 120 m of the expansion area.

The three monitoring wells were installed around the proposed extraction boundary and will be used for water level monitoring during the life of the operation in accordance with the PTTW and ECA.

Once all aggregate material is removed from the pit and as the open water level stabilizes, an average final lake level has been assumed from the average of the measured water levels to be 117.75 mASL. The site plan, as directed by recommendations from the level 2 Hydro Geological Study, contains a detailed water monitoring program and Adaptive Management Plan including triggers to assess potential surface and ground water impacts including potential impacts to adjacent domestic water wells.

Water budget analyses indicate that the proposed development will result in negligible change to regional infiltration, with a reduction of less than 0.03% at the watershed scale. Climate trends, recharge rates, and surficial geology were factored into this assessment. No adverse cumulative impacts are anticipated.
The hydro geological report concludes that the proposed below-water expansion is technically feasible and protective of local water resources. A groundwater monitoring program is in place and will continue to support adaptive management.

5.0 SUMMARY OF TECHNICAL REPORTS

The technical reports and information standards for a Class A licence application are contained in *Part 2 of the Aggregate Resources of Ontario*, pursuant to *Ontario Regulation 244/97*. For the “McGee Pit” application, the following Technical Reports were prepared:

- Maximum Predicted Water Table and Level 1 and 2 Water Study, “McGee Pit Expansion”, Karson Holdings Inc., prepared by: GRI Inc., July 2025.
- Natural Environment level 1 and 2 Report, for “Carp Pit”, was prepared by Ecological Services Inc., 2022 (author, Rob Snetsinger)*;*
- *Stage 1 Archeological Assessment for McGee Pit Expansion, for Karson Sand and Gravel, Geo Twp. Huntley, City of Ottawa, prepared by Matrix Heritage, April 30, 2021*
- *Stage 2 Archeological Assessment for McGee Pit Expansion, for Karson Sand and Gravel, Geo Twp. Huntley, City of Ottawa, prepared by Matrix Heritage, December 6, 2022*;

- *Acoustical Assessment for McGee Pit Expansion, for Karson Holdings Inc., prepared by Freefield Limited, June 29, 2023*

5.1 Maximum Water Table and Level 1 Study

The highest elevation of ground water and potential for impacts were assessed through completion of a hydrogeological level 1 and level 2 study completed by GRI Inc.

The highest ground water table established after a year's monitoring of the three on-site wells was determined to be 118.6 mASL.

Following preliminary review of the Maximum Water level and Hydrogeological assessment, it was determined that there was potential for impacts to natural and man-made features (e.g. water wells, aquifers, and surface water courses and water bodies).

Consequently, a Level 2 Hydrogeological Report, consisting of a field investigation was completed and a detailed analysis of the potential impacts was undertaken.

SUMMARY OF PRELIMINARY EVALUATION

The Level 1 preliminary investigation identified that the pit will be extracted below groundwater and area surface water features. The site is in a highly vulnerable aquifer but is not within a Wellhead Protection Zone or Intake Protection Zone. Significant wetlands, surface water courses and bodies, springs, discharge areas are not found on or near the site, but water wells and ground water aquifers are present (Ontario Ministry of Natural Resources and Forestry 2020). Groundwater is used in the study area as a water supply for residences and commercial uses. The current site operation uses a PTTW to lower the unconfined water table, and the practice will continue if the expansion proceeds.

As a result of the presence of sensitive features on and around the site, a detailed site investigation was conducted. The remainder of the report consists of the Level 2 Water Study that was completed to address the Provincial Standards.

5.1.2 Hydrogeological Level 2

Where a Level 1 investigation has determined the perceived or probable negative impacts on surface or ground water resources, the impacts must be assessed and mitigation measures developed.

The proposal will excavate the economical material above, and up to 6 metres below the water table. The site investigation showed the aggregate extends down to an elevation of approximately 113 mASL. It is highly probable that the base of the clay

layer at the bottom of the proposed extraction area will be intercepted over the proposed depth. The planned operation method will excavate below the water table using an excavator, dragline or cutter dredge. A Permit to Take Water, will continue over the life of the operation for extraction, processing and washing operations.

No impacts are anticipated from the operation as proposed. However, it is recommended that groundwater monitoring program be implemented for several years to support the impact assessment and provide data to protect both Karson Holdings and surrounding groundwater and surface water interests. The monitoring conditions shall be in accordance with the PTTW and ECA.

Three boreholes/monitoring wells (MW7, MW8, and MW9) were installed in the area of the proposed expansion on June 13, 2022, by George Downing estate drilling of Hawkesbury, Ontario under the supervision of GRI. The boreholes were drilled to depths of 7 m and 8.2 m below ground surface (MBGS) using a CME drilling rig with hollow stem augers. Piezometers were installed in each borehole. Flow and water quality monitoring of three surface water monitoring stations (SW1, SW2, and SW3) was conducted during the study period to comply with conditions in ECA 9363-9 FLMDG. Ground water monitoring of these wells have continued since 2021.

Summary of Recommendations from the GRI Water Report

Maximum Water Table

It is recommended an average water table for the existing license plus expansion be set at 117.75 mASL which is the final elevation of lake post rehabilitation of the site.

Neighbouring Wells

- Once the aggregate license is issued, a well survey should be undertaken at 1117 William Mooney Dr and 1135 William Mooney Dr before operations in the expansion area begin. Participation in the survey by property owners is voluntary. The survey should document the property setting, well location and construction and water use and should confirm whether a water well record can be correlated to the site.
- Water samples should be collected from an untreated tap following industry standard sampling procedures and analysed by a certified laboratory for the parameters below. Parameters may be added if a specific location warrants.

Water Sample Parameter List

Field Measurements	temperature, TDS, conductivity, dissolved oxygen, pH
General Characteristics	ph, alkalinity, hardness, TDS, conductivity, Ca, Mg, Cl, NO2, NO3, NH3, Total Kjeldahl Nitrogen, SO4, Fe, Mn, Na, F, phenols

Bacteriological Analysis	e.coli, total coliforms, background plate count

- The survey should be repeated before the below water extraction lift moves into the expansion area if the period elapsed from the beginning of the operation has been 10 years or longer.

Groundwater Monitoring

- The intent that the groundwater program will change and adapt should be clearly indicated on the site plan. Specific monitoring details (e.g. well locations or frequency, etc.) should be avoided on the site plan and comply will conditions of the PTTW and ECA. (eg. Daily monitoring of multiple wells for volumes and levels during pumping in accordance with PTTW – P300-5229047655)
- The water levels should be reviewed as they are collected with attention given to flag and follow up on anomalies. An explanation should be provided for any of these noted deviations, and the observations and conclusions included in the next review report.
- The PTTW and ECA should continue to be the devices to provide detail on the monitoring and mitigation of potential issues. Annual report recommendations should be implemented by the operator. The site plan should indicate current PTTW and ECA approvals contain the requirements to effectively provide environmental protection.
- At monitoring events, observations and/or photos of the site activity should be recorded. Weather conditions on, and for two or three days before the monitoring, should be noted.
- Monitoring wells that are removed or irreparably damaged should be replaced expeditiously, and the elevation recalibrated. New measurement points should be surveyed to a geodetic elevation before the first review.
- A staff gauge should be added to the monitoring program and added to the approved monitoring program with the reading recorded on the day as the groundwater and other surface water levels. As the open water area expands it may be beneficial to install a second staff gauge to record the change in water level across the feature. The staff gauge should be calibrated to a surveyed water level in the pond.
- If, when the field measurements are made, the visual inspection indicates a sheen or film, a sample should be taken and analyzed for oil and grease and PHCs.

Contingency Plan

Action to address observed or potential impacts by the operation should be addressed in a timely manner.

1 Predicted Negative Impact on Sensitive Receiver

2 If a negative impact on a sensitive receiver is predicted through data review, the conditions will be evaluated in more detail if needed, and remediation will be implemented to prevent the impact.

3 Receipt of Unexpected Well Problem

4 If a water loss occurs at one of the addresses within 500 m, and an initial investigation cannot identify an obvious cause, the licensee will provide an interim potable water supply to the affected well within 24 hours. The interim supply will be continued until the matter is resolved.

5 If an unexpected complaint arises, the license holder will retain a qualified professional, who will investigate the issue, provide an opinion on the cause, and provide recommendations to the licensee in a timely manner. If the problem is attributed to the pit operation, remediation or compensation will be offered by the licensee as soon as possible.

6 Replacement Well Construction and Quality

7 Any work on a well by or on behalf of the licensee will meet the Wells Regulation (O.Reg. 903 or current equivalent). Effort will be made to construct the well to as near the depth as the impacted well that will obtain a comparable water quantity. The analysis of the well records indicated that the overburden, interface aquifer and bedrock aquifers are all used in the area and it is possible for the water supply to be replaced.

8 If natural water quality exceeding the ODWS is encountered because of the remediation, appropriate water treatment will be considered.

Operations - Spills Prevention and Response

- Fuel storage must not be located within 30 metres of any body of water. Refueling should take place on an impervious surface.
- The potential for spills should be addressed on the ARA site plan, with prevention as the key goal by compliance with current legislative and regulatory requirements, such as the Technical Standards and Safety Act, 2000, Liquid Fuels Regulation O.Reg. 217/01 and the Liquid Fuels Handing Code, 2000.
- A spill prevention and response plan should be prepared and kept on site. Site personnel should receive training regarding the spill action plan procedure. A copy of the plan should be posted in a prominent location in the operations area.
- Appropriate mitigation and clean-up materials (absorbent pads and granular absorbent material) should be kept on site when the pit is operating.

Conclusions, level 2 hydrogeological Study

Karson Holdings Inc. are applying for a licence expansion to provide additional sand and gravel reserves to support on going operations at the McGee Pit, while continuing to carry out progressive rehabilitation of depleted areas of the existing pit licence. The current licence site is approximately 80 hectares, proposing to expand by 33.2 hectares for a combined 113.2 hectares of which 104.9 hectares will be extracted and rehabilitated.

The detailed site investigation confirms that the expansion of the McGee Pit remains hydro geologically feasible. Stratigraphic data shows consistent layering across the site, with a permeable sand and gravel aquifer overlying a regionally extensive marine clay aquitard. This clay unit provides effective hydraulic separation from deeper aquifers used by area wells.

Groundwater monitoring between 2021 and 2024 confirms that the maximum seasonal water table elevation is 118.75 mASL. The proposed excavation floor of 113.0 mASL preserves a vertical buffer of over 5 m, satisfying MNRF guidelines and ensuring continued protection of groundwater users.

Flow direction remains northeast toward the Carp River basin, with shallow gradients and no signs of upwelling or mounding. No domestic wells are screened in the target aquifer, and no surface water features or wetlands are present within the zone of influence. As a result, direct impacts on existing water supplies and ecological features are not expected. Cumulative effects of the expanded excavation footprint were also evaluated. While the final flooded area will be larger, the hydrogeological setting remains unchanged, and no new risk pathways are introduced. Passive filling of the pit by natural runoff and infiltration will result in minimal effect on watershed-scale water budgets. With continued adherence to excavation limits and ongoing monitoring, the project is not anticipated to have adverse effects on local groundwater systems.

5.2 Natural Environment Level 1

Karson Holdings Inc. is applying for an expanded pit operation to the currently licenced McGee Pit in the old geographic Township of Huntley, City of Ottawa.

The expansion **application is a below water application for a Class "A" pit licence to excavate a combined maximum of 500,000 tonnes annually from the currently operating McGee Pit and the proposed expansion site** pursuant to the Provincial Standards, Parts 1 and 2 adopted by ***Ontario Regulation 244/97 under the Aggregate Resources Act***. The application is also subject to the Circulation Standards, Part 4. This class of application requires consideration and identification of Significant Natural Heritage Features on or within 120 metres of the site being considered, and if present, a further assessment (Level 2 Report) to consider potential impacts and mitigation measures to minimise impacts to these features including species and their habitat. The expansion area is designated Rural and does not need an OPA but a zoning by-law amendment is required to change the zoning from RU to ME2.

A Natural Environment level 1 and level 2 report was evaluated and prepared by Rob Snetsinger from Ecological Services and affiliate Heather Lunn Inc. This report was based on current protocols and a screening list for threatened and endangered species under the Endangered Species Act, for review by staff biologists at the Ministry Environment, Conservation and Parks. The report further considers any Significant Natural Heritage Features on or within 120 metres of the site protected under the Planning Act supported by policies and guidelines directed by the Ministry of Northern Development, Mines, Natural Resources and Forestry. The list of these features includes the following:

- *significant wetlands (including significant coastal wetlands);*
- significant habitat of endangered and threatened species;
- significant Areas of Natural and Scientific Interest (ANSIs);
- *significant woodlands (south and east of the Canadian Shield)*
- *significant valleylands (south and east of the Canadian Shield)*
- significant wildlife habitat; and
- fish habitat.

This Natural Environment Report follows the guidelines provided in the ***Aggregate Resources Program Policy and Procedures manual*** and ***Part 2: Aggregate Resources of Ontario: Technical reports and information standards, August 2020***, section 2.2 Natural Environment Report. Section 2.2 investigates whether or not significant natural heritage features are on or within 120 meters of a proposed project boundary and describes the methodology, data, mitigation and contingency measures that will be implemented should unforeseen impacts occur. The August 2020 Provincial Standards for a Natural Environment Report can also be submitted to meet the

Environmental Impact Statement requirements for the rezoning application to the City of Ottawa.

The habitat of species at risk (Bank Swallows, Endangered Bat species,) were observed on the site which triggers a Level 2 Natural Environment Study to consider voidance and mitigation measures for these species and habitats.

5.2.1 Natural Environment Level 2

Key mitigation measures
Species At Risk (SAR) (Threatened and Endangered)

Bank Swallow: Nesting in the south wall of the existing pit licence area was observed in 2020 (see adjacent images). This area experienced significant erosion weathering making it unsuitable for nesting, and the Bank Swallow nesting moved to a west wall in 2023. Bank Swallows were also observed foraging over the flooded pit licence area in 2020 and 2023.

It is not surprising that Bank Swallows were seen as these birds are attracted to the sheer pit faces created during extractive operations, for nest building purposes. Heneberg (2001) notes that Bank Swallows preferentially move to sand pits over traditional nesting areas due to the good nesting qualities of the sand substrate. It is expected that the active pit will continue to provide habitat for bank swallows.

The main disturbance of the pit face occurs during excavation for crushing and screening operations which have occurred in the past in spring and banks avoided during nesting season. As long as extraction operations are a minimum 30 metres from active nests there is little or no impact on the species.

Bats: Results from the 2020 and 2023 surveys revealed that none of the SAR bats present at that time were recorded in monitors placed at sites 4 to 8. However, the monitors did record the SAR bat species that were added the ESA in 2025, and these results are provided in Table 3. Acoustic monitoring only indicates flight passes and does not necessarily indicate roosting. Bats picked up by monitors could be flying into forage from adjacent sites. The recording data indicated a number of bunched passes over small time frames which could indicate a single bat foraging near the acoustic monitor over several minutes, or could indicate several bats passing through. Some of the SAR bats were recorded at dusk on some nights, which could indicate roost emergence within the expansion lands. However, this was not a consistent finding every night, which might also suggest SAR bats were using different roost sites on different nights. Bats are not necessarily sensitive to habitat changes and are quite adaptable creatures.

In the opinion of the author of the NER, further mitigation recommendations for bats are not warranted for the following reasons:

1. Bats are not habitat limited and there is more than sufficient woodland habitat nearby to provide bat roosting habitat.
2. Bats are highly tolerant of nearby human activity. Their extensive use of urban habitat supports this.
3. Bats are only active at night, when pit activities will be dormant so there will be minimal risk of deleterious bat/human interactions.
4. The aquatic/wetland habitat that will result from the pit closure plan will benefit bats in providing foraging habitat.

Although extensive time was spent surveying, no Blandings Turtles were observed at this site. There is significant Blandings Turtle habitat located approximately 5 km's north in the South March Highlands.

Due to the approved biodiversity created by the pit operation, it is probable that Blandings Turtles could find their way to the pond in the future and therefore NER recommends the following:

1. Pit operators and staff should undertake a turtle training program, in order to be able to distinguish Blanding's Turtles from the non-SAR turtles, and to know what to do should they encounter them.
2. If Blanding's Turtles are encountered within the active pit area, the pit operators will need to register their activity with the MECP.
3. Turtle road mortality is likely the greatest threat to Blanding's Turtles in the region. If Blanding's Turtles are encountered, the pit operators will need to educate their drivers on the need to avoid these (and any other turtle species) turtles.
4. If turtles of any species are encountered, a turtle warning sign should be installed at the pit entrance to remind drivers of the potential threat.
5. The closure plan should include turtle habitat enhancements for the flooded pond that will result when pit operations cease. These could include deeper areas to support overwintering, variable depth areas to enhance plant aquatic diversity, shoals for shallow loafing and feeding, and islets to provide basking.

A preliminary list of potential endangered species for this area was provided by MECP, Species at Risk management biologist. These species were adequately screened using provincial protocols and methodologies and described in detail in the Natural Environment Report.

Although no other SAR birds or bat species were observed on site, the vegetated setbacks around the pit boundary will act as an undisturbed buffer zone to protect trees as roosting areas for foraging bats, birds and reptiles. As a general precaution for avoiding harm to SAR bats, no trees shall be removed during the maternity/roost season (April 15 to Sept. 15). Although birds and bats are tolerant to human activities,

the summer hours of operation indicated on the site plan (6:00 a.m. to 6:00 p.m. week-days) commence after and cease before foraging time for bats and most bird species.

Least Bittern (Threatened):

The woodlands of the pit expansion area do not contain Least Bittern habitat. The lack of Least Bittern sightings within the pit, the limited nesting structure features, and the lack of sightings nearby, puts the potential for them as nesting in the pit currently as unlikely. However, it is possible that they could eventually find their way to the flooded pit area when waters deepen after pumping operations cease. Accordingly, we recommend the closure plan include Least Bittern (and other aquatic waterfowl) favorable habitat enhancements for the flooded pond that will result when pit operations cease. The primary focus would be to enhance high interspersion, similar to what now exists within north end of the flooded pit floor.

Wetlands

There is no provincially significant wetland (PSW) on or within 120 m of the proposed pit area. The nearest provincially significant wetland is Corkery Creek, about 5 km to the west.

Significant Woodlands

There are no Provincially Significant Woodlands within the proposed expansion area. The mixed forest types within the buffer zones especially adjacent to McGee Side Road and the Diamond View Road will be left undisturbed. Although these are not significant forests, they do however provide a wildlife travel corridors, act as a visual and aesthetic screen, and adds to the biodiversity of the local area.

Fish Habitat

No fish were observed in the flooded pit floor in 2020 and in 2023. Several fish-eating birds(egrets, herons, mergansers) were observed, although no fish catches were observed. Frogs and crayfish were observed, which make up part of the normal diet of these birds. The pit water levels are kept artificially low by pumping. When the pit is no longer being pumped, water levels will develop more favorable fish habitat features with the greater water depth. The two adjacent closed pits to the east have been converted to aquatic habitat and both contain fish.

The resulting aquatic feature resulting from below water extraction when pit operations cease will enhance regional biodiversity by providing fish habitat, wetland habitat, waterfowl habitat, wading bird habitat, turtle habitat, amphibian habitat, turtle wintering, waterfowl staging habitat, and marsh bird breeding habitat. Consideration into the structure of the closure area should include features that support these habitats with a focus on wetland interspersion, variable\depths, habitat islands, and shoals.

Significant Wildlife Habitat

The Significant Wildlife Habitat Criteria for Smiths Falls Site Region 6E-11 (MNRF 2015) describes thresholds for habitat significance. Based on Provincial protocols, thresholds have not been reached indicating there are no significant wildlife habitats within the study area.

ANSI

There are three ANSIs in the region: Carp Barrens, Marathon Forest, and South March Highlands. These ANSIs are beyond the 120-metre influence area.

Valley lands

The pit expansion area exists within a flat plain with no valley land features on or within the adjacent land distance of 120 m.

5.3 Cultural Heritage Resource Report – Stage 1

A Stage 1 Archeological Assessment was prepared by Matrix Heritage on April 30, 2021 for the proposed expansion area of the McGee Pit 33.2 ha.

The Stage 1 assessment included a review of updated Ontario Ministry of Heritage, Sport, Tourism, Culture Industries' (MHSTCI) archaeological site database, a review of relevant environmental, historical and archaeological literature, and primary historical research including: land registry records and historical maps, and a property inspection.

This Stage 1 background assessment concluded that based on criteria outlined in the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (Section 1.3, 2011), the study area has both pre-contact Aboriginal as well as historic Euro-Canadian archaeological potential. The property inspection revealed that the subject property retains archaeological potential. Based on the results of this investigation it is recommended:

> *1. A Stage 2 archaeological assessment of the development area as shown in Map 1 be conducted by a licensed consultant archaeologist. Actively or recently cultivated land should be subject to pedestrian survey at 5 m intervals, as per Section 2.1.1 (MHSTCI*
> *2011). Test pit survey at 5 m intervals should be used in areas where ploughing is not possible or viable, as per Section 2.1.2 (MHSTCI 2011).*
> *2. The Stage 2 archaeological assessment follow the requirements set out in the 2011 Standards and Guidelines for Consultant Archaeologists (MHSTCI 2011).*

5.3.1 Cultural Heritage Resource Report - Stage 2

The purpose of the Stage 2 investigation was to determine whether or not there were archaeological resources on the subject property, and if so to recommend an appropriate Stage 3 assessment strategy. Matrix Heritage prepared a Stage 2 report on December 6, 2022.

The Stage 2 archaeological assessment involved subsurface testing which consisted of hand excavated test pits at 5 metre intervals in areas of archaeological potential as per Standard 1.a.,Section 2.1.2 (MCM 2011). Fieldwork took place over 7 days on August 18 and 19, as well as September 6 to 9 and 22, 2022. Weather conditions ranged from sunny and humid to overcast with temperatures between 15-29° Celsius. Ground conditions were excellent with no saturation or other excessive ground cover to impede visual assessment as per Section 2.1. Standard 3 (MCM2011). Permission to access the property was provided by the owner.
The Stage 2 Archaeological Assessment resulted in no indication of archaeological remains with cultural heritage value or interest within the lands to be severed.

Based on the results of this investigation it is recommended:

1. No further archaeological study is required for the subject property as delineated in Map 1.

5.4 Acoustical (Noise) Report

The acoustical standards under the *Aggregate Resources Act, Ontario Regulation 244/97*, are identified in *Part 2 of the Aggregate Resources of Ontario*, Technical Reports and Information Standards, section 2.6 Noise Assessment Report. The standard stipulates that for a Class "A", Pit Below Water, where extraction or processing is intended to occur within 150 metres of a sensitive receptor, a noise study is required.

Although the ARA license application and Municipal approval process refer only to the expansion area, Karson will hold the license for both the existing McGee Pit and the expansion area, McGee Pit Expansion Area, once the license is in place. As such, this assessment considers the cumulative impact of noise from operations occurring at both the existing licensed pit and expansion area as is appropriate under MECP guidelines. It is noted while concurrent operations in both licensed areas are considered in this assessment it is the one set of extraction and aggregate processing equipment which will be in operation on-site.

The following equipment will be operated on-site and is included in this assessment as significant sources of noise:

- *One mobile track mounted screening plant (Powerscreen Warrior 1800 or similar),*
- *One mobile wash plant and associated diesel generator,*
- *One mobile track mounted crushing plant (Terex-Pegson Premiertrak or similar), Loaders or Excavators with buckets and or dragline,*
- *One cutter suction dredge,*
- *Aggregate trucks used to delivery raw material to stockpiles near the processing plants,*
- *Highway trucks used for delivery and shipping of product,*
- *Portable equipment for site preparation and rehabilitation, including excavators, hydraulic shovels, dozers and scrapers.*

As indicated by the Operational drawing, a 150-metre setback distance has been established between the extraction limit and the west side of McGee Side Road beyond the closest residents, east of the licence boundary. This is considered an adequate setback distance and no Noise Report is required based on the Provincial distance Standard supplemented by the following:

- topography of the land and distance between the pit and the closest receptors. The pit face height and pit floor advancing south would be below grade limiting noise impacts to the adjacent receptors.

- the existence of a dense mature mixed forest within the buffer zone will be left undisturbed as a further noise and dust barrier; and
- the location of the future stripping topsoil berm along the south extraction setback will also act as a further noise barrier to adjacent receptors.

3.0 Noise Source Summary

The following noise sources have been used to model noise generated by operations at the facility. In brackets are the shortened names of the noise sources as used in the acoustic model.

- The characteristics of these sources, as used in acoustic modelling, are summarized in Table 2.
- One mobile screening plant (source: Screener);
- One mobile wash plant (source: Wash-Plant);
- One diesel generator with exhaust muffler (Source: Generator_Exhaust);
- One mobile crushing plant (source: Crusher);
- One cutter suction dredge (source: Dredge);
- One mobile water pump;
- Two loaders loading extracted material from the lift face onto aggregate trucks and loading highway trucks from stockpiles for delivery off-site (source: Loaders);
- Three excavators feeding raw material into the processing plants and carrying out below water extraction (source: Excavators);
- Aggregate trucks used for delivery of raw material to stockpiles (Source:
- IHR_Aggregate);
- Highway trucks used for delivery and shipping of product (Source: IHR_Shipping);

A total of seventeen nearby noise sensitive receptors have been selected for detailed noise evaluation. These existing and potential future residences are those closest to the pit in all directions and represent the worst-case noise impacts in comparison to other nearby or more distant noise sensitive receptors.

Noise levels have been predicted at the noise sensitive receptors using predictable “worst case assumptions” under normal operations and using ISO 9613-2 sound propagation methodology as implemented in the sound prediction software Cadna-A, Version 2023. The predictable “worst case” is interpreted as meaning the greatest noise impact anticipated under normal operating conditions. The ISO methodology provides a conservative (i.e. high) estimate of the noise level at a receptor taking into account adverse wind and meteorological conditions.

The estimation method includes the following:

- Distance attenuation is based on spherical spreading.
- Atmospheric attenuation.
- Ground attenuations, as appropriate.

7.0 Mitigation Measures (Site Plan Recommendations)

Noise mitigation measures for the pit operations are detailed below. It is recommended that these measures be included on the official ARA Site Plan for the Pit. The predicted noise impacts in Tables A2.8.1 to A2.8.6 are based on the implementation of the following mitigation measures:

7.1 Noise Barriers and Berms:

7.1.1 Noise barriers and berms are to be provided as per Table 7 and Figure 9 and 10.
7.1.2 Noise barriers and berms are to be solid, having no gaps, and are to have a surface density of no less than 20 kg/m2. Examples of suitable barriers or berms are as follow:
7.1.2.1 Lift face or existing terrain;
7.1.2.2 Earth, gravel or aggregate berms or stockpiles;
7.1.2.3 Concrete or brick walls;
7.1.2.4 Commercial noise barriers;
7.1.2.5 Shipping containers or buildings,
7.1.2.6 A portable barrier such as a truck trailer equipped with movable flaps to block the space between the ground and the bottom of the trailer and increase height if required.

7.2 Mobile Screening Plant

7.2.1 The operation of the screening plant (screener) may take place during the daytime and evening period (07:00 to 21:00) and shall comply with the following:
7.2.1.1 The screener is to be located in the designated processing area on the pit floor at a maximum elevation of 117 mASL as shown on Figure 2, 3, 5 and 6.
7.2.1.2 The screener is not to operate concurrently with the mobile crushing plant or the mobile wash plant during the evening period (19:00 21:00).

7.3 Mobile Wash Plant Screening Plant

7.3.1 The operation of the mobile wash plant (wash plant) and associated diesel generator may take place during the daytime and evening period (07:00 to 21:00) and comply with the following:
7.3.1.1 The wash plant is to be located in the designated processing area on the pit floor at a maximum elevation of 117 mASL as shown on Figure 2 and 7.
7.3.1.2 The wash plant is not to operate concurrently with the mobile crushing plant or the mobile screening plant during the evening period (19:00 21:00).

7.3.1.3 The maximum outdoor sound power of the generator, if used to provide power to the wash plant, must not exceed the levels given in Table 2. To achieve these ratings the generator will likely need to be fitted with an exhaust silencer that meets the minimum insertion loss requirements listed in Table 8. The silencer is to be located inside the enclosures or as close as possible to the location where the exhaust exits the enclosures with the duct material between the silencer and the generator constructed of 16-gauge weather resistant metal. The silencers shall have a high transmission loss casing.
7.3.1.4 Item 7.2.1.3 above does not apply if hydro is used to provide power to the plant.

7.4 Mobile Crushing Plant

7.4.1 The operation of the mobile crushing plant (crusher) may take place only during the daytime period (07:00 to 19:00) and comply with the following:
7.4.1.1 The crusher is to be located in the designated processing area on the pit floor at a maximum elevation of 116 mASL as shown on Figure 2, 3 and 5.
7.4.1.2 The crusher is not to operate concurrently with the mobile wash plant or dredge.
7.4.1.3 Noise barriers are to be provided as per Table 7 and Figure 10.

7.5 Cutter Suction Dredge

7.5.1 The operation of the cutter suction dredge (dredge) may take place only during the daytime period (07:00 to 19:00), anywhere in the extraction area, and comply with the following:
7.5.1.1 The dredge is not to operate concurrently with the mobile crushing plant.

7.6 Loaders and Excavators

7.6.1 The operation of the loaders and excavators may take place during the daytime and evening period (07:00 to 21:00) anywhere in the extraction area, above or below grade, and shall comply with the following:
7.6.1.1 During the daytime period (07:00 - 19:00):
i. A maximum of three loaders OR three excavators may be in operation in the processing area carrying out stockpiling and loading operations, and
ii. A maximum of two loaders OR two excavators may be in operation in the expansion area West of Line AA, carrying out extraction and loading operations.

iii. East of Line AA, a maximum of one loader OR one excavator may be in operation in the expansion area, carrying out extraction and loading operations during the daytime period.

7.6.1.2 <u>During the evening period (19:00 21:00)</u>:

i. A maximum of one loader OR one excavator may be in operation in the processing area carrying out stockpiling and loading operations, and

ii. A maximum of one loader OR one excavator may be in operation in the expansion area West of Line AA, carrying out extraction and loading operations.

iii. East of Line AA extraction operations are not to occur during the evening period.

7.7 Aggregate Trucks

7.7.1 The delivery of raw material from the extraction face to the processing area using aggregate trucks may take place only during the daytime and evening period (07:00 to 21:00) and shall comply with the following:

7.7.1.1 When operating on-site, aggregate trucks shall not exceed 30 km/h and shall not use compression braking (Jake Brakes).

7.7.1.2 When operating during the daytime period (07:00 19:00): A maximum of 6 loads of raw material may be delivered from the extraction face to the processing area per hour.

7.7.1.3 When operating during the evening and nighttime period (19:00 07:00): A maximum of 3 loads of raw material may be delivered from the extraction face to the processing area per hour.

7.8 Highway Trucks

7.8.1 The loading and shipping of product using highway trucks may take place only during the daytime and evening period (07:00 to 21:00) and shall comply with the following:

7.8.1.1 When operating on-site, highway trucks shall not exceed 30 km/h and shall not use compression braking (Jake Brakes).

7.8.1.2 When operating during the daytime period (07:00 19:00): A maximum of 12 loads of processed aggregate may be shipped off-site by highway truck per hour.

7.8.1.3 When operating during the evening and nighttime period (19:00 07:00): A maximum of 2 loads of processed aggregate may be shipped off-site by highway truck per hour.

7.10 Portable construction equipment

7.10.1 Portable construction equipment used for site preparation (e.g. land clearing and construction of berms) and rehabilitation shall comply with MECP Publication NPC-115, Construction Equipment, August 1978. (This publication gives noise standards to be met by construction equipment in Ontario.) Site preparation and rehabilitation activities shall take place only during daytime hours (07:00 19:00).

7.11 New Process

7.11.1 If a new process is introduced to the site, then this process shall be assessed by a qualified acoustical consultant prior to commissioning. Noise mitigation measures shall be reviewed, and altered, if necessary, to ensure that MECP sound level limits are met at all points of reception.

The proposed expansion of the McGee Pit considers the cumulative impact of noise from operations occurring at both the existing licensed pit and proposed expansion area as is appropriate under MECP guidelines.

It has been found that noise levels from the operational equipment, at nearby receptors are in compliance with MECP sound level limits as set out in publication NPC-300[1], provided that the noise mitigation measures described in Section 7.0 of the Acoustical Report are followed. (see site Technical Recommendations Site Plan for specific implementation of these conditions).

6.0 CONCLUSIONS

The sand and gravel is mapped as Tertiary Aggregates in the OGS, Aggregate Assessment ARIP 191 for the City of Ottawa, and confirmed by the hydro G assessment and will be used for construction projects in the vicinity of the subject property. The lands will be returned to a modified natural state. The extraction of aggregate material is consistent with the 2024 Provincial Policy Statement and complies with the Official Plan for the City of Ottawa. The subject property is designated RU which permits aggregate extraction; however, a zoning amendment is required to allow a pit licence for the site.

We would therefore conclude that based on technical report evaluation and mitigation measures, there are no significant provincial constraints on or immediately adjacent to the site (within 120metres). Adjacent cumulative impacts of this operation are minimal and the site is in compliance with the intended local planning decisions. The utilization of this site is considered to be wise management of a natural resource and supports issuance of an expanded licence for a Class A pit below water.

7.0 REPORT DATED AND SUBMITED

This Summary Statement and Summary Report was prepared for submission to the Ministry of Natural Resources and Forestry by:

Gary McLaren
President
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Mobile: 613-893-6227
Milestone
Aggregate Consulting Services Inc.

8.0 QUALIFICATIONS AND EXPERIENCE OF AUTHOR OF THE SUMMARY REPORT

Summary of Relevant Skill Sets and Experience, *to prepare Summary Statements for licence applications under the Aggregate Resources Act, develop solutions to perceived social and environmental impacts from pit and quarry operations, and facilitate consultation with stakeholders and agencies regarding proposed licence applications and amendments under the ARA.*

Over 34 years with the Ministry of Natural Resources and Forestry as a designated badge carrying Inspector under the Aggregate Resources Act and the Pits and Quarries Control Act, my prime responsibility was the inspection and audit of licenced pits and quarries for compliance with regulations, standards and policy and procedures under the Act. The regulatory oversight involved an excellent knowledge of legislation and ability to assess compliance and select the proper enforcement tool to educate and provide a deterrent to the operator. I have developed a good ability to articulate infractions and recommended remedial action to correct non-compliance within a written inspection report format served on the operator, licensee or permittee. I also developed the ability to issue Compliance Orders, Rehabilitation Orders, witness statements and a host of forms and reports to support Provincial Offences court charges and prosecutions (crown briefs, subpoenas, information's, etc.,) and documents to support opinion and expert witness statements at the Ontario Municipal Board and Environmental Review Tribunal.

As a regional aggregates program coordinator and senior policy adviser, my main responsibility was providing advice to field inspectors and staff during the review of compliance documents, licence and permit applications and other approval processes under the Act and advise senior managers regarding decisions on these matters. This work involved good investigative skills in understanding files, policy, procedures and directives and ability to prepare briefing notes and explanatory notes to synthesize and simplify complex issues.

As a MNRF regulator, my training included a host of compliance and enforcement courses involving collection of evidence, notes and report writing, oral communications skills, photographs, conflict resolution and tact. Acting in a multitude of different positions with MNRF over the years (district planner, tree nursery superintendent, project planner, fisheries and forestry technician, supervisor, etc.) has also exposed me to a good understanding of the biological, ecological, and hydrogeological functions of the environment and how they interact. This knowledge was further enhanced with training in Temperate Wetlands Restoration, experience in directing pit and quarry rehabilitation and through the review of mandatory technical reports for aggregate licence applications (Natural Environment Reports, Hydrogeological Reports, Acoustical

Studies, Archeological Reports, traffic studies, and planning and land use summary statements). I have successfully adopted technical report recommendations into enforceable licence and site plan conditions acceptable to the operator and regulator.

Since formation of Milestone Aggregate Resource Consulting Service Inc. in 2015, I have been approved to prepare site plans pursuant to section 8(4) of the Ontario Aggregate Resources Act. As project coordinator for licence applications under that Act, I have prepared site plans and Summary Reports, evaluated RFP's, and facilitated notification and consultation processes. I have been asked to create and present comprehensive compliance strategies for pit and quarry operations. I have prepared and submitted mandatory annual Compliance Assessment Reports for several licensees located in south eastern Ontario. I have educated operators on the risk-based approach for compliance being implemented across provincial government ministries. I have informed aggregate operators on the growing knowledge, engagement and expectation of local stakeholders and the benefits of operating their sites above the minimum requirements stipulated in legislation. I believe I am considered an authority in aggregate resource management, regulation, policy, planning and approvals.

Prepared by:

Gary McLaren,
President Milestone Aggregate Consulting Services Inc.

9.0 REFERENCES

City of Ottawa Official Plan

Geo Ottawa, Terenet Zoning Map layer

Department of Agriculture, 1967 - Canada Land Inventory Soil Capability for Agriculture, Ottawa Map 31 G — Map prepared by Energy Mines and Resources.

V.L. Lee, 2013 - Aggregate Resources Inventory of the City of Ottawa, Southern Ontario Ontario Geological Survey Aggregate Resources Inventory Paper 191.

Maximum Predicted Water Table and Level 1 and 2 Water Study, "McGee Pit Expansion", Karson Holdings Inc., prepared by: GRI Inc., July 2025.

Natural Environment Level 1 and 2 Report for Carp Pit, prepared by Ecological Services Inc. in 2020.

Stage 1 Archeological Assessment for McGee Pit Expansion, for Karson Sand and Gravel, Geo Twp. Huntley, City of Ottawa, prepared by Matrix Heritage, April 30, 2021.

Stage 2 Archeological Assessment for McGee Pit Expansion, for Karson Sand and Gravel, Geo Twp. Huntley, City of Ottawa, prepared by Matrix Heritage, December 6, 2022.

Acoustical Assessment for McGee Pit Expansion, for Karson Holdings Inc., prepared by Freefield Limited, June 29, 2023.

Site Plan for the "McGee Pit Expansion", Geo. Twp. Huntley, City of Ottawa, for Karson Holdings Inc., prepared by EGIS Canada, 2025.

Ministry of Municipal Affairs, 2020 – Provincial Policy Statement

Ministry of Natural Resources and Forestry, 2006 - Aggregate Resources Program Policies and Procedures

Aggregate Resources of Ontario Standards adopted by Ontario Regulation 244/97under the Aggregate Resources Act.

10.0 ACRONYMS

ANSI – Area of Natural and Scientific Interest

ARA – Aggregate Resources Act

ARPPM - Aggregate Resources Program Policy and Procedure (MNRF)

CLI – Canada Land Inventory (Agricultural Classification)

MECP – Ministry of Environment, Conservation and Parks

MNRF - Ministry of Natural Resources and Forestry

OGS – Ontario Geological Survey

OP – Official Plan (City of Ottawa)

PPS – Provincial Policy Statement 2014

PSW – Provincial Significant Wetland

Regs. – Ontario Regulation 244/97 under the Aggregate resources Act

ZB –Zoning By-Law (City of Ottawa) (By-Law 2008-250)

11.0 APPENDICES

APPENDIX A - Licence Application and Deed

Licence Application

McGee Pit Deed of Land

APPENDIX B - Site Plans

McGee Pit Existing Features Oct 16 2026

McGee Pit Operations Plan Oct 16 2026

McGee Pit Rehabilitation Plan Oct 16 2026

McGee Pit Cross Section Plan Oct 16 2026

McGee Pit Technical Report Recommendations Oct 16 2026

APPENDIX C - Maximum Predicted Water Table and Level 1 and 2 Water Study

Level 1 & Level 2 Hydrogeological Assessment April 16 2026

APPENDIX D - Natural Environment Report Level 1 & 2

McGee Pit Level 1 & Level 2 Natural Environment Report January 13 2026

APPENDIX E - Cultural Heritage Report Stage 1 & 2

McGee Pit Stage 1 Archeological Report

McGee Pit Stage 2 Archeological Report December 6 2022

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

Criteria for Evaluating Archeological Potential

APPENDIX F - Acoustic Assessment Report

McGee Pit Final Acoustic Assessment Report June 29 2023