



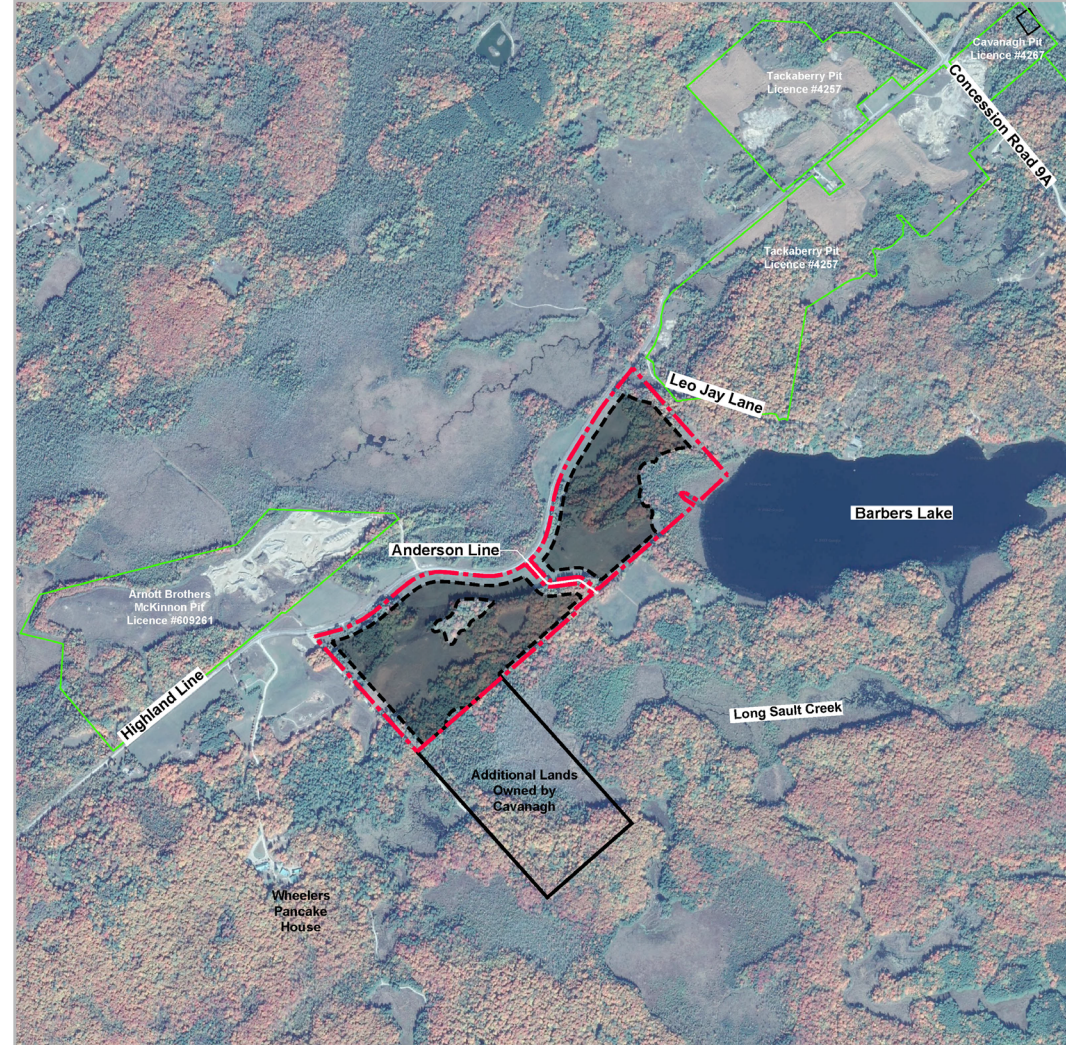
HIGHLAND LINE PIT APPLICATION

Thomas Cavanagh Construction
ARA Information Session

April 27th, 2023



Overview

- Cavanagh applied for applications under Planning Act and Aggregate Resources Act to permit pit operating below water table
- Part Lot 5 Concession 10, Dalhousie, Township of Lanark Highlands
- 2 properties split by Anderson Lane
- Frontage on Highland Line



Location Map

LEGEND

-  Subject Lands
-  Limit of Extraction

DATE: March 2023

SCALE: NTS

FILE: 0851E

DRAWN: DGS



K:\0851E-THOMAS CAVANAGH CONSTRUCTION-HIGHLAND LINER\FLOCATION MAP FOR PUBLIC MEETING.DWG

Thomas Cavanagh Construction Limited
Part of Lot 5, Concession 10
(Geographic Township of Dalhousie)
Township of Lanark Highlands
County of Lanark

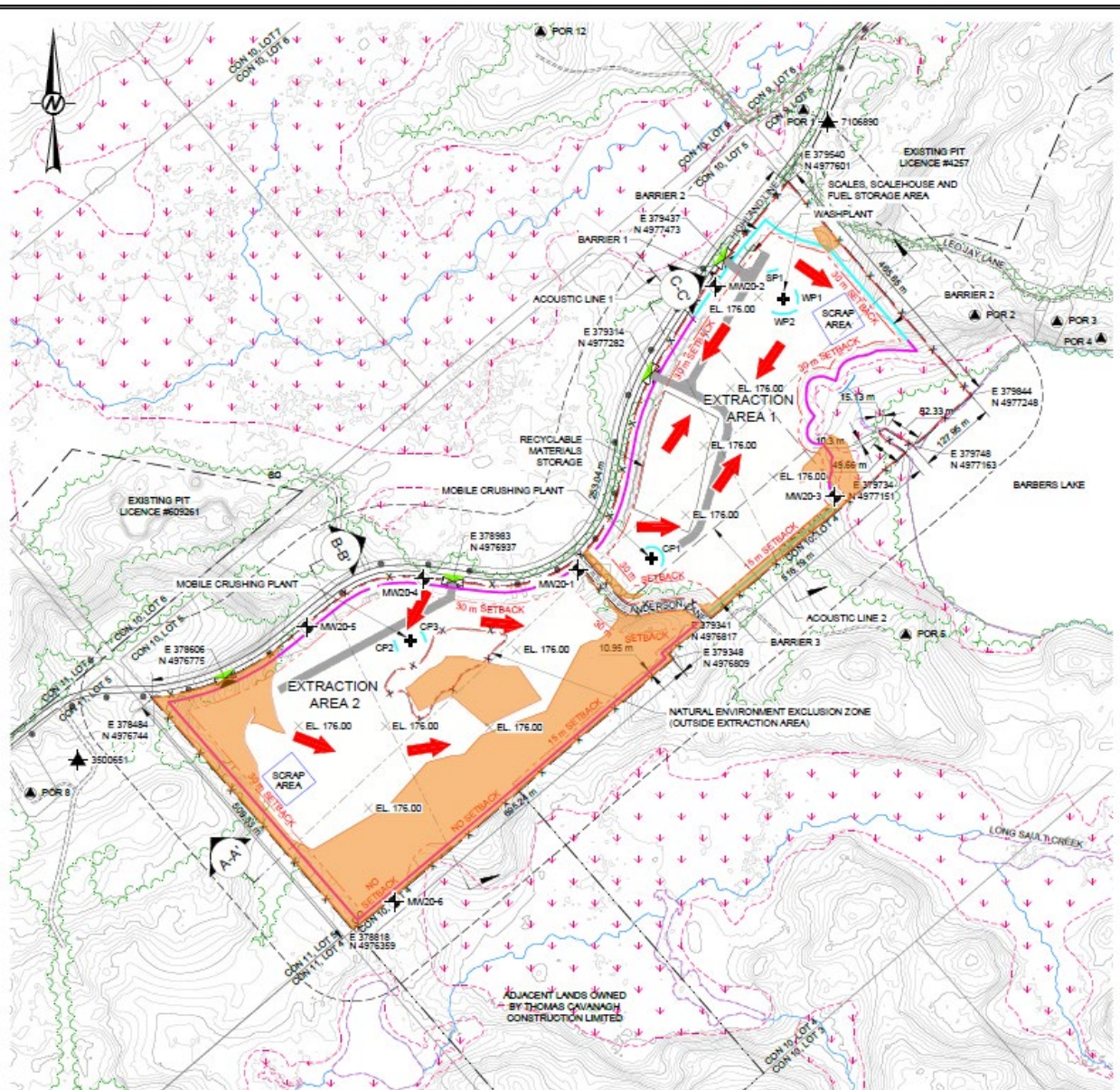
Base Map Source:
Google Imagery 2019

MHBC PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

Proposal

- Area proposed to be licensed: 50.6 ha
- Proposed extraction area: 35.1 ha
- Proposed maximum annual tonnage: 1 million tonnes/yr
- Proposed 24-hour operation with restrictions on what equipment can operate between 7 pm and 7 am
- Truck traffic east on Highland Line to County Road 12
- Site is recognized in Provincial geological mapping and Official Plan and Zoning By-law as containing high quality sand and gravel resources

Operations



- Pit to be divided into two extraction areas
- 30 m setback from all wetlands
- Vegetated berms adjacent to public roads and adjacent properties
- Extraction does not require dewatering or blasting

Rehabilitation



- Pit will be progressively rehabilitated to two ponds with shallow littoral zones for aquatic habitat and sloped areas around the ponds

Applications

- Class A License under the *Aggregate Resource Act*
- Applications under the *Planning Act*:
 - Amendment to the County of Lanark Official Plan
 - Amendment to the Township of Lanark Highlands Official Plan
 - Amendment to the Township of Lanark Highlands Zoning By-Law

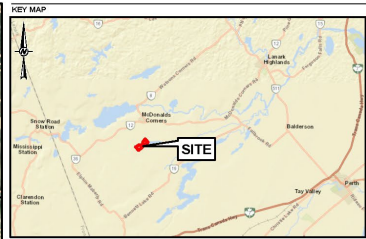
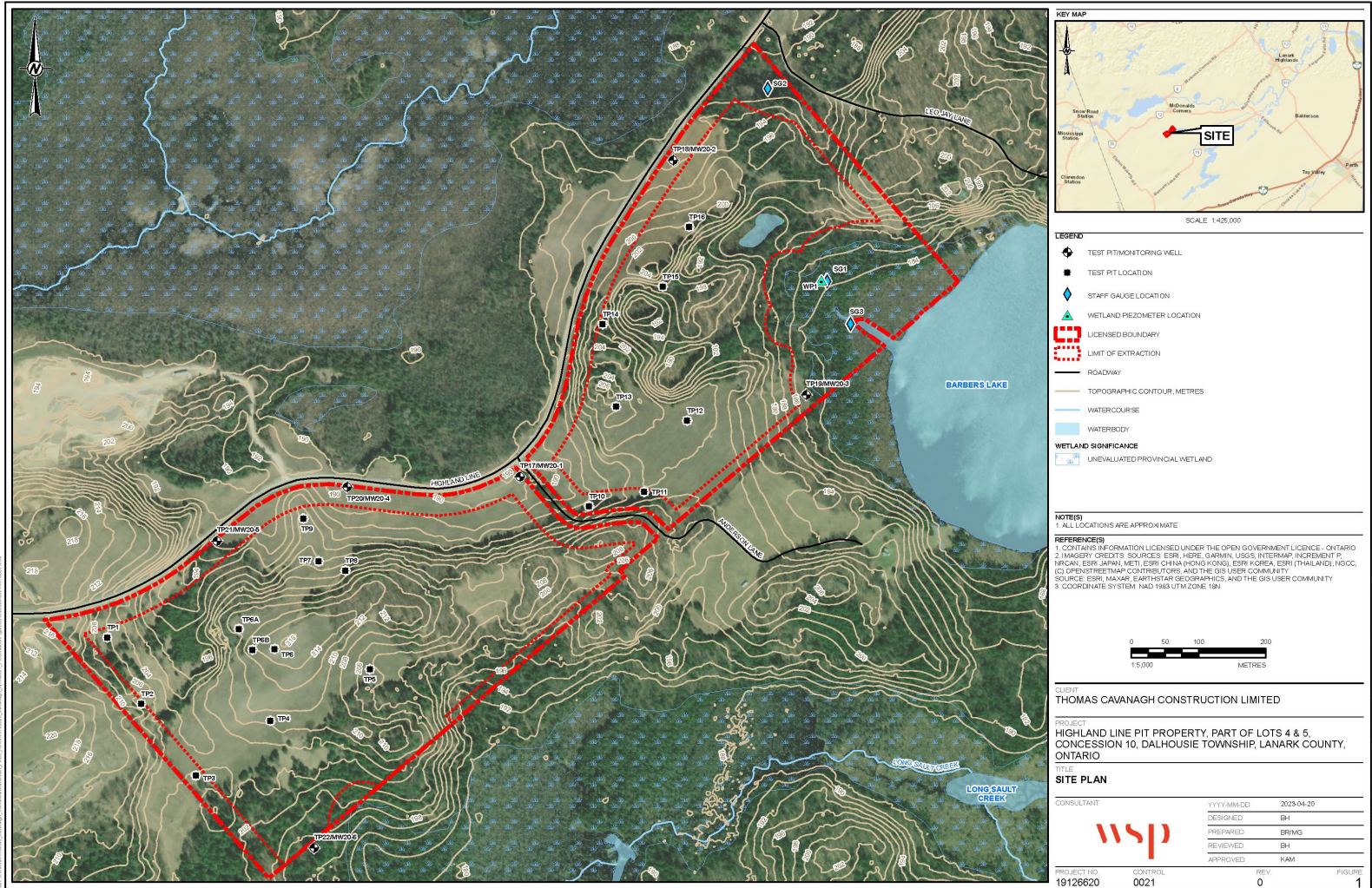
Application Processes

- Aggregate Resources Act and Planning Act processes are running concurrently
- We are at beginning of each process
- Multiple opportunities for public input and discussion
- Consultation under Aggregate Resources Act process started in early April. This includes landowner mailings, agency circulation, open house, project website, etc.
- Under ARA process, Cavanagh will be required to attempt to resolve all public and agency comments received
- This typically includes engaging with local community, receiving input, making changes to application to address concerns, etc.

Application Processes

- Technical studies are being reviewed by Township, County, MVCA, Ministry of Natural Resources and Forestry, Ministry of Environment, Conservation and Parks, and Fisheries and Oceans Canada (DFO)
- Natural Environment and Water Reports subject to peer review on behalf of the Township/ County
- Cavanagh welcomes opportunities for technical reviews of completed studies including expert peer reviews
- Site Plan is not a static document – changes will be considered to address feedback

Surface Water



- LEGEND**
- ◆ TEST PIT/MONITORING WELL
 - TEST PIT LOCATION
 - ◆ STAFF GAUGE LOCATION
 - ▲ WETLAND PIEZOMETER LOCATION
 - ▭ LICENSED BOUNDARY
 - ▭ LIMIT OF EXTRACTION
 - ROADWAY
 - TOPOGRAPHIC CONTOUR, METRES
 - WATER COURSE
 - WATERBODY
 - ▭ WETLAND SIGNIFICANCE
 - ▭ UNEVALUATED PROVINCIAL WETLAND

NOTE(S)
 1. ALL LOCATIONS ARE APPROXIMATE.

REFERENCE(S)
 1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
 2. IMAGERY CREDITS SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, IPICAN, ESRI, JAPAN METI, ESRI CHINA (HONGKONG), ESRI KOREA, ESRI (THAILAND), INSCC, (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
 SOURCE: ESRI, MAXAP, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY
 3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N



CLIENT
 THOMAS CAVANAGH CONSTRUCTION LIMITED

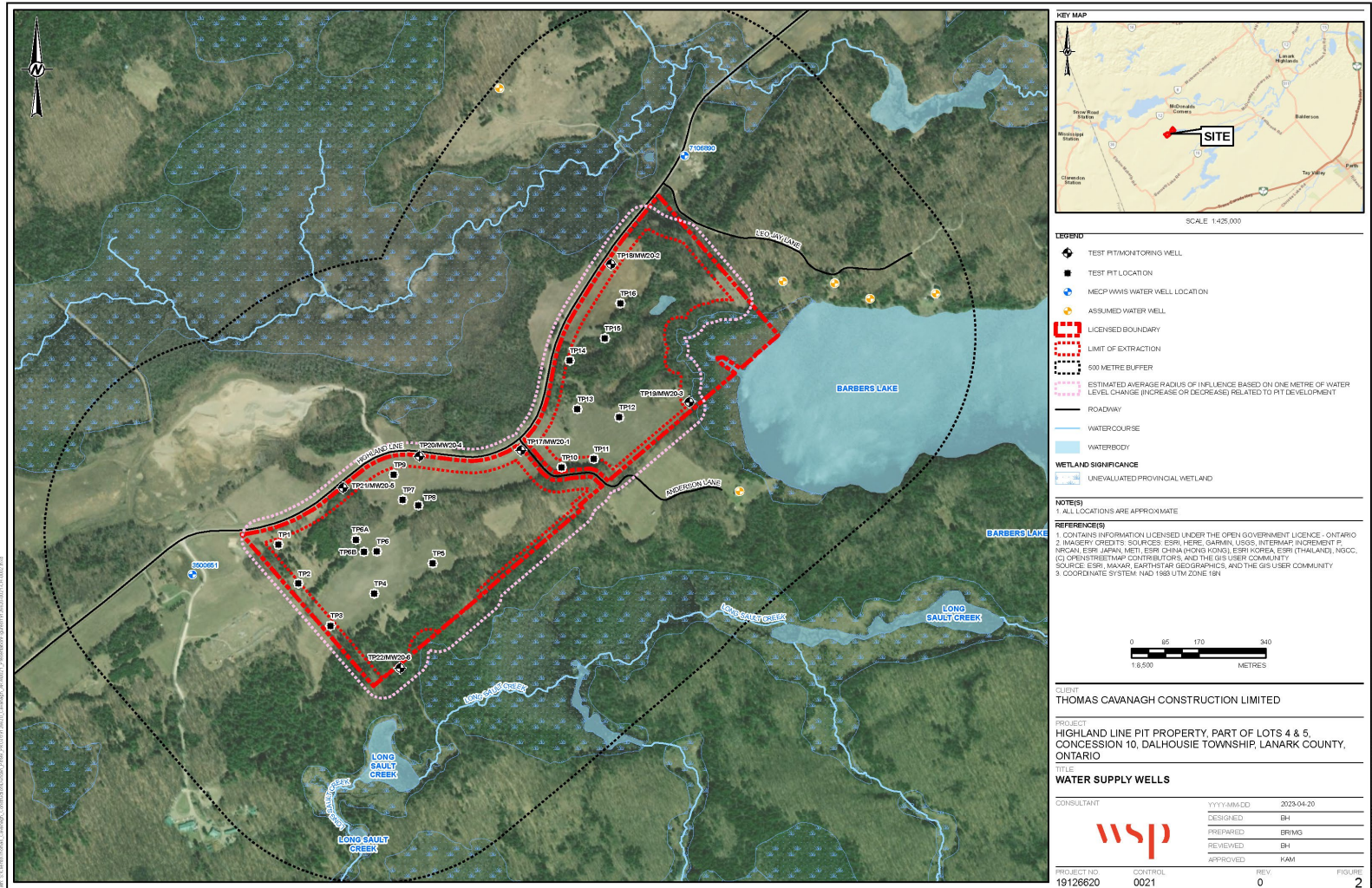
PROJECT
 HIGHLAND LINE PIT PROPERTY, PART OF LOTS 4 & 5,
 CONCESSION 10, DALHOUSIE TOWNSHIP, LANARK COUNTY,
 ONTARIO

TITLE
 SITE PLAN

CONSULTANT		DATE
		YYYY-MM-DD: 2023-04-20
		DESIGNED: BH
		PREPARED: BR/MG
		REVIEWED: BH
		APPROVED: KAM

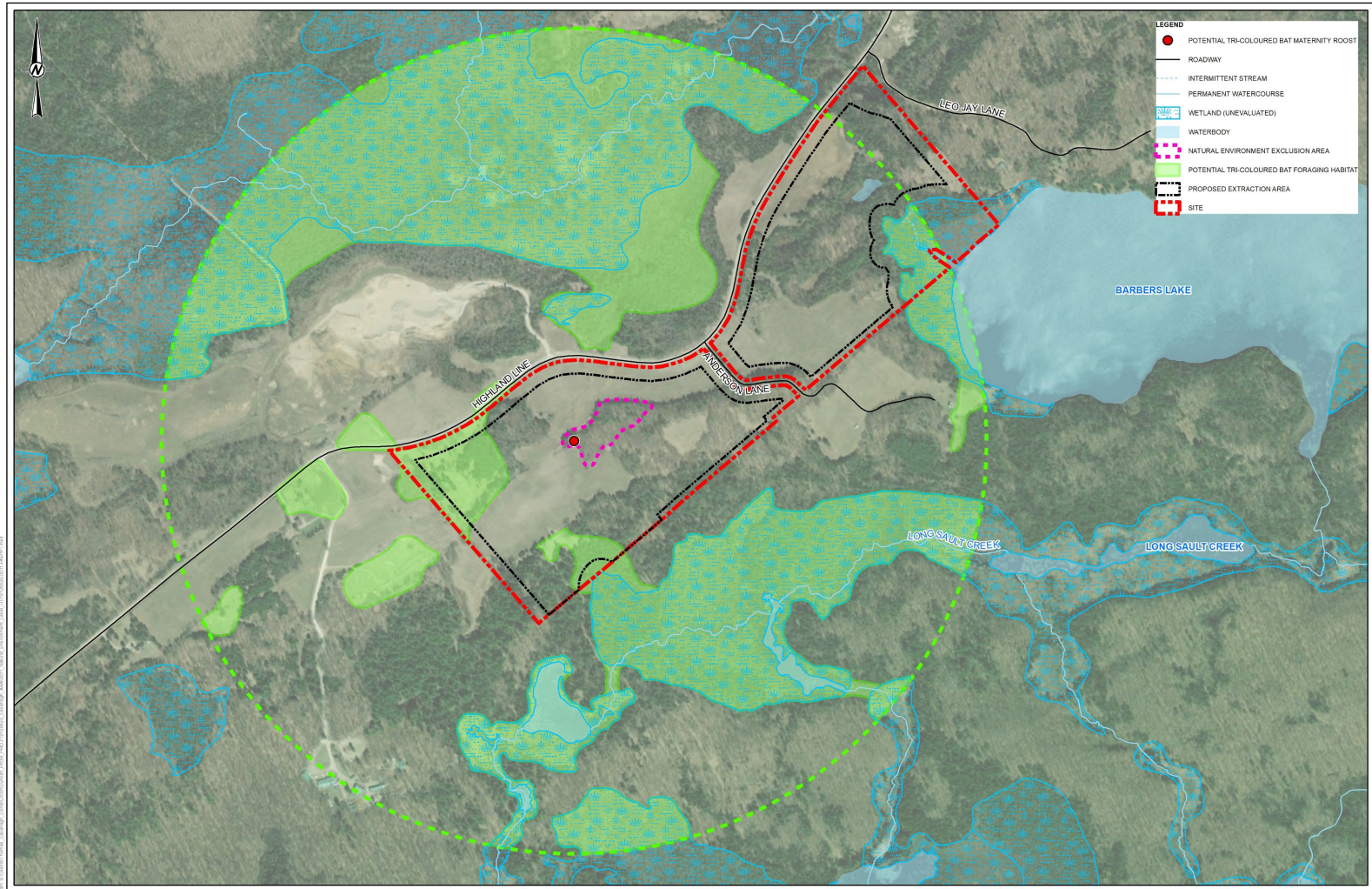
PROJECT NO.	CONTROL	REV.	FIGURE
19126620	0021	0	1

Hydrogeology



Cavanagh Highland Line Pit

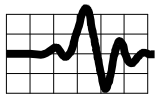
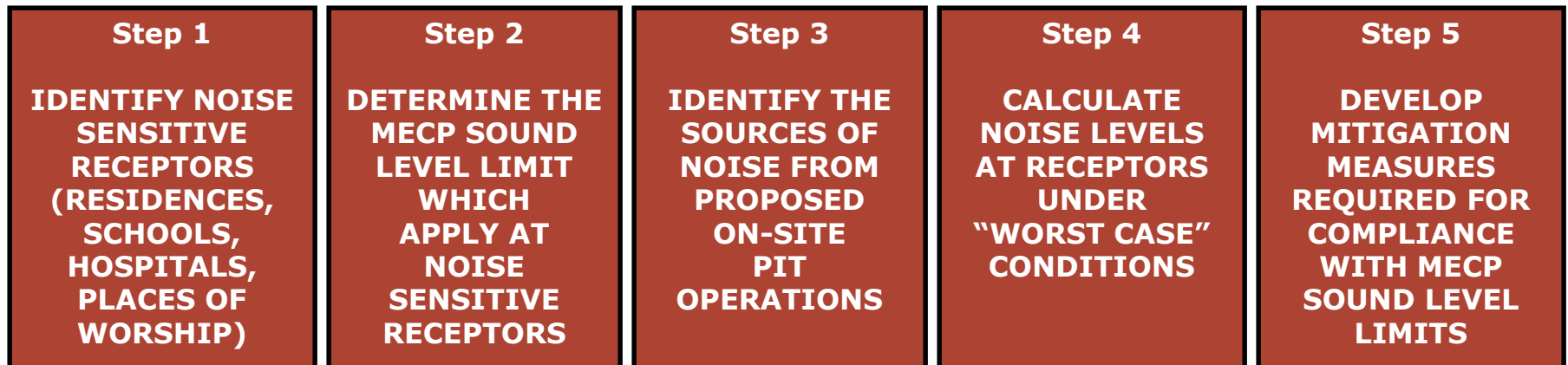
Natural Environment



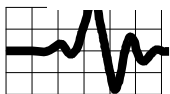
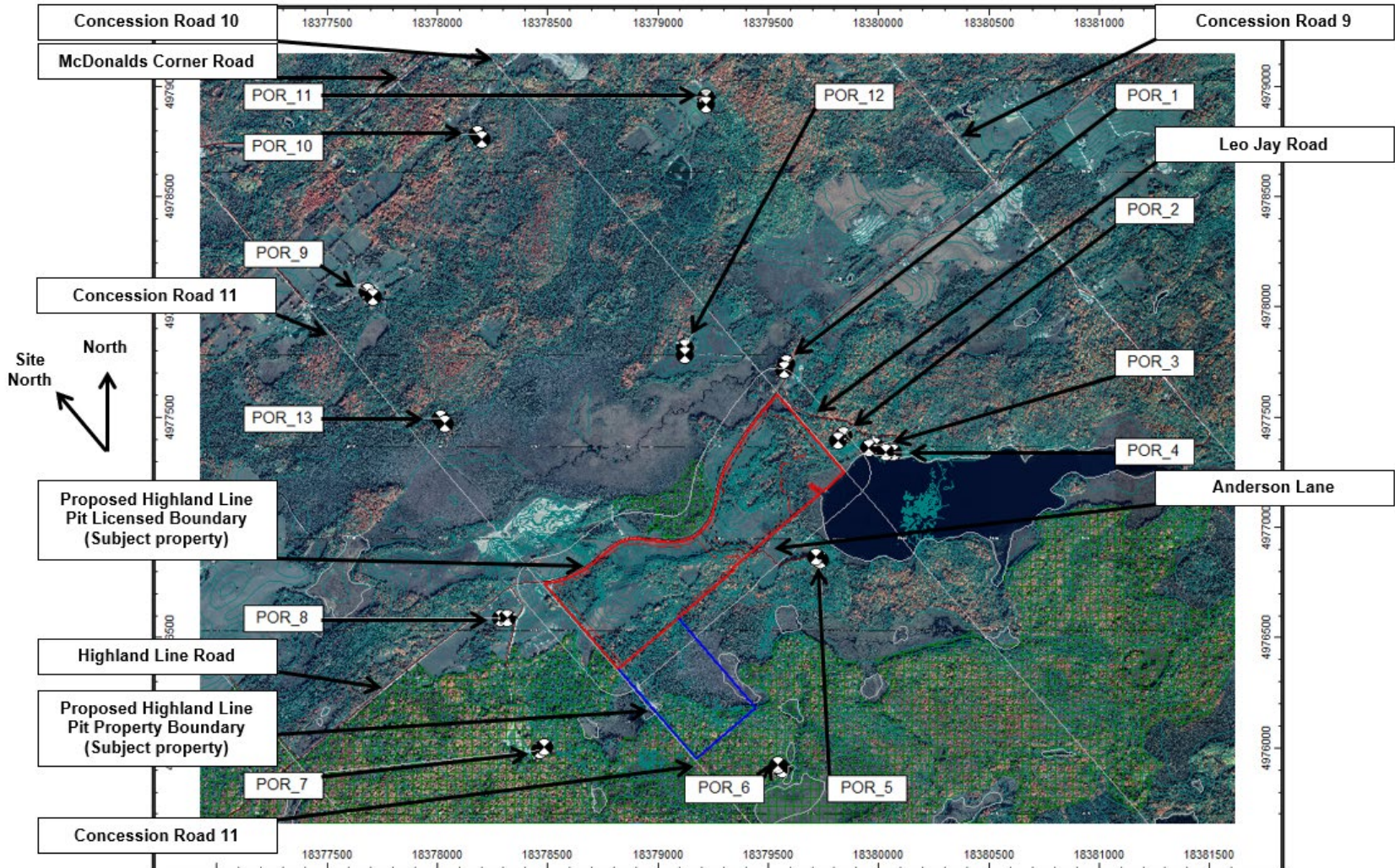
Cavanagh Highland Line Pit

Process for Assessing Noise Impacts

- Impacts of noise are assessed according to Ministry of Environment, Conservation and Parks (MECP) principles and guidelines.
- The methodology is illustrated in the diagram below.



Identification of Closest Receptors



Freefield Ltd.

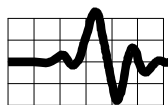
Cavanagh Highland Line Pit

Sound Level Limits

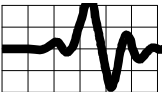
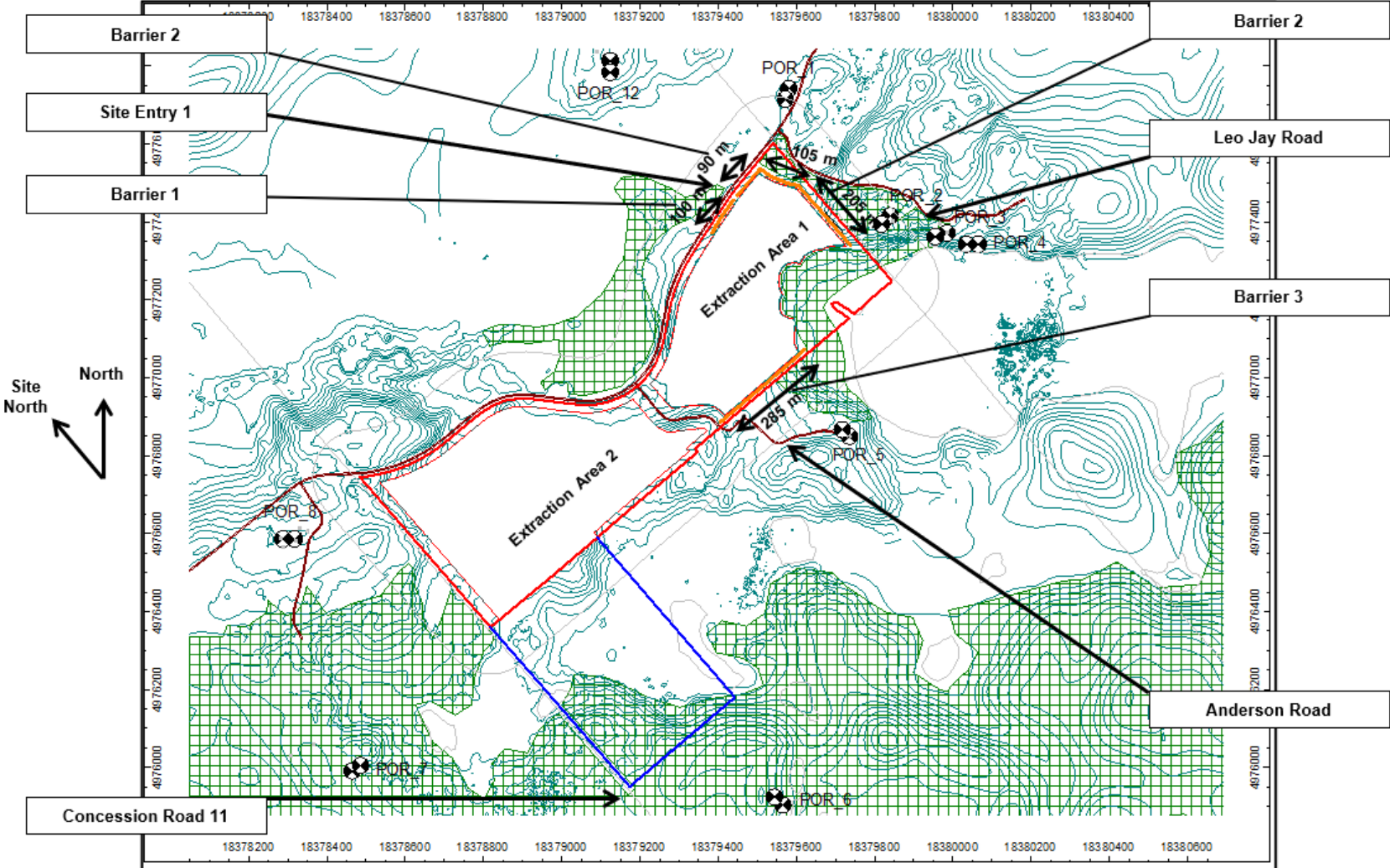
- Sound level limits are established for each point of reception based on MECP Guidelines.
- Limits consider type of area & background sound levels, as well as the period of operation.
- The sound level limits are based on 1-hour equivalent sound level. Effectively the average sound level that occurs within a 1-hour period.

Noise Sources at the Pit

- Significant on-site noise sources from the pit include:
 - Processing plants (Mobile crushing, screening and wash plant and associated generator),
 - Loaders and excavators (extraction, loading and stockpiling),
 - Trucks (transporting materials)

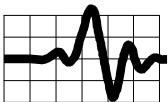


Extraction Areas and Noise Mitigation (Site Berms)



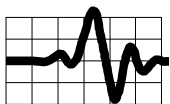
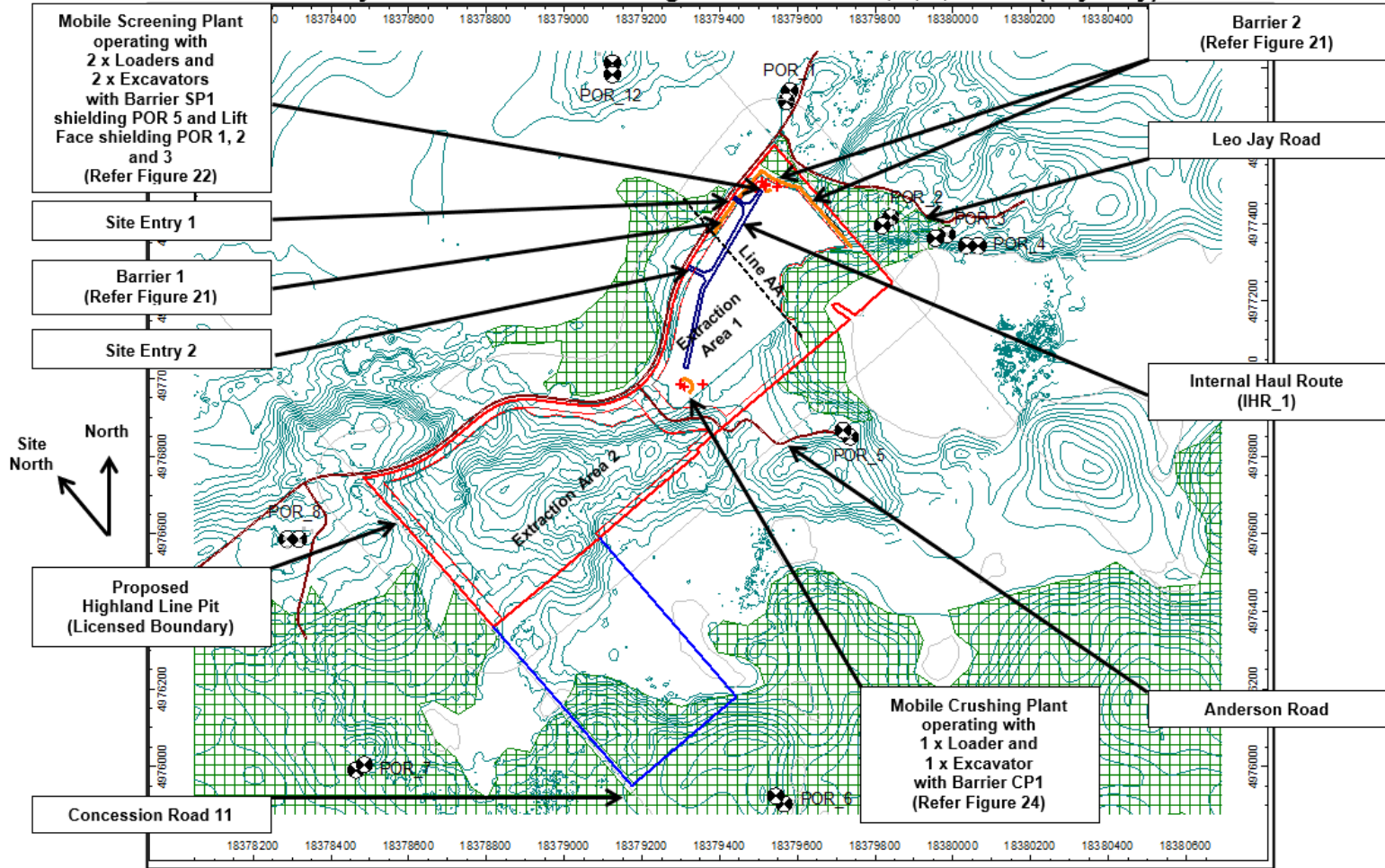
Noise Mitigation

- **Physical Measures:**
 - Site Berms
 - Local Noise Barriers at Processing Plants
 - Silencer installed on generator exhausts
- **Administrative Measures**
 - Restrictions on hours of operations for various equipment,
 - Restrictions on location of operation for various equipment.
 - Speed limit for trucks when operating on-site.



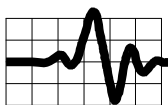
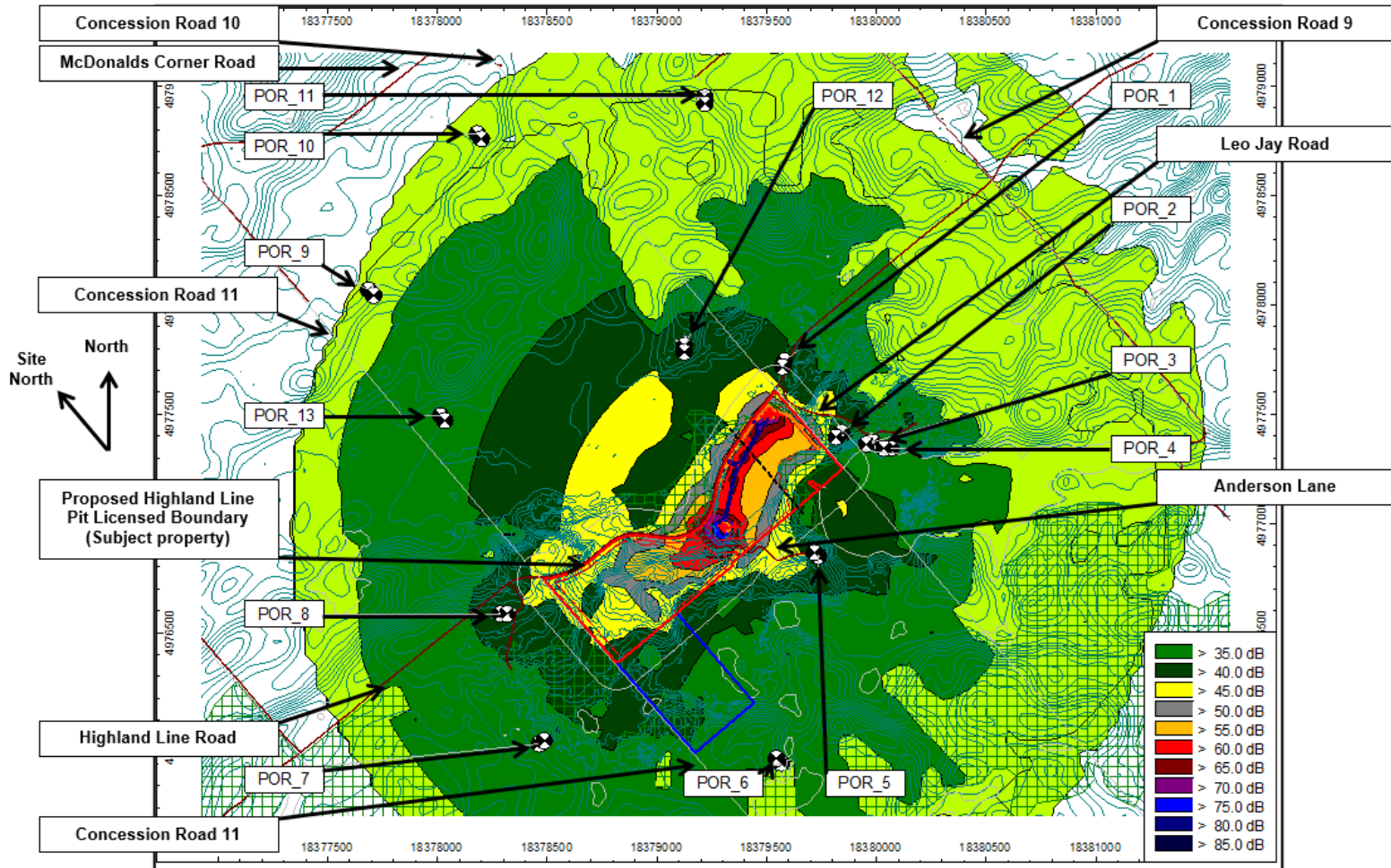
Model for Noise Calculations

Figure 3: Scenario 1: Worst Case, Extraction Area 1 – Crushing Plant and Screening Plant in operation concurrently with extraction occurring closest to POR 1, 2, 3, 4 & 12 (Day only)



Results of Noise Calculations

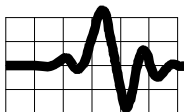
Figure 4: Prediction Results, Scenario 1 - Day only (07:00 to 19:00): Noise Contours, (Noise levels at 4.5 m)



Conclusions of the Acoustic Assessment

Pit operations will meet MECP Sound Level Limits with the following **Noise Mitigation Measures** (summarized see report for details).

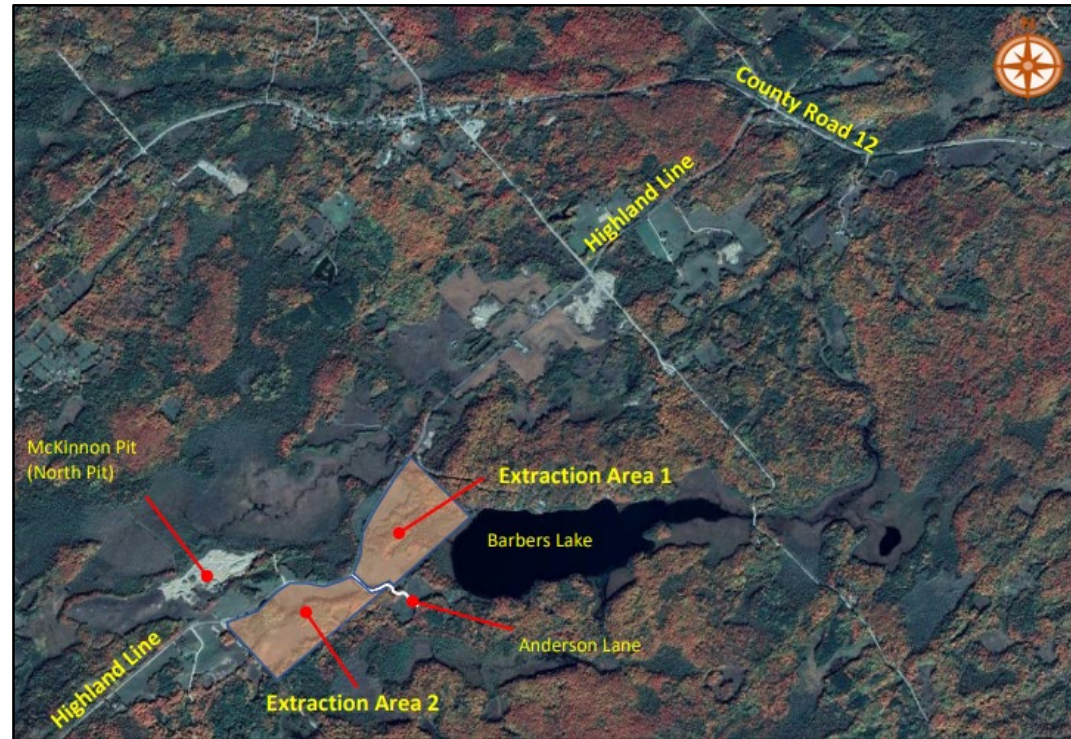
- Processing plant operations, daytime only (7 am to 7 pm).
- Site berms, local barriers and silencers are needed, see Table 7 and 8 and Figures 21 to 25 of Report for details.
- Processing plants to be located on-pit floor with the crushing plant only permitted in location shown on Figure 2.
- On-site trucks are to limit speed to 30 km/h & not use 'Jake brakes'.



Traffic & Transportation

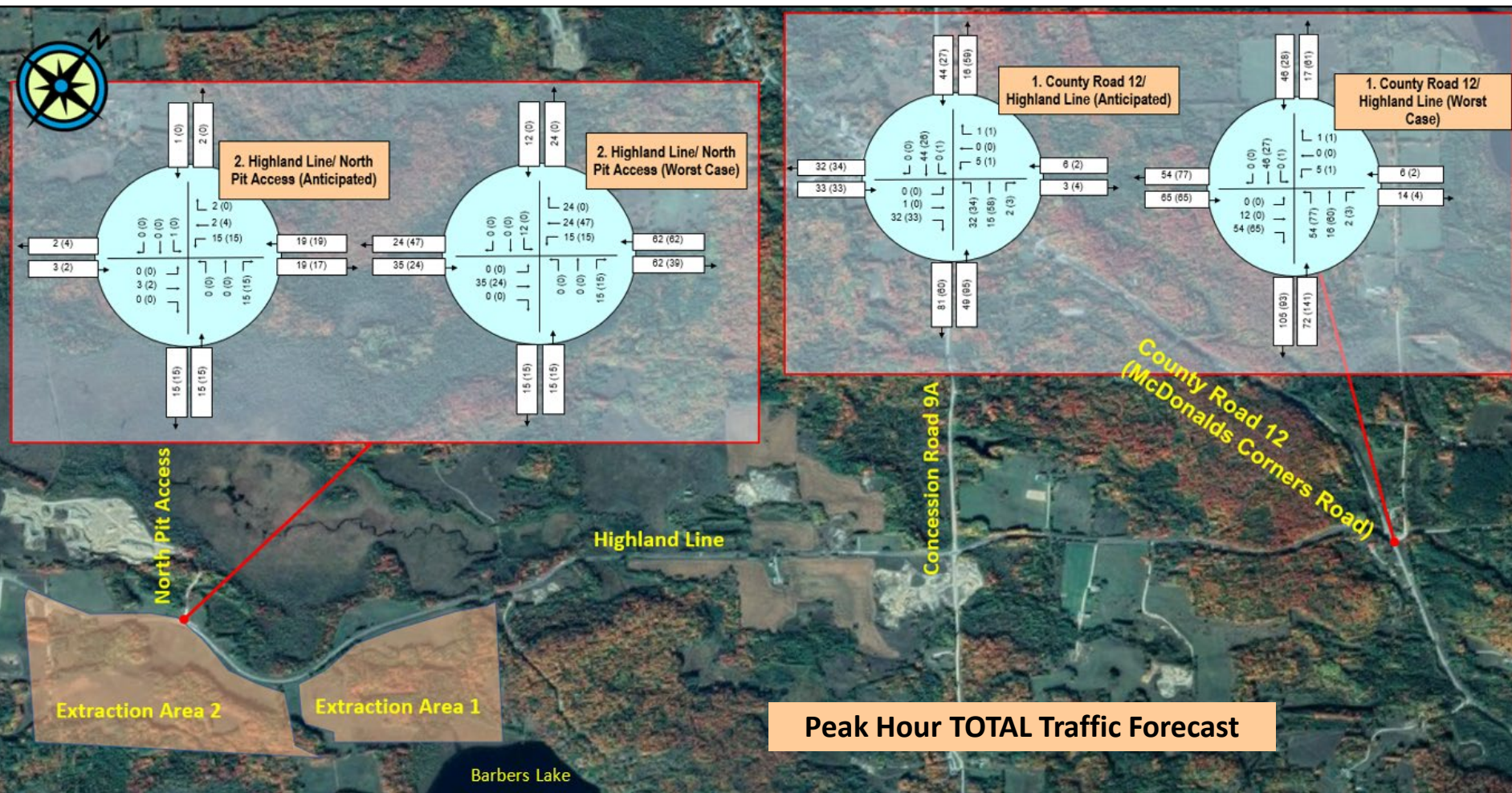
Site Traffic Generated

- 15 two-way truck trips-per-hour loads will be generated during the busiest hour of operations from each extraction area. (30 inbound and 30 outbound);
- A “Worst Case” was conservatively assumed, where the busiest hour of operations would coincide with both the morning and afternoon peak hours of travel demand.
- A more likely “Anticipated” traffic generation from the site during these periods would be significantly lower as loads are predominantly picked up and transported to arrive in advance of early morning construction activities;
- The primary truck route would follow Highland Line north-east towards the County Road 12 corridor, then proceed south-east towards Highway 7 and Ottawa;



Site Location

- The loads coming from, and going to the west of the site would be to accommodate local demand such small septic projects. The traffic impacts from/to the west of the site would be little-to-none.



- Two-way traffic along Highland Line fronting the development was analyzed ranging from 40-to-125 vehicles-per-hour.
- Two-way traffic along County Road 12 south of Highland Line was analyzed ranging from 160-to-235 vehicles-per-hour.

Traffic & Transportation

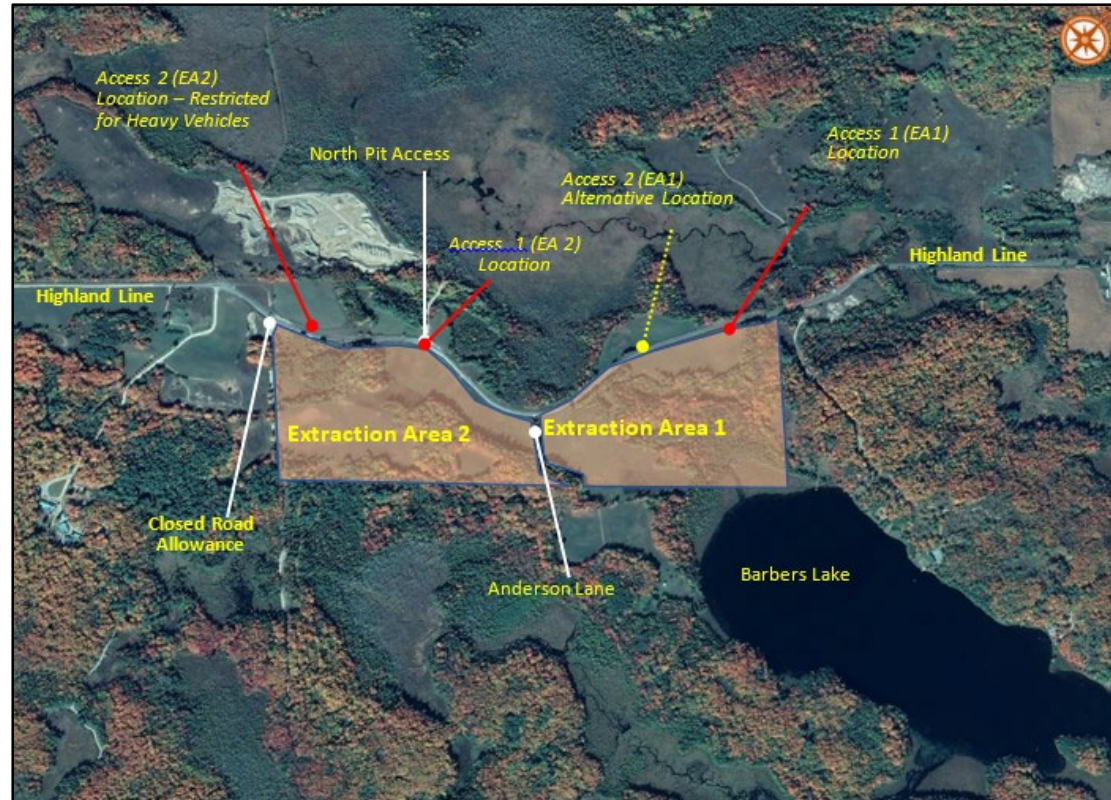
Extraction Area 1: A review of the access points onto the site (EA1) found that:

- Access 1 provided sufficient sight lines for operations. Other access alternatives to this access required some modifications to the roadway.
- Access 2 was re-positioned to a point 250m east along Highland Line to provide sufficient sight lines.

Extraction Area 2: A review of the access points onto the site (EA2) found that:

- Access 1 could remain in its original location, but required an earth mound to be removed to assure sufficient sight lines.
- Access 2 was characterized by deficient sight lines for heavy trucks, and as such access via this entrance was recommended to be restricted, as there are no other alternative viable relocation options.

Conclusion and Findings



Alternative Site Access Locations

The intersections are forecast to continue to operate acceptably during the peak hours of travel demand during the 2024 operational forecast horizon year (Based on “Worst Case” traffic volumes);

Traffic & Transportation

Potential Concerns

Issue 1: 1M Tonne Extraction Limit:

The extraction pit has a maximum annual extraction limit of 1M tonnes, however a more realistic average of 200K tonnes-per-year is anticipated. This average recognizes that the annual supply of aggregate materials throughout the Region is likely to be provided by other competing quarry operations.

The 1M Tonne limit is used for traffic analysis purposes to evaluate the impact in an extraordinary “worst” case. The “worst-case” evaluation indicated that all intersection operations would be satisfactory.

Issue 2: Evening/Night Time (19:00pm – 7:00am)

Evening/night time activities would be significantly reduced to a third of the day-time activity and would likely consist of different activities related to pick-up of materials, equipment maintenance etc.

Issue 3: Traffic Counts:

The traffic counts were conducted in December of 2021, when COVID-19 restrictions were still in place. December is a low-traffic time of year.

It was noted that the peak season is Mid-March which coincides with Maple Syrup Season.

To account for the low surveyed traffic volumes the through traffic along Highland Line was multiplied by a factor of 10 to adjust to peak seasonal traffic volumes.

In addition, monitoring of traffic volumes and conditions is recommended to assure that traffic operations will continue to operate at acceptable levels.

Closing Remarks

- This is beginning of application review process
- We are hear to listen and receive input which will allow Cavanagh to consider feedback and further engage with community and Township
- Thank you for opportunity to provide our comments and we look forward to hearing from the community
- For more information visit <http://cavanagharaapprovals.com/>



THANK-YOU

