Environmental Noise & Vibration Assessment

Parry Sound Area Planning Board Consent Application B46/2021 (McDougall) – (Sim Consent)

Hall Construction Inc.

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0	October 25, 2023	Scott Penton	Aaron Haniff	Scott Penton

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1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by Hall Construction Inc. (“Hall”) to prepare an environmental noise assessment to examine the potential impact from their Georgian Rock Company quarry operations on the proposed severance of the Sims lands located Part of Lots 69 & 71 RCP Plan 328, in the Municipality of McDougall, in the Parry Sound area.

1.1 Description of Proposed Development

The lands are owned by David and Debbie Sim, and are located on the south side of Burnside Bridge Road. The parcel of land is 26 hectares with 365 metres of frontage along the river and an equal amount of frontage on the road. The application proposes to create three new rural lots along the Burnside Bridge Road frontage. Each of the lots will have a minimum frontage of 100 m on the road with areas all in excess of 1.5-ha. The retained lands will continue to be a waterfront lot with access off the municipal road. The lot locations are shown in **Figure 1**.

An environmental noise impact study on behalf of the Sims was previously completed by RWDI AIR Inc. (“RWDI”), in their report entitled “Burnside Bridge Road, Municipality Of McDougall, Ontario, Land Use Compatibility / Mitigation Study (Noise)”, dated December 2021 (“the RWDI Report”). SLR completed a peer review of that report in July 2022 on behalf of Hall and identified several issues (“the SLR Peer Review”). Additional points were raised in a peer review conducted by GHD Inc. (“GHD”), on behalf of the town, entitled “Peer Review of Land Use Compatibility Study, Proposed Burnside Bridge Road Lot Severance”, dated December 2022 (“the GHD Peer Review). This report provide an independent modelling assessment of potential noise impacts, and is intended to address some of the issues raised in the peer reviews.

1.2 Nature of the Surroundings

The Lots are located to the east of the “Badger’s Corners” area of McDougall, on the east side of Mill Lake, at the southeast corner of Burnside Bridge Road and Lipsett Lane. A map of the lot locations and surrounding area is provided in **Figure 2**.

The lots are located immediately to the south of a 24.5 ha quarry also owned and operated by Georgian Rock Co., permitted under the Aggregate Resources Act (“ARA”) The purpose of this assessment is to provide a review of the potential noise and vibration impacts on the lots, from on-going quarry operations.

1.3 Noise and Vibration Sources of Interest

The only noise or vibration source in the area with the potential to affect the lots is the Georgian Rock Co. to the north. This will be the focus of the remainder of the assessment.

2.0 Environmental Noise

2.1 Georgian Rock Co. Operations

The Georgian Rock Co. Quarry (“the Quarry”), located at 33 Burnside Bridge Rd., operates under ARA Licence 624196. Copies of the Site Plans for the quarry are provided in **Appendix A**.

The entire licences area is approximately 24.5 Ha. Within the license boundary, two extraction areas are identified: an approximately 12.2 Ha area at the south of the site, and a 2.2 Ha at the northwest corner of the licensed area. Due to site constraints including the presence of existing access roads (e.g., Burnside Trail), the northwest extraction area will not be extracted, leaving only the southern area ("the extraction area").

The terrain generally slopes downward from the southwest corner of the licensed area (elevation 244 m asl) to the northwest (towards the lots to be severed (elevation 195 m asl).

The quarry currently produces high quality granite, in the form of large blocks which are transported to other facilities for slicing into kitchen countertops and other building materials such as wall and floor tiles.

Depending on the quality of materials, the facility may switch at later phases to the production of aggregates, which would include the use of a central crushing and screening plant. The site is also approved for a future ready-mix concrete plant, or a future asphalt plant.

Excavation is currently taking place in the western half of the extraction area, down to an elevation of 212 m asl at the lowest portion. The final excavated depth will be 204 m asl.

The following activities occur:

- Removal of overburden from unexcavated areas. This activity involves backhoes, trucks, excavators and other items of heavy equipment. This is considered to be construction activity under the noise guidelines, and no overall noise guideline limit applies. Overburden is stored in various stockpiles around the site, including a major stockpile at the northwest portion of the excavation area. This material will be used for rehabilitation at the end of the Quarry's operations.
- Excavation takes place in a series of 4 to 6 m high "lifts" progressing eastward. A rock drill is used to drill a series of holes for blasting. The rock drill is located on top of the active lift, and is therefore usually the dominant noise source as it is generally unscreened by terrain.
- The large blocks of granite of various sizes produced by blasting are removed from the working face using backhoes and trucks and are sorted into various piles on the site. The blocks are transported off-site to other facilities for further processing using heavy trucks. Approximate one truck per hour enters and exits the facility.
- Operations are restricted to daytime hours (7am to 7pm).
- Future activities may include aggregate operations (including a crusher and screening plant), as well as an asphalt plant or a ready-mix concrete plant.

2.2 Applicable Noise Guidelines

2.2.1 Guideline D-6

The D-series of guidelines were developed by the Ministry of the Environment, Conservation and Parks ("MECP") in 1995 as a means to assess recommended separation distances and other control measures for land use planning proposals in an effort to prevent or minimize 'adverse effects' from the encroachment of incompatible land uses where a facility either exists or is proposed. D-series guidelines address sources including sewage treatment (Guideline D-2), gas and oil pipelines (Guideline D3), landfills (Guideline D-4), water services (Guideline D-5) and industries (Guideline D-6).

For this project, the applicable guideline is Guideline D-6 - *Compatibility between Industrial Facilities and Sensitive Land Uses*. The guideline specifically addresses issues of air quality, odour, dust, noise and litter.

Adverse effect is a term defined in the *Environmental Protection Act* and "means one or more of:

- impairment of the quality of the natural environment for any use that can be made of it,
- injury or damage to property or to plant or animal life,
- harm or material discomfort to any person,
- an adverse effect on the health of any person,
- impairment of the safety of any person,
- rendering any property or plant or animal life unfit for human use,
- loss of enjoyment of normal use of property, and
- interference with the normal conduct of business".

To minimize the potential to cause an adverse effect, areas of influence and recommended minimum setback distances are included within the guidelines. The areas of influence and recommended separation distances from the guidelines are provided in the table below.

Table 1: Guideline D-6 - Potential Influence Areas and Recommended Minimum Setback Distances for Industrial Land Uses

Industry Classification	Area of Influence	Recommended Minimum Setback Distance
Class I – Light Industrial	70 m	20 m
Class II – Medium Industrial	300 m	70 m
Class III – Heavy Industrial	1000 m	300 m

Industrial categorization criteria are supplied in Guideline D-6-2, and are shown in the following table.

Table 2: Guideline D-6 - Industrial Categorization Criteria

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class I Light Industry	• Noise: Sound not audible off-property • Dust: Infrequent and not intense • Odour: Infrequent and not intense • Vibration: No ground-borne vibration on plant property	• No outside storage • Small-scale plant or scale is irrelevant in relation to all other criteria for this Class	• Self-contained plant or building which produces/ stores a packaged product • Low probability of fugitive emissions	• Daytime operations only • Infrequent movement of products and/ or heavy trucks	• Electronics manufacturing and repair • Furniture repair and refinishing • Beverage bottling • Auto parts supply • Packaging and crafting services • Distribution of dairy products • Laundry and linen supply
Class II Medium Industry	• Noise: Sound occasionally heard off-property • Dust: Frequent and occasionally intense • Odour: Frequent and occasionally intense • Vibration: Possible ground-borne vibration, but cannot be perceived off-property	• Outside storage permitted • Medium level of production allowed	• Open process • Periodic outputs of minor annoyance • Low probability of fugitive emissions	• Shift operations permitted • Frequent movements of products and/ or heavy trucks with the majority of movements during daytime hours	• Magazine printing • Paint spray booths • Metal command • Electrical production • Manufacturing of dairy products • Dry cleaning services • Feed packing plants

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class III Heavy Industry	• Noise: Sound frequently audible off property • Dust: Persistent and/ or intense • Odour: Persistent and/ or intense • Vibration: Ground-borne vibration can frequently be perceived off-property	• Outside storage of raw and finished products • Large production levels	• Open process • Frequent outputs of major annoyances • High probability of fugitive emissions	• Continuous movement of products and employees • Daily shift operations permitted	• Paint and varnish manufacturing • Organic chemical manufacturing • Breweries • Solvent recovery plants • Soaps and detergent manufacturing • Metal refining and manufacturing

2.2.1.1 Requirements for Assessments

Guideline D-6 requires that studies be conducted to assess impacts where sensitive land uses are proposed within the potential area of influence of an industrial facility. This report is intended to fulfill this requirement.

The D-series guidelines reference previous versions of the air quality regulation (Regulation 346) and noise guidelines (Publications NPC-205 and LU-131). However, the D-Series of guidelines are still in force, still represent current MECP policy and are specifically referenced in numerous other current MECP policies. In applying the D-series guidelines, the current policies, regulations, standards and guidelines have been used (e.g., Publication NPC-300).

2.2.1.2 Requirements for Pits and Quarries

Guideline D-6 states specifically that it does not apply to pits and quarries. However, it also states that “in the absence of site-specific studies, this guideline should be utilized when sensitive land use encroaches on an existing pit and/or quarry. In these situations, the appropriate criteria are the potential influence area and recommended minimum separation distance for a Class III industrial facility.”

The 300 m separation distance from the southern extraction limit is shown in **Figure 3**.

2.2.1.3 Requirements for Minimum Separation Distances

Guideline D-6 also *recommends* that no sensitive land use be placed within the Recommended Minimum Separation Distance. However, it should be noted that this is a recommendation only. Section 4.10 of the Guideline allows for development within the separation distance, in cases of redevelopment, infilling, and transitions to mixed use, provided that the appropriate studies are conducted and that the relevant air quality and noise guidelines are met.

2.2.1.4 Application In This Case

This study is a “site-specific study”, and therefore, provided that the applicable noise guidelines are met, residential development (and the severance of the lot in question) would be allowed under Guideline D-6, even within the Recommended Minimum Separation Distance. This is consistent with the presence of existing residences within 300 m of the Quarry, as shown in **Figure 3**.

2.2.2 Publication NPC-300 – Stationary Noise Sources

The applicable MECP noise guidelines for new sensitive land uses adjacent to existing industrial commercial uses are provided in MECP Publication NPC-300. The guideline sets out noise limits for two main types of noise sources:

- Non-impulsive, “continuous” noise sources such as ventilation fans, mechanical equipment, and vehicles while moving within the property boundary of an industry. Continuous noise is measured using 1-hour average sound exposures (L_{eq} (1-hr) values), in dBA; and
- Impulsive noise, which is a “banging” type noise characterized by rapid rise time and decay. Impulsive noise is measured using a logarithmic mean (average) level (L_{LM}) of the impulses in a one-hour period, in dBAI.

There are no impulsive-type noises associated with the Quarry, and therefore impulsive noise is not considered further.

The guideline requires an assessment at, and provides separate guideline limits for:

- Outdoor points of reception (e.g., back yards, communal outdoor amenity areas); and
- Façade points of reception such as the plane of windows on the outdoor façade which connect onto noise sensitive spaces, such as living rooms, dens, eat-in kitchens, dining rooms and bedrooms.

Different guideline limits apply to different types of areas, depending on there level of urbanization and presence/ intensity of man-made background sounds in the area. SLR agrees with RWDI Report that the local acoustical environment can be best characterized as a “Class 2 semi-rural” area, where the sound environment is dominated by man-made sounds during the day, and by the sounds of nature at night. The Class 2 noise guideline limits have been adopted in this study.

The applicable noise limits at a point of reception are the higher of:

- The existing ambient sound level due to road traffic, or
- The exclusion limits set out in the guideline.

The following tables set out the exclusion limits from the guideline.

Table 3: Publication NPC-300 Exclusion Limits for Non-Impulsive Sounds (L_{eq} (1-hr), dBA)

Time of Day	Class 2 Area	
	Plane of Windows of Noise Sensitive Spaces [1]	Outdoor Points of Reception [2]
7 am to 7 pm	50	50
7 pm to 11 pm	50	45
11 pm to 7 am	45	n/a

Notes:

[1] Evaluated at the centre of the window. Where actual window heights are not known, the following heights are used:

1-storey, 1.5 m; 2-storey, 4.5 m; 3-storey, 7.5 m; etc.

[2] Receptor height of 1.5 m above local grade. For small lots, the limit applies at all usable locations. For large lots, the sound level limit applies to all usable locations within 30 m of the residence.

The exclusion limits would apply in this case. Given that the Quarry only operates between the hours of 7am and 7pm, the applicable noise limit is 50 dBA.

2.2.3 Publication NPC-119 - Blasting

MECP Publication NPC-119 sets limits on sound (overpressure) and vibration from blasting operations. The limits are as follows:

Table 4: Publication NPC-119 Limits for Blasting Noise and Vibration

Type	Guideline Limit	
	Cautionary Limit [1]	Peak Limit [2]
Overpressure (Sound)	120 dB	128 dB
Ground-Borne Vibration	10 mm/s	12.5 mm/s

Notes:

[1] Design limit absent routine monitoring, or if complaints are received.

[2] Design limit provided routine monitoring of noise and vibration takes place.

Blasts should be designed by the blasting contractor to meet the above limits. Blast sound and vibration levels can be controlled by adjusting various parameters such as hole spacing, explosive charge weight, and the time delay between rows.

2.2.4 McDougall Noise By-law

The Municipality of McDougall Noise By-law 97-01 (“the Noise By-law”) is general and does not provide any specific numerical limits. The general prohibition is provided in Section 2:

> 2. No person shall ring any bell, blow or sound any horn or cause the same to be rung blown or sound, shout, OR create, cause or permit any noise or unusual noise likely to disturb any inhabitant of the Township of McDougall at any time except when required by law or when specifically exempted from this by-law.

"Noise or unusual noise likely to disturb any inhabitant" is undefined. However, following general acoustical engineering practices, noise meeting the applicable MECP Publication NPC-300 and Publication NPC-119 limits would be consisted acceptable, and unlikely to disturb people.

2.2.5 Summary

An assessment of potential noise and vibration impacts at the proposed severed lots is warranted. Provided the applicable MECP Publication NPC-300 and Publication NPC-119 limits are met, the requirements of MECP Guideline D-6 and the Municipality of McDougall Noise By-law will also be met.

2.3 Noise Modelling Methodology

2.3.1 Stationary Noise

Worst-case scenario noise levels from the surrounding commercial/ industrial operations were modelled using Cadna/A, a computerized version of the internationally recognized ISO 9613-2 noise propagation algorithms. This is the preferred noise modelling methodology of the MECP. The ISO 9613 equations account for:

- Source to receiver geometry;
- Distance attenuation;
- Atmospheric absorption;
- Reflections off of the ground and ground absorption;
- Reflections off of vertical walls;
- Screening effects of buildings, terrain, and purpose-built noise barriers (noise walls, berms, etc.).

The following additional parameters were used in the modelling, which are consistent with providing a conservative (worst-case assessment of noise levels):

- Temperature: 10°C;
- Relative Humidity: 70%;
- Ground Absorption G: G=1.0 (absorptive) as default global parameter. specific reflective areas such as water, were modelled as G=0.0 (reflective).
- Reflection: An order of reflection of 0 was used as there are no reflective walls in the area which could increase off-site sound levels
- Foliage: heavily forested areas were included in the modelling
- Terrain: Digital terrain information was included in the modelling. The existing pit area was obtained from LIDAR data supplied by Hall Construction. Surrounding terrain data was obtained from the West Parry Sound Geography Network.

2.3.2 Blasting Noise

A detailed assessment of blasting noise has not been completed. Blasting noise and vibration are routinely monitored at the site by the blasting contractor, and the blasts are design to meet the applicable MECP Publication NPC-119 limits. As such, adverse noise impacts from blasting are unlikely to occur.

2.4 Modelled Scenarios and Sources of Interest

The sound power (noise emission) levels used in the analysis are provided in **Appendix B**, and are based on measurements of existing facility operations, supplemented with data from SLR's database of measurements conducted at similar facilities.

Noise levels from the following scenarios have been considered:

Scenarios 1 to 5: Rock Drilling

- Rock drilling, at five (5) locations and lifts as the Quarry is initially excavated, to produce large blocks. See **Figures 4 through 8**. Sources include:
  - One rock drill on top of the active lift;
  - One excavator and one front end loader moving rocks at the working face;
  - two front end loaders moving/ relocating blasted rock on the site to various storage locations; and
  - one heavy truck shipping material from the site.

Scenario 6: Future Aggregate Operation

- Potential future aggregate operations, later in the life of the pit, as shown in **Figure 9**. Sources include:
  - One rock drill on top of the active lift;
  - One excavator and one front end loader moving rocks at the working face;
  - One heavy truck moving material from the working place to the central plant;
  - A central plant consisting of crusher and screen. Aggregate stockpiles will be used to create a 10 m high "C"-shaped berm to shield residences to the west. This is a typical mitigation measure for crushing plants. An additional 5 m high berm will be located at the western edge of the excavation area;
  - One front end loader feeding the central plant and loading shipping trucks; and
  - 10 shipping trucks shipping material from the site.

Scenario 7: Future Asphalt Plant

- A potential future batch asphalt plant, later in the life of the pit, as shown in **Figure 10**. Sources include:
  - The sources for future aggregate operations described above; plus:
  - Asphalt dryer drum, including the burner, primary and secondary air blowers, dryer drum motor, and drive chain/gear;
  - Hot mix silo elevator and conveyor;
  - Hot mix silo baghouse;
  - One front end loader feeding the dryer;
  - One Arriving/Departing Asphalt Cement Truck; and
  - 10 Arriving/Departing Asphalt Trucks.

Scenario 8: Future Ready-Mix Concrete Plant

- Potential future ready-mix concrete plant operations, later in the life of the pit, as shown in **Figure 11**. Sources include:
  - The sources for future aggregate operations described above; plus:
  - Two cement powder trucks arriving during a worst-case hour and unloading using onboard blowers;
  - Three silo dust collectors;
  - 10 Arriving/Departing Concrete Trucks;
  - Concrete trucks idling for 2 minutes each prior to entering the batch tower; and
  - Concrete trucks on “high idle” for a period of 5 to 6 minutes each “slumping up” after exiting the batch tower, prior to leaving the site.

2.5 Receptor Locations

Sound levels at existing residences were modelled. For the proposed lots, the same receptor locations for the residences were used as modelled in the RWDI report, located 70 m back from the Quarry property line. A 2-storey receptor height of 4.5 m was used.

A point of reception was also used for the outdoor amenity area, at a location 30 m from the residence, towards the Quarry. Noise contours (isopleths of equal noise levels) at a height of 1.5 m were also calculated on the three lots.

The proposed residences lie at elevations of 223 to 230 m asl, and thus will overlook much of the quarry operations.

2.6 Modelling Results

2.6.1 Stationary Noise

Predicted sound levels at existing residences and at the proposed severed lots are shown in **Figures 4 through 11**, and are summarized in the table below:

Table 5: Summary of Predicted Stationary Noise Levels – Unmitigated (Base Case)

Scenario	Figure No.	Predicted Sound Levels (L_{eq} (1-hr), dBA)				Meets Guideline Limit?
		Lot 1	Lot 2	Lot 3	Existing Residence	
1. Rock Drilling	4	54	49	45	50	No
2. Rock Drilling	5	52	58	56	50	No
3. Rock Drilling	6	60	64	56	50	No
4. Rock Drilling	7	61	68	61	47	No
5. Rock Drilling	8	57	67	69	45	No
6. Future Aggregate Facility	9	47	51	46	47	No
7. Future Asphalt Plant	10	50	52	47	50	No
8. Future Ready-Mix Plant	11	50	52	47	49	No
Note: Sound levels presented are the higher of the predicted levels at the residential façade or outdoor amenity area.						

The Publication NPC-300 noise guideline limit of 50 dBA are met at all existing residential lots. No additional physical mitigation measures are required.

The Publication NPC-300 noise guideline limit is exceeded at the proposed lots for all modelled scenarios. Excesses of up to 19 dBA are predicted, due to rock drilling.

2.6.2 Blasting Noise

The blasts will be designed to meet the applicable MECP Publication NPC-119 limits. As such, adverse noise impacts from blasting are unlikely to occur.

2.7 Noise Mitigation Measures

2.7.1 Physical Mitigation Measures

Physical mitigation measures would be required to ensure the applicable noise guideline limits are met. In general, mitigation measures can either be receptor-based, or source-based.

2.7.1.1 Source-Based Mitigation Measures

The effectiveness of 6.0 m high earthen berms on the Quarry property, located along the southern property border, were examined. The berms were located between the property line and the edge of the excavation limits. At a 2.5:1 side slope, these are the highest/largest berms which could be installed on the Quarry lands, without affecting the licenced extraction area. Installing such berms would also require significant changes to the Quarry operation. Much or most of the extraction area would need to be stripped of overburden immediately to build such berms, rather than on the current “as required” basis. Depending on the amount of overburden present, additional material might have to be brought in.

Predicted sound levels at existing residences and at the proposed severed lots are shown in **Figures 12 through 19**, and are summarized in the table below:

Table 6: Summary of Predicted Stationary Noise Levels – Mitigated (Perimeter Berm at Quarry)

Scenario	Figure No.	Predicted Sound Levels (L_{eq} (1-hr), dBA)				Meets Guideline Limit?
		Lot 1	Lot 2	Lot 3	Existing Residence	
1. Rock Drilling	12	54	48	45	50	No
2. Rock Drilling	13	47	52	52	50	No
3. Rock Drilling	14	55	54	56	50	No
4. Rock Drilling	15	61	53	61	47	No
5. Rock Drilling	16	57	53	53	45	No
6. Future Aggregate Facility	17	47	55	46	47	No
7. Future Asphalt Plant	18	50	51	47	50	No
8. Future Ready-Mix Plant	19	50	52	47	49	No
Note: Sound levels presented are the higher of the predicted levels at the residential façade or outdoor amenity area.						

Even with the extensive noise berm installed at the Quarry, which for clarity Georgian Rock Company has not agreed to install, the Publication NPC-300 noise guideline limit is exceeded at the proposed lots for all modelled scenarios. Excesses of up to 11 dBA are still predicted, due to rock drilling.

2.7.1.2 Receptor-Based Mitigation Measures

Receptor-based noise mitigation measures were also investigated. In this case, a 6 m high noise berm or berm/ noise wall combination, located along the Burnside Bridge Road frontage, was assumed. As a “best-case” scenario for noise reduction, no gaps for driveways were assumed along Burnside Bridge Road. Access to Lots 2 and 3 would require a driveway/ right-of-way easement through Lot 1 (from Lipsett Lane) or from the retained lot (from Burnside Bridge Road).

Constructing such a berm would require the importation of significant amounts of fill. Alternatively, constructing a 6.0 m high, 265 m long noise wall (similar to a highway noise barrier) would likely cost in the range of $1,000,000.

Predicted sound levels at existing residences and at the proposed severed lots are shown in **Figures 20 through 27**, and are summarized in the table below:

Table 7: Summary of Predicted Stationary Noise Levels – Mitigated (Perimeter Berm at Lots)

Scenario	Figure No.	Predicted Sound Levels (L_{eq} (1-hr), dBA)				Meets Guideline Limit?
		Lot 1	Lot 2	Lot 3	Existing Residence	
9. Rock Drilling	20	51	44	44	50	No
10. Rock Drilling	21	50	53	51	50	No
11. Rock Drilling	22	57	58	55	50	No
12. Rock Drilling	23	61	62	60	47	No
13. Rock Drilling	24	57	59	62	45	No
14. Future Aggregate Facility	25	44	51	48	47	No
15. Future Asphalt Plant	26	46	51	49	50	No
16. Future Ready-Mix Plant	27	49	52	49	49	No

Note:
Sound levels presented are the higher of the predicted levels at the residential façade or outdoor amenity area.

Even with the extensive noise berm installed at the lots, the Publication NPC-300 noise guideline limit is exceeded at the proposed lots for all modelled scenarios. Excesses of up to 12 dBA are still predicted, due to rock drilling.

2.7.2 Physical Mitigation Measures Conclusions

Physical mitigation measures do not appear to be technically, economically, or administratively feasible.

3.0 Environmental Vibration

The only significant vibration source with the potential to affect the proposed lots is blasting. A detailed assessment of blasting vibration has not been completed. Blasting noise and vibration are routinely monitored at the site by the blasting contractor, and the blasts are design to meet the applicable MECP Publication NPC-119 limits. As such, adverse vibration impacts from blasting are unlikely to occur.

4.0 Summary of Conclusions and Recommendations

The potential for noise impacts on and from the proposed development have been assessed. Impacts of the environment on the development, the development on itself, and the development on the surrounding area have been considered. Based on the results of this assessment, the following conclusions have been reached:

Stationary Noise

The Publication NPC-300 noise guideline limit of 50 dBA are not met at the proposed residential lots. Significant excesses of the guideline limits are likely to occur, primarily due to noise from rock drilling. The effects of receptor-based and source-based mitigation measures were investigated. Mitigation measures do not appear to be feasible.

Blasting Noise and Vibration

Blasting noise and vibration are routinely monitored at the site by the blasting contractor, and the blasts are design to meet the applicable MECP Publication NPC-119 limits. As such, adverse noise and vibration impacts from blasting are unlikely to occur.

Overall Assessment

As the applicable MECP Publication NPc-300 noise guidelines are not met, residential development on the lots should not occur and the severance of the lots should not proceed. Given the level of excess of the guidelines, complaints from future residents are likely to occur. The Quarry will be placed outside of its ARA license requirements, and significant constraints on Quarry operations could occur.

5.0 Closure

Regards,

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6.0 References

Corporation of the Township of McDougall, By-Law No. 97- 01, Being a by-law to prohibit or regulate unusual noises or noises likely to disturb the inhabitants of the Township of McDougall

GHD Ltd., “Peer Review of Land Use Compatibility Study Proposed Burnside Bridge Road Lot Severance”, dated December 14, 2022.

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1995), Guideline D-1: Land Use Compatibility

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1995), Guideline D-6: Compatibility Between Industrial Facilities and Sensitive Land Uses

Ontario Ministry of the Environment, Conservation & Parks (MECP), 1979, Publication NPC-119: Blasting

Ontario Ministry of the Environment, Conservation & Parks (MECP), 2013, Publication NPC-300: Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning

RWDI AIR Inc., “Burnside Bridge Road, Municipality Of McDougall, Ontario, Land Use Compatibility / Mitigation Study (Noise)”, dated December 24, 2021

SLR Consulting (Canada) Ltd., “Burnside Bridge Road Severance - Land Use Compatibility / Mitigation Study (Noise), Hall Construction Quarry, Municipality of McDougall, District of Parry Sound”, dated July 11, 2022

Figures

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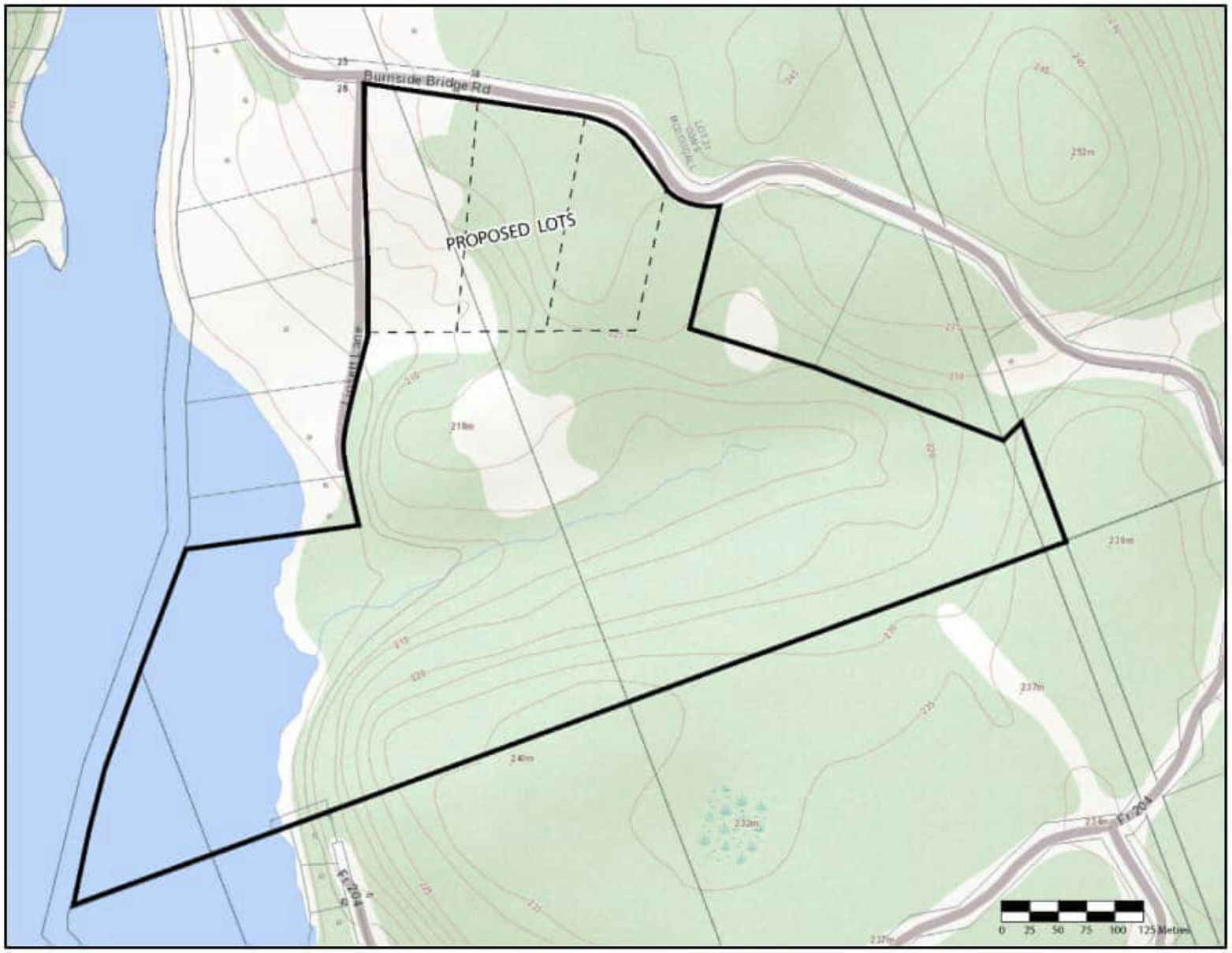
SLR Project No.: 241.030610.00000

October 25, 2023



True North

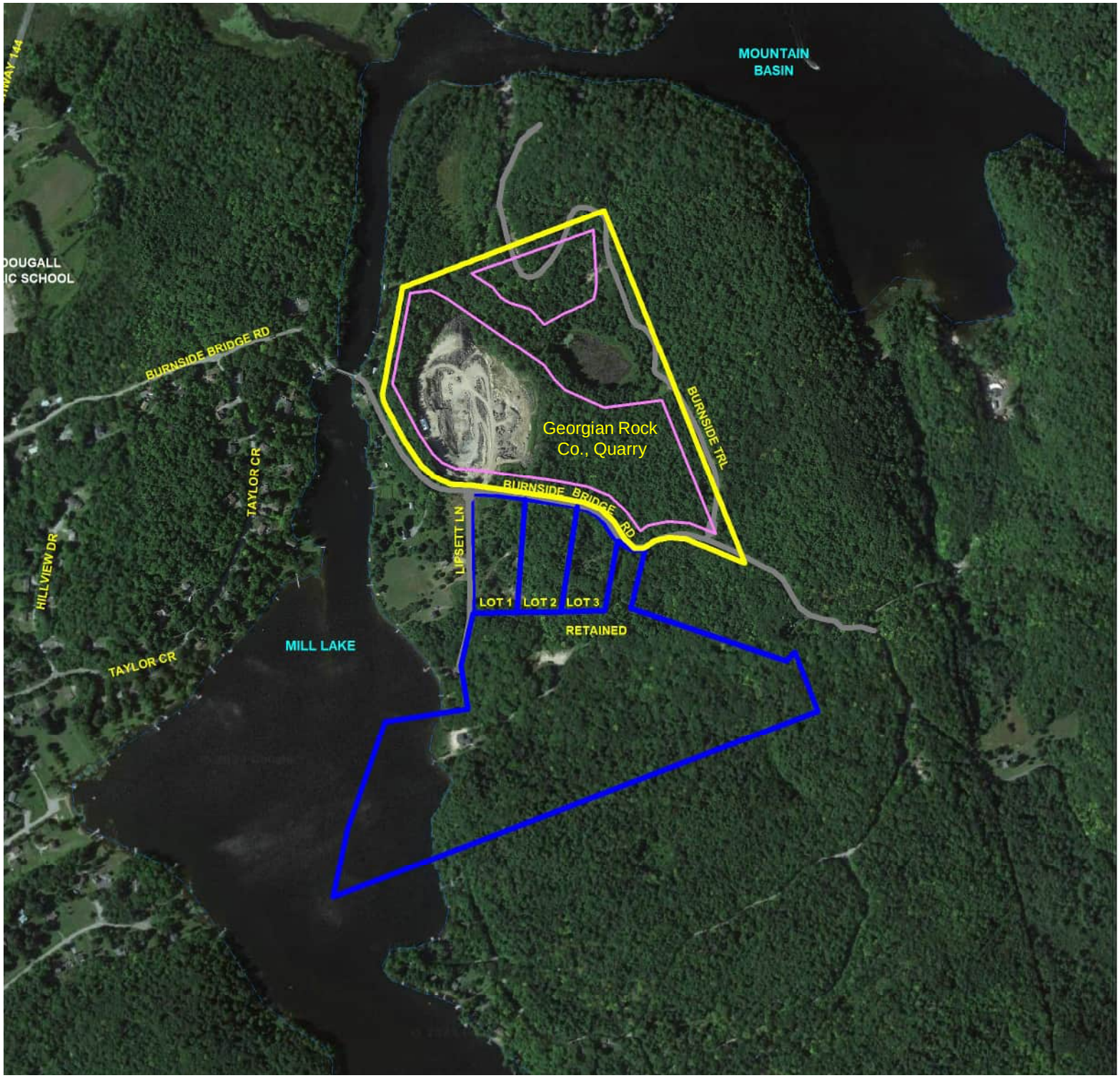
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

LOT LOCATIONS

Scale:	See Inset		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 1
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits

True North

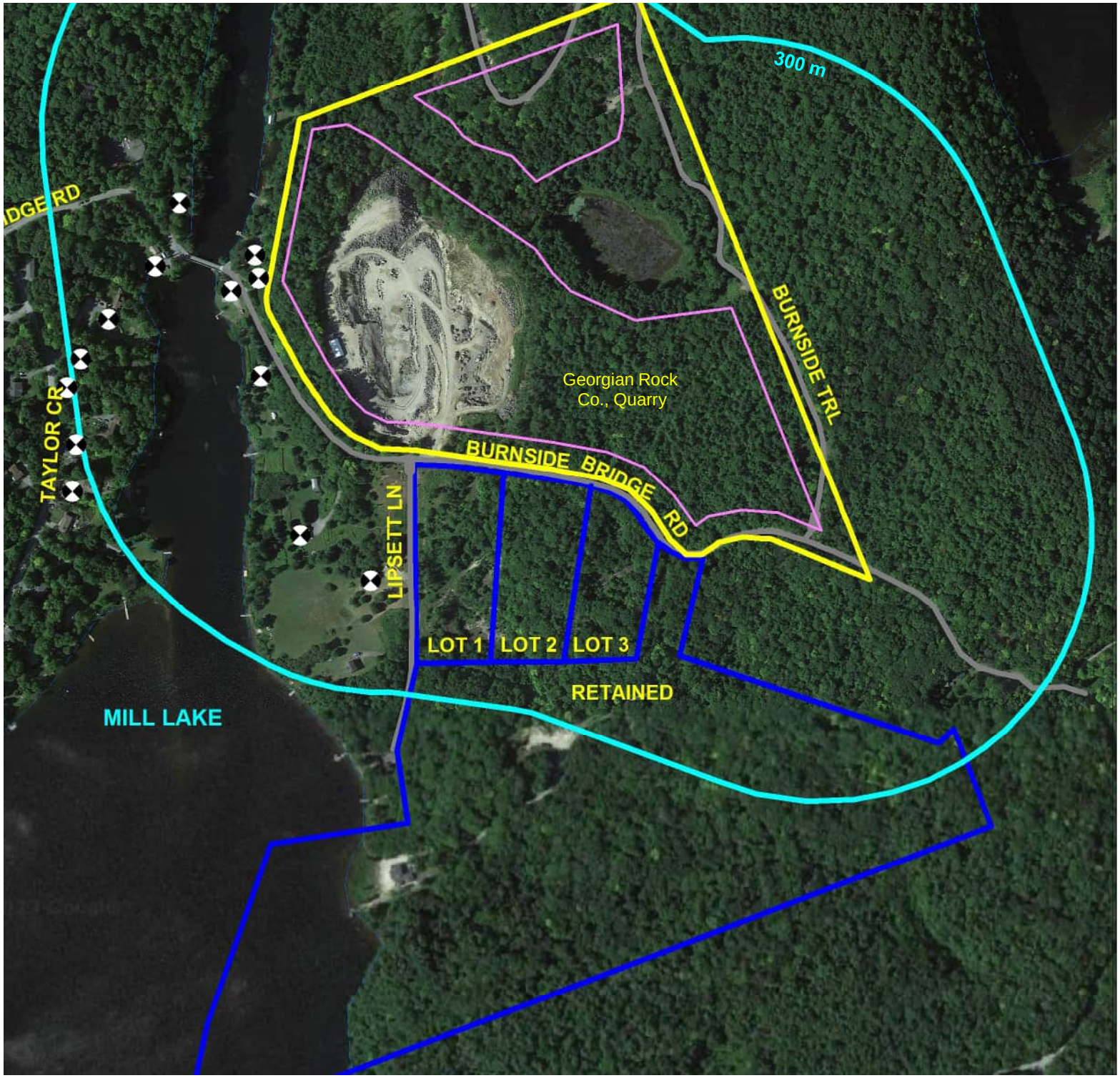
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021 (MCDOUGALL) – (SIM CONSENT)

LOT LOCATIONS AND SURROUNDINGS

Scale:	1:10,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 2
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- 300 m from Southern Extraction Area
- Existing Residence

True North

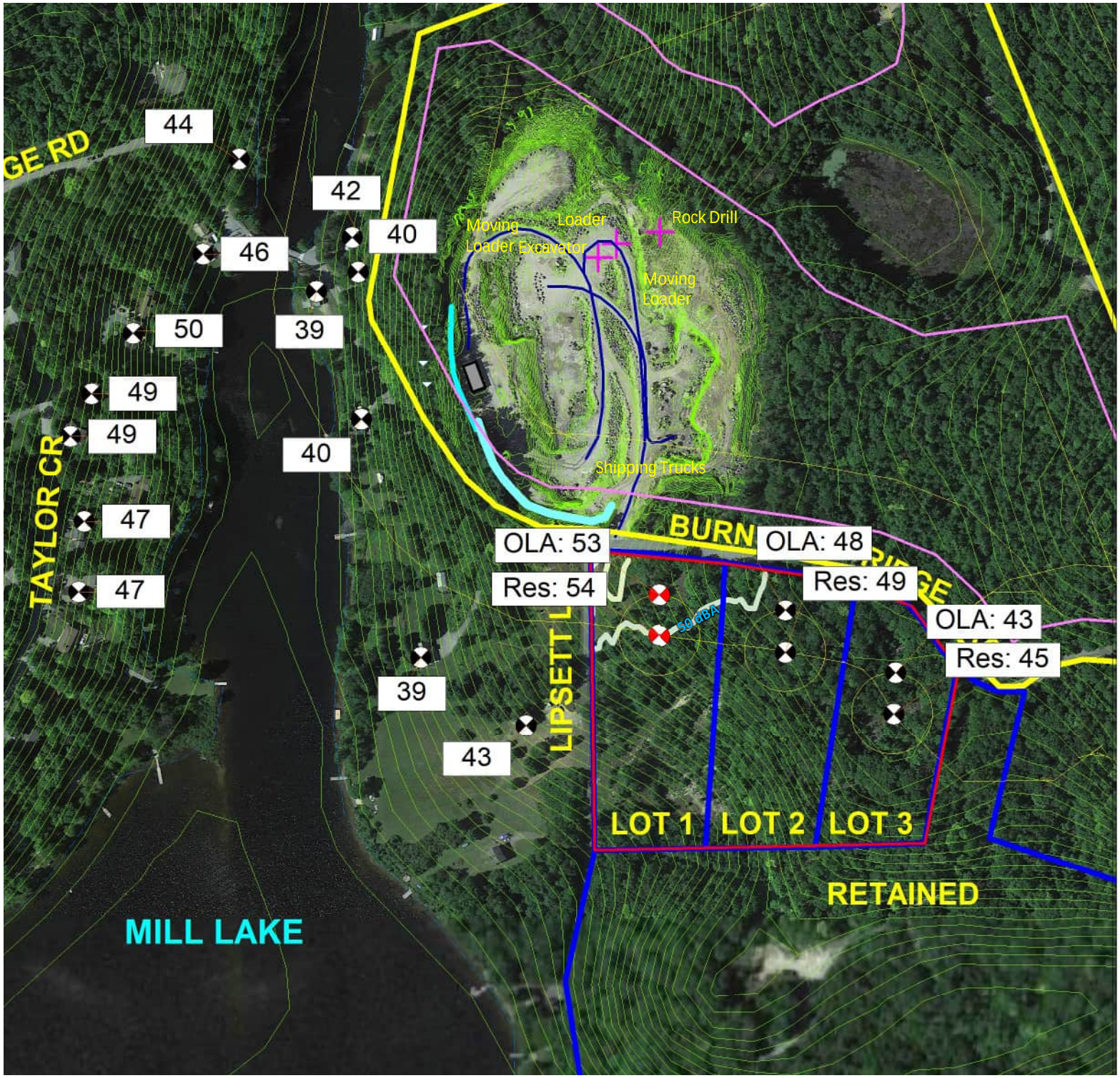
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

GUIDELINE D-6
RECOMMENDED MINIMUM
SEPARATION DISTANCE FROM
QUARRY

Scale:	1:6,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 3
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

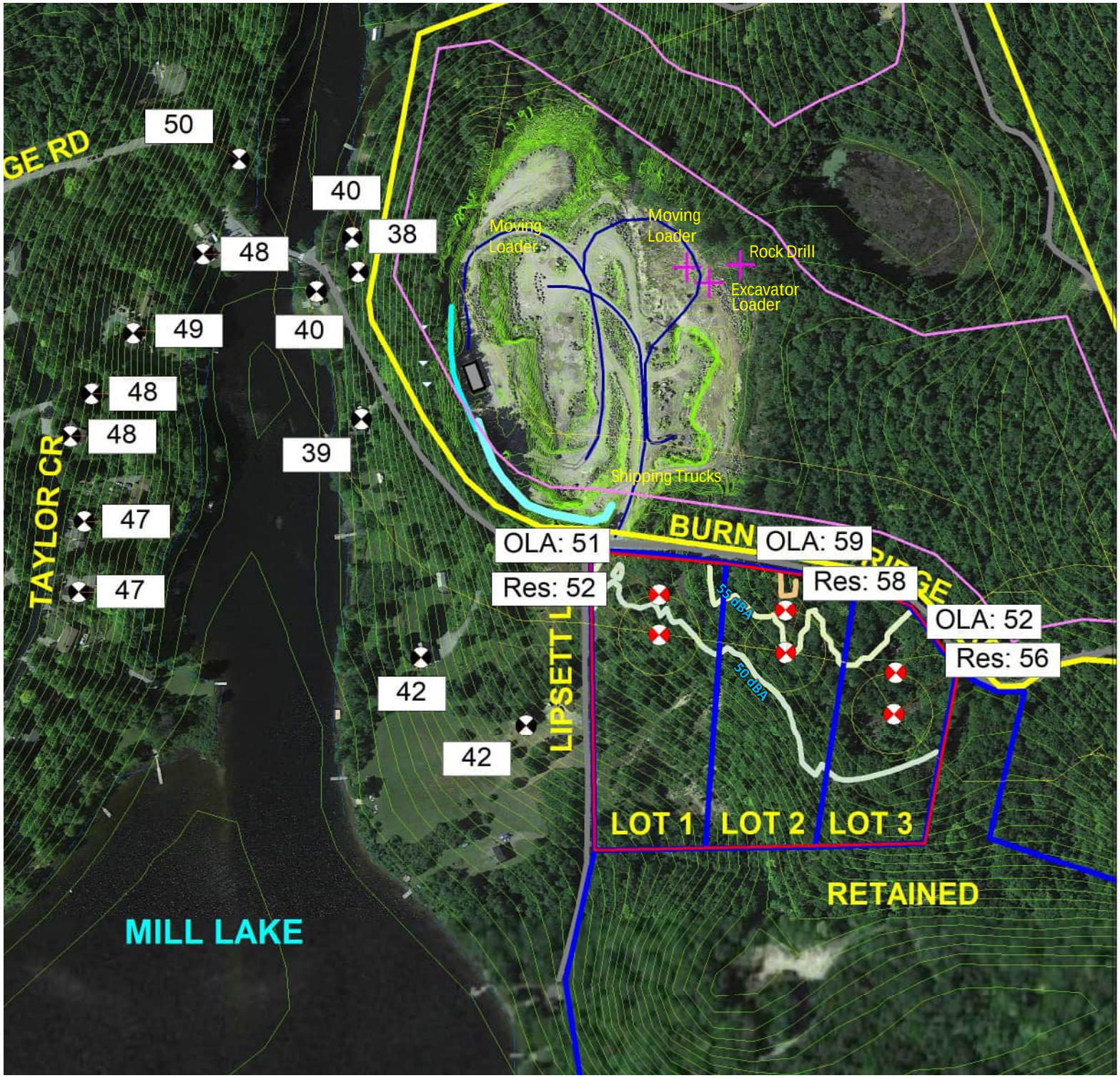
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 1 –
ROCK DRILLING
UNMITIGATED

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 4
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

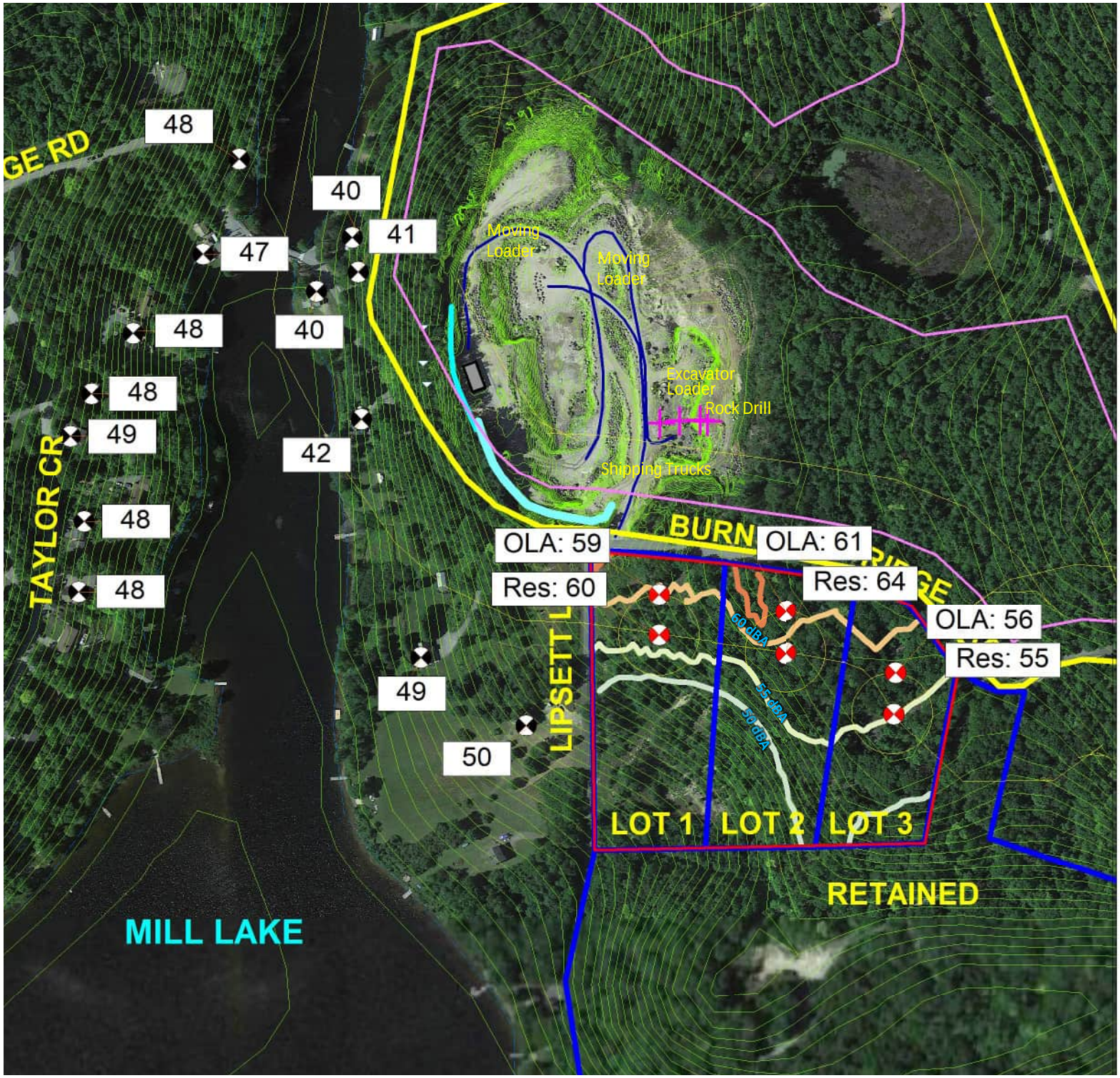
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 2 –
ROCK DRILLING
UNMITIGATED

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 5
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 3 –
ROCK DRILLING
UNMITIGATED

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 6
Project No.	241.30610.00000		

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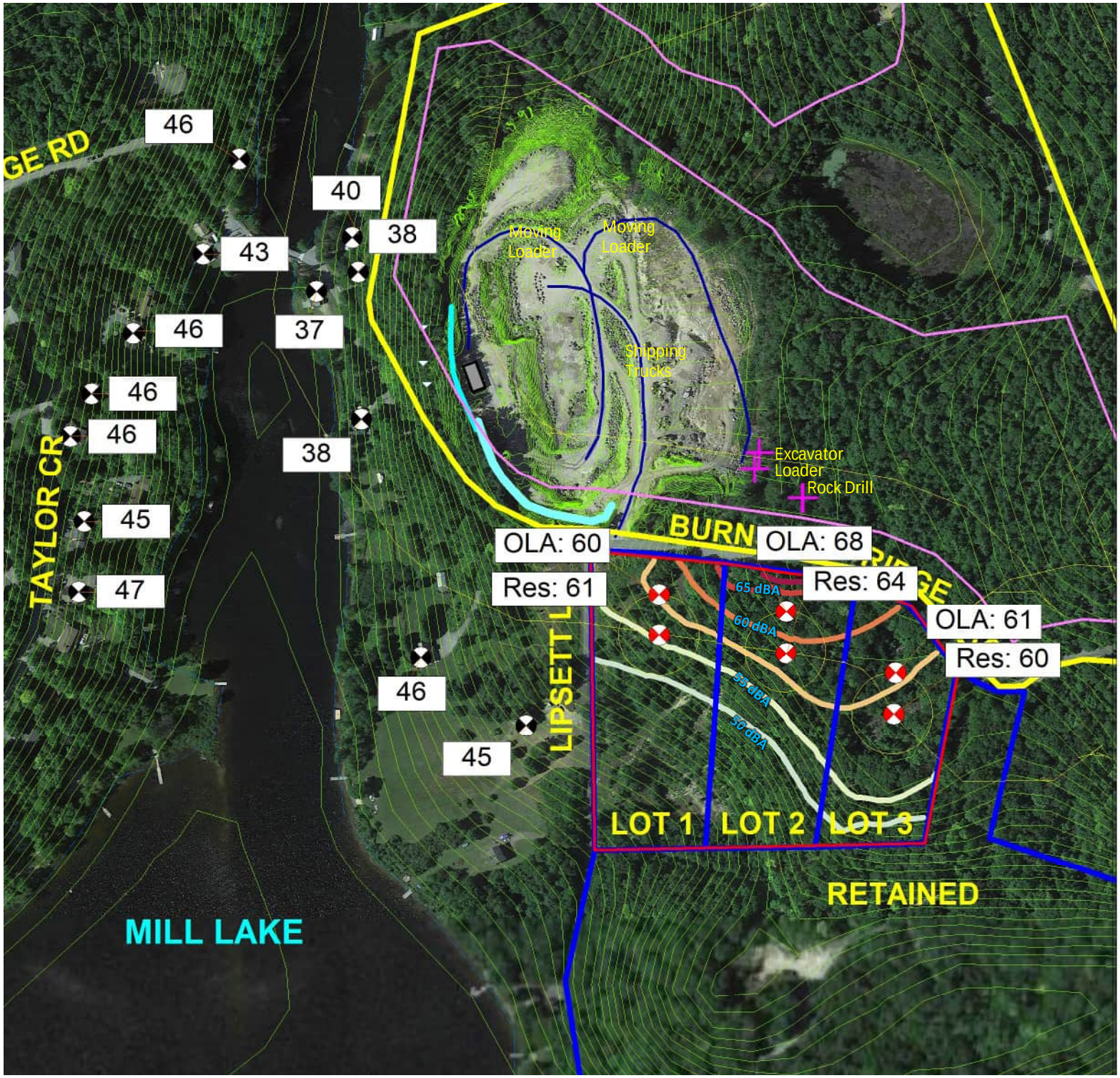

LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 4 –
ROCK DRILLING
UNMITIGATED

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 7
Project No.	241.30610.00000		

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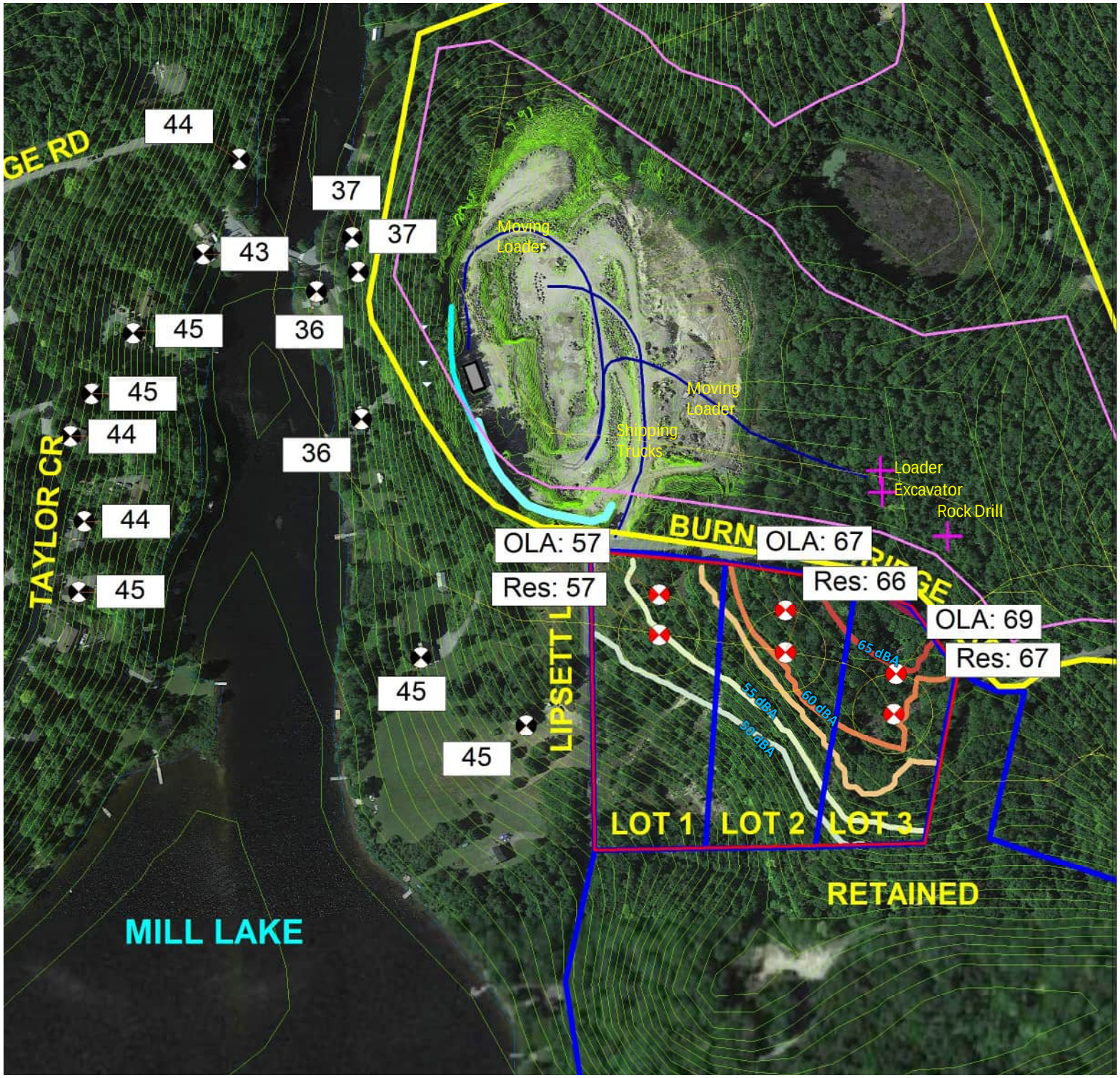


LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

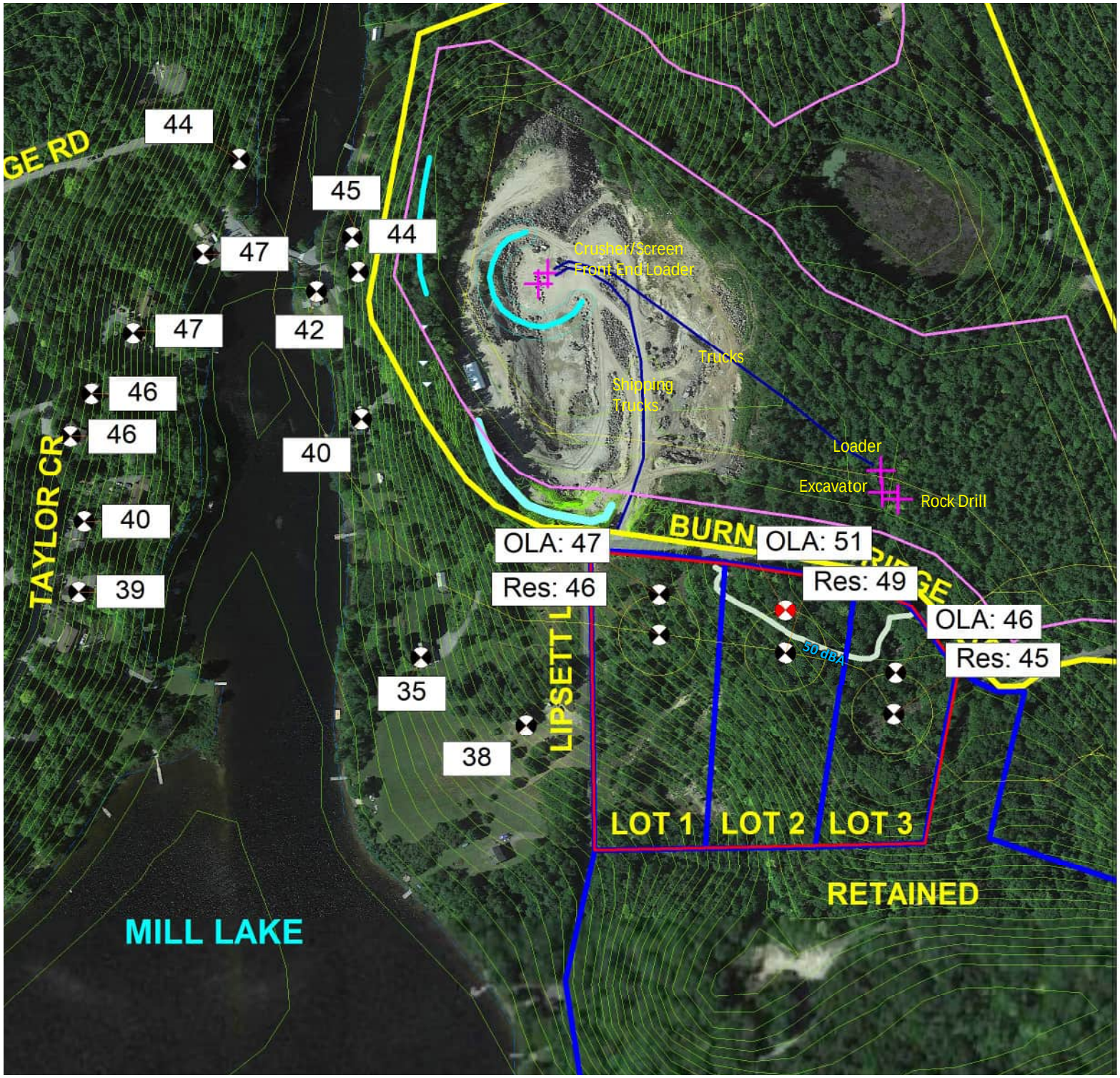
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021 (MCDOUGALL) – (SIM CONSENT)

SCENARIO 5 – ROCK DRILLING UNMITIGATED

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 8
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

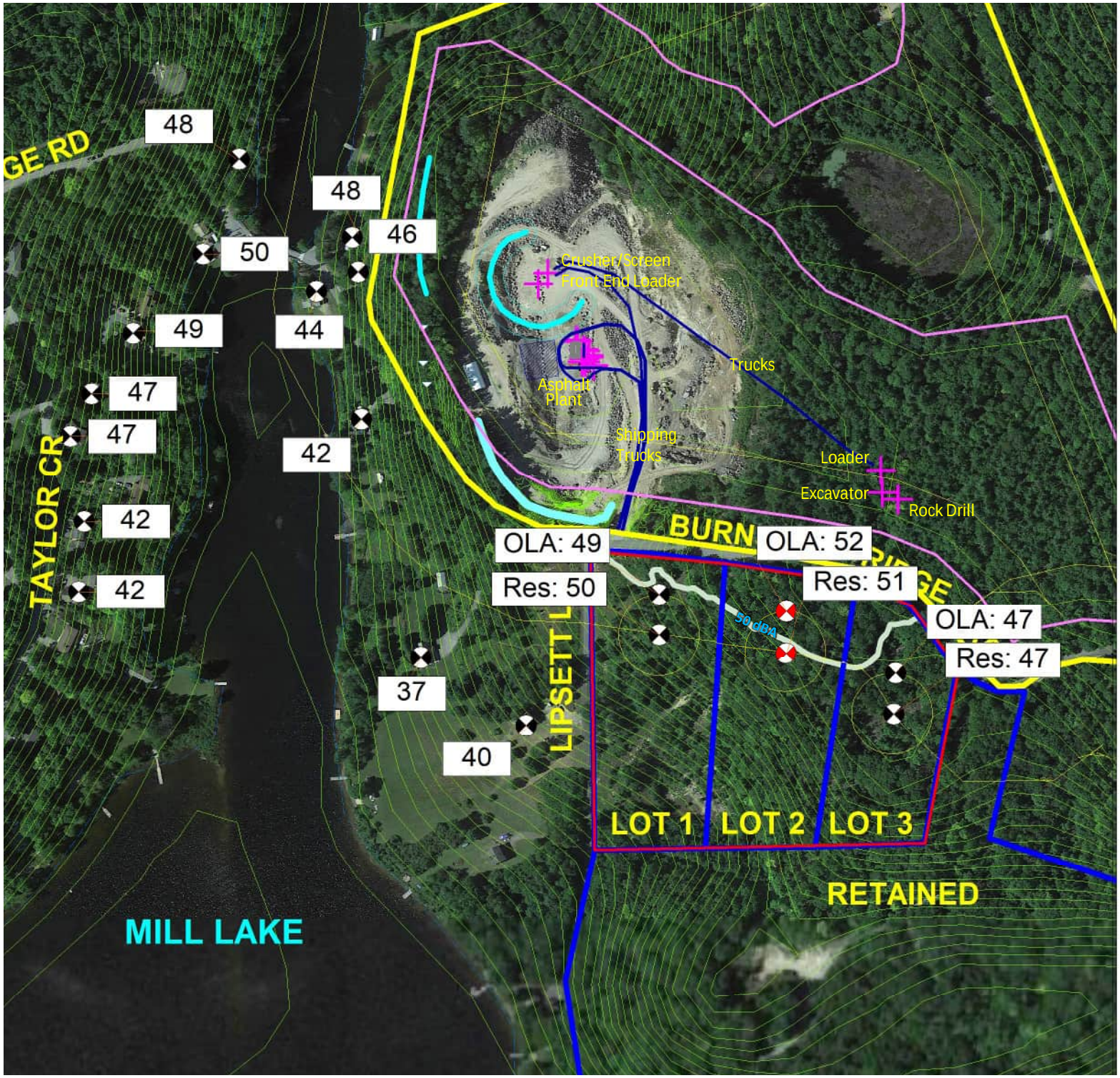
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 6 –
FUTURE AGGREGATE
OPERATION
UNMITIGATED

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 9
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

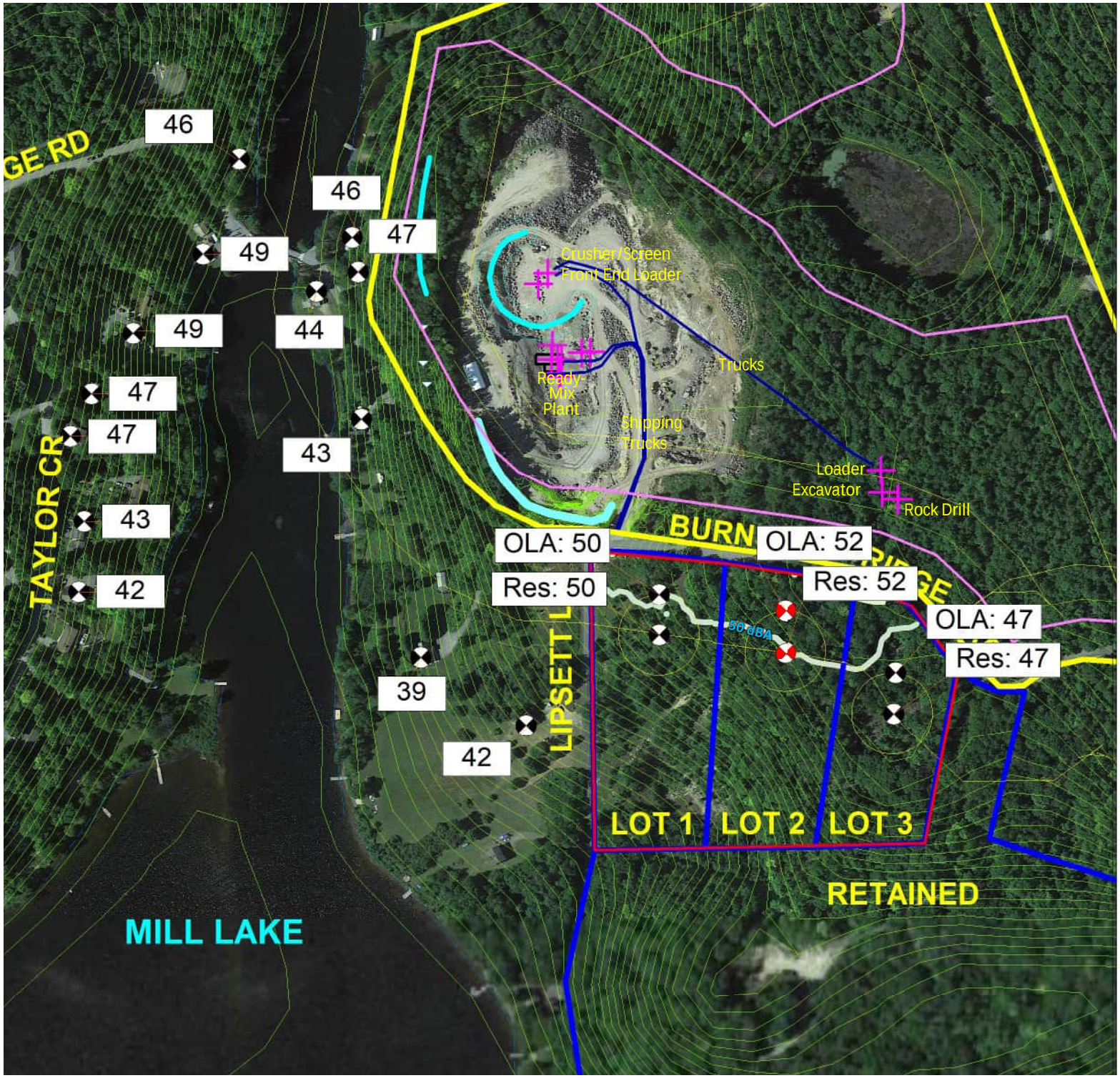
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 7 –
FUTURE ASPHALT PLANT
UNMITIGATED

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 10
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

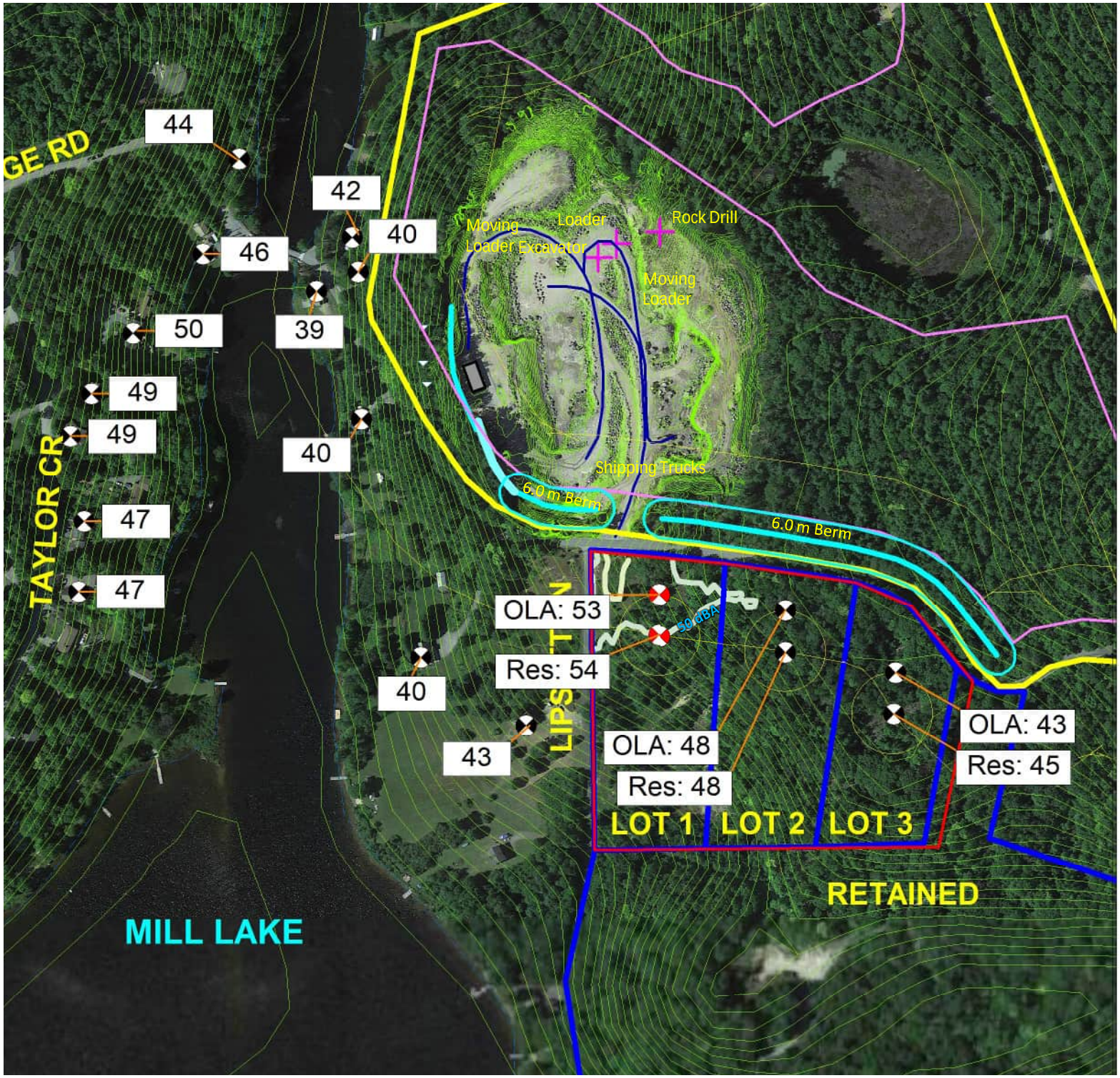
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 8 –
FUTURE READY-MIX
CONCRETE PLANT
UNMITIGATED

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 11
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

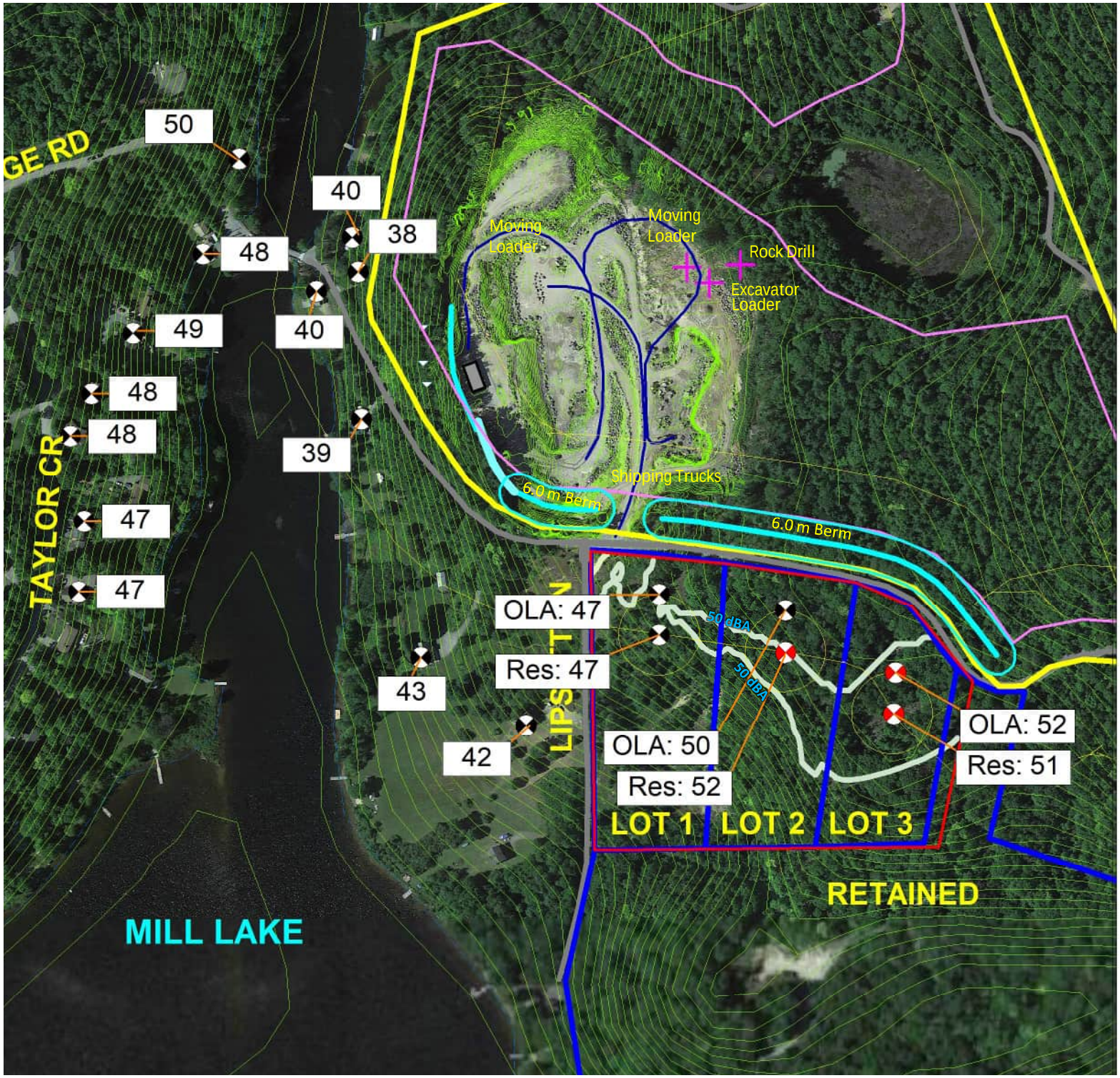
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 1 –
ROCK DRILLING
MITIGATED AT SOURCE

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 12
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

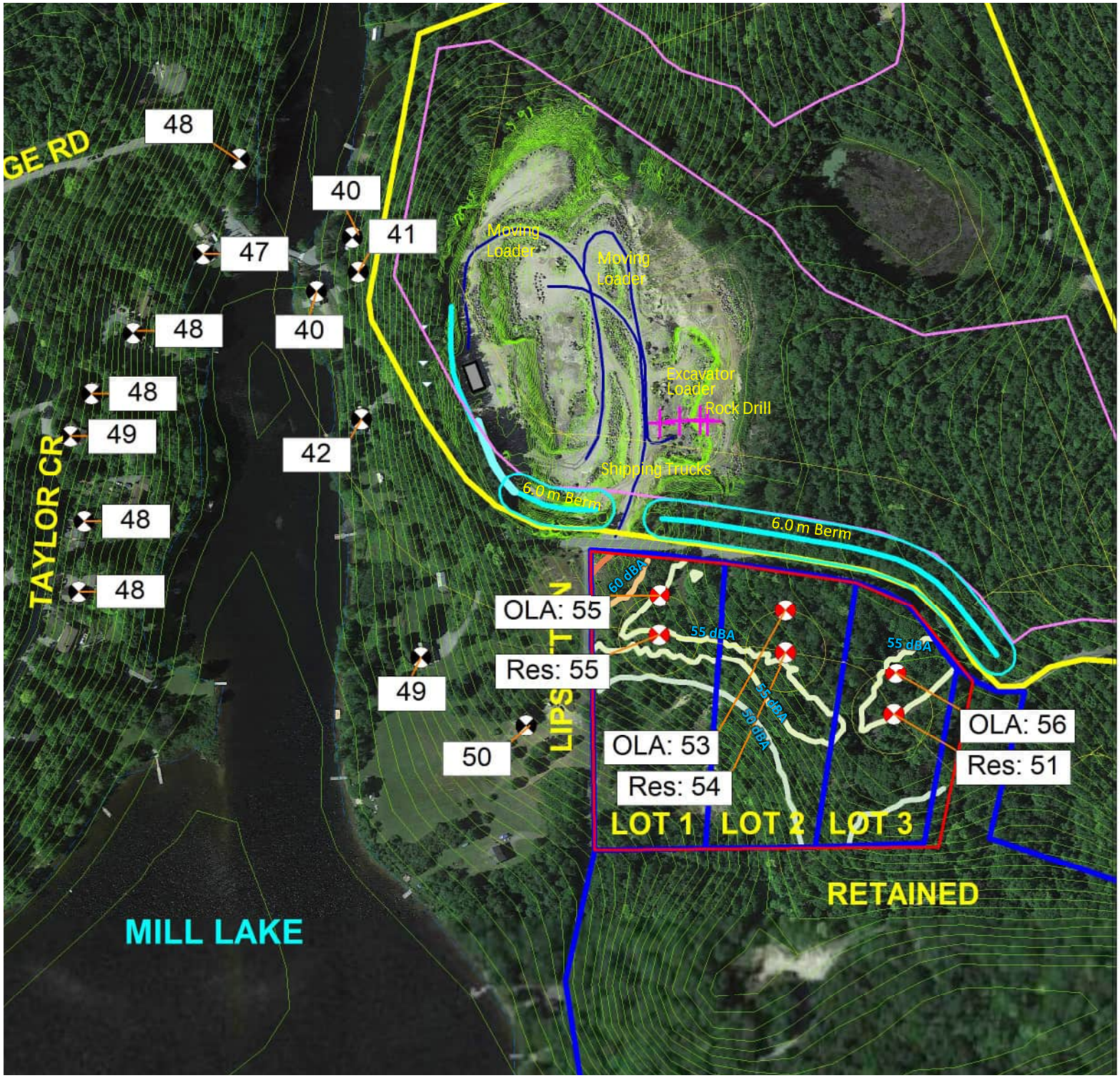
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 2 –
ROCK DRILLING
MITIGATED AT SOURCE

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 13
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

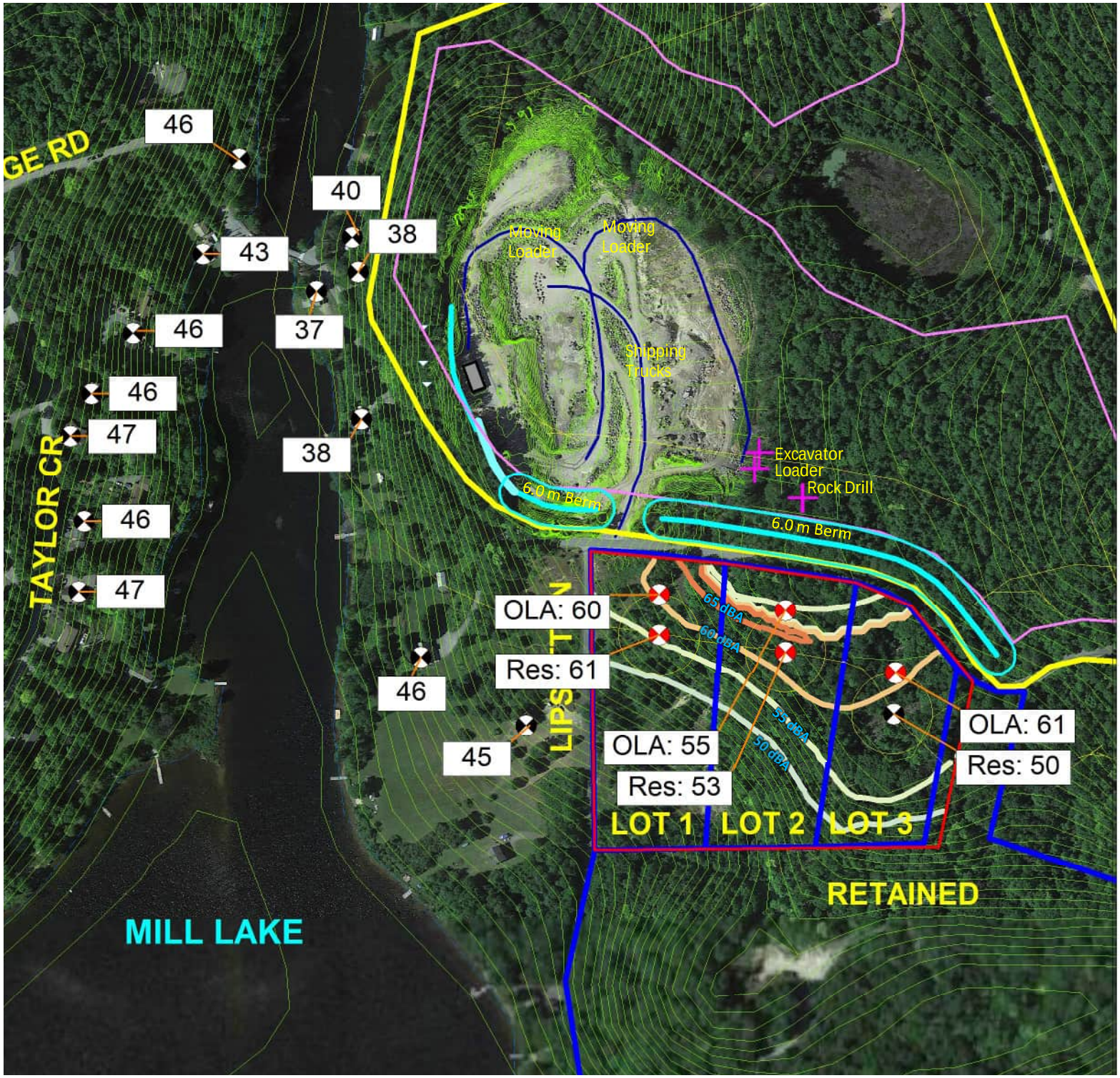
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 3 –
ROCK DRILLING
MITIGATED AT SOURCE

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 14
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

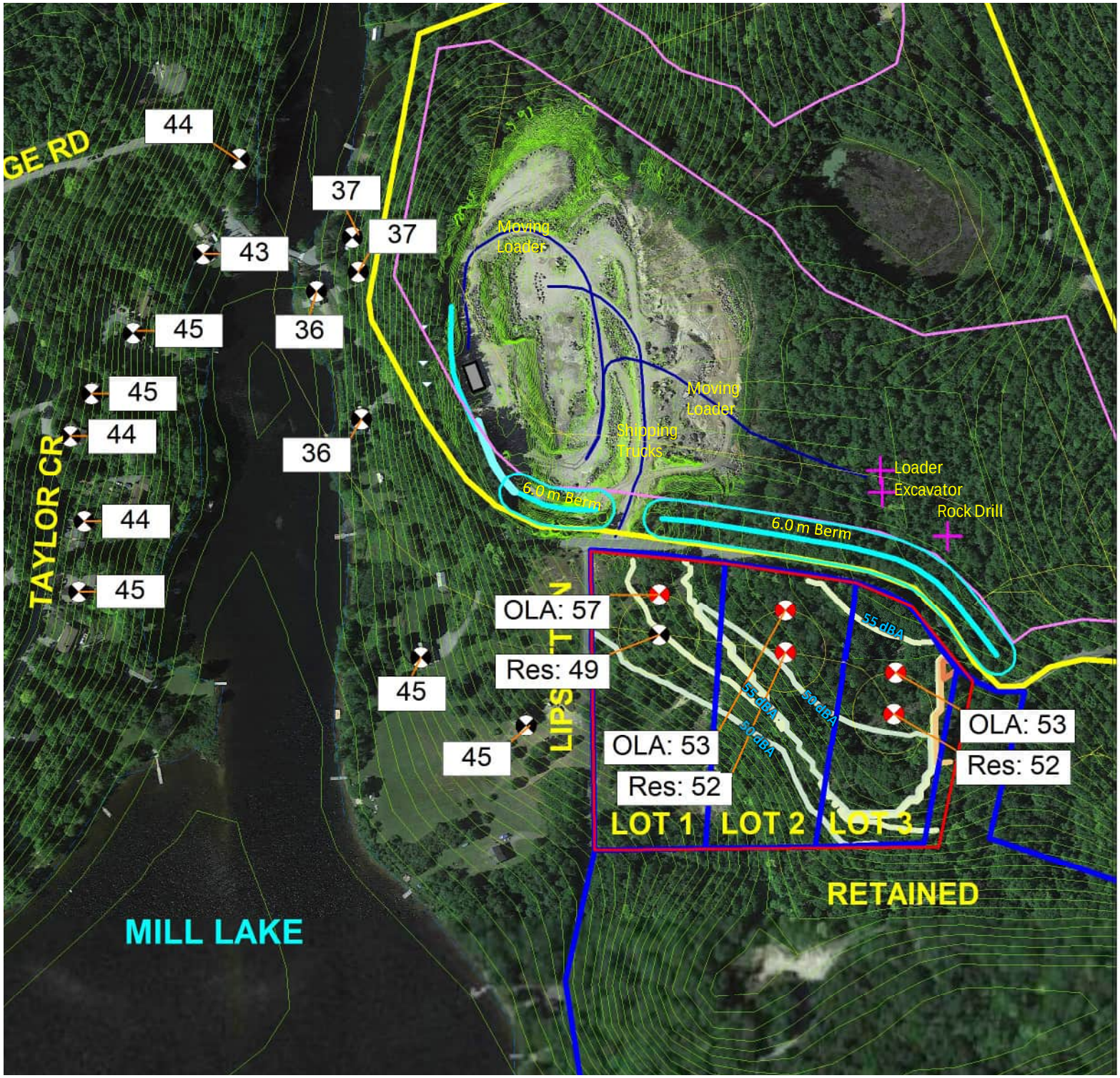
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 4 –
ROCK DRILLING
MITIGATED AT SOURCE

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 15
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

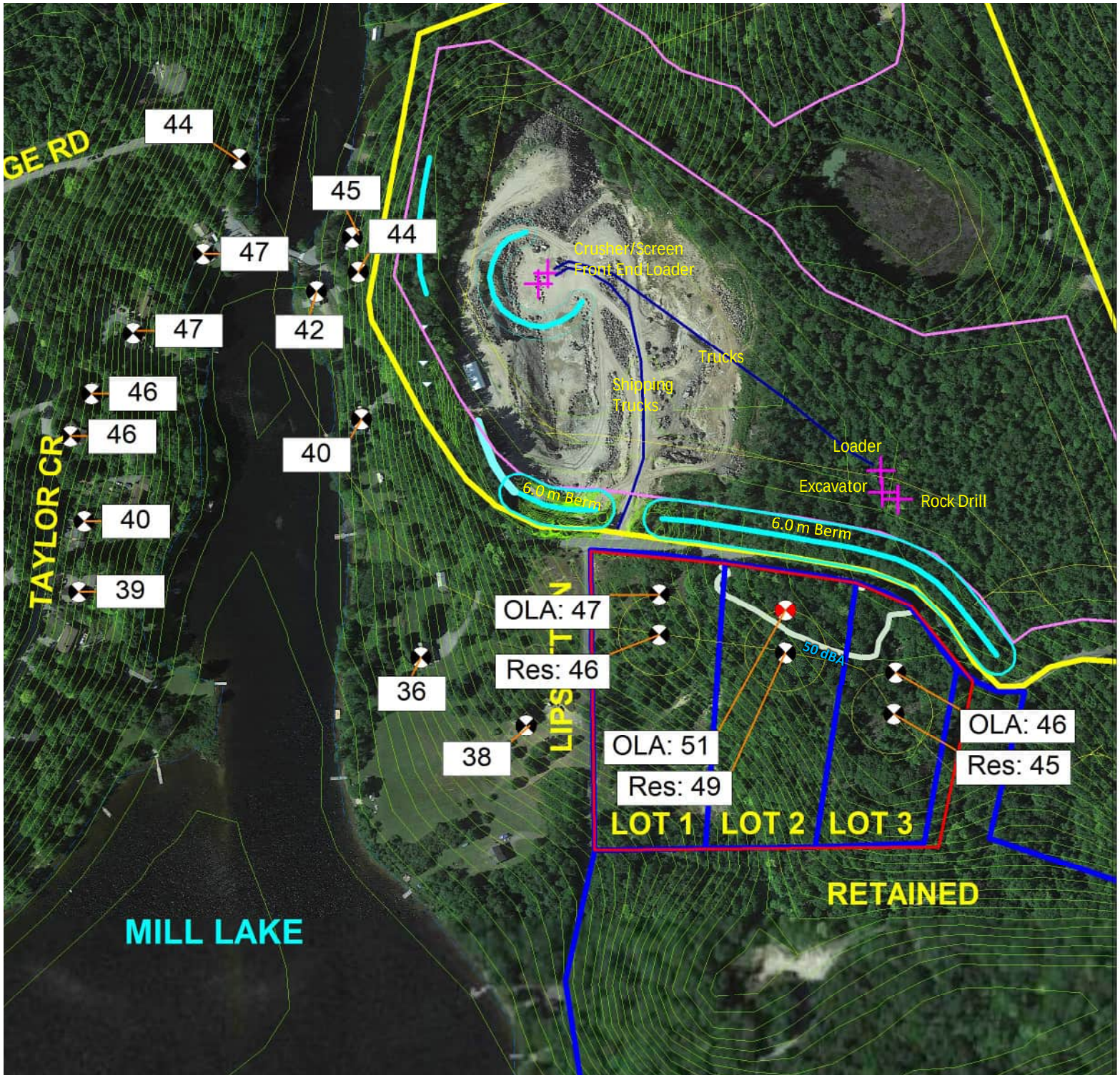
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 5 –
ROCK DRILLING
MITIGATED AT SOURCE

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 16
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

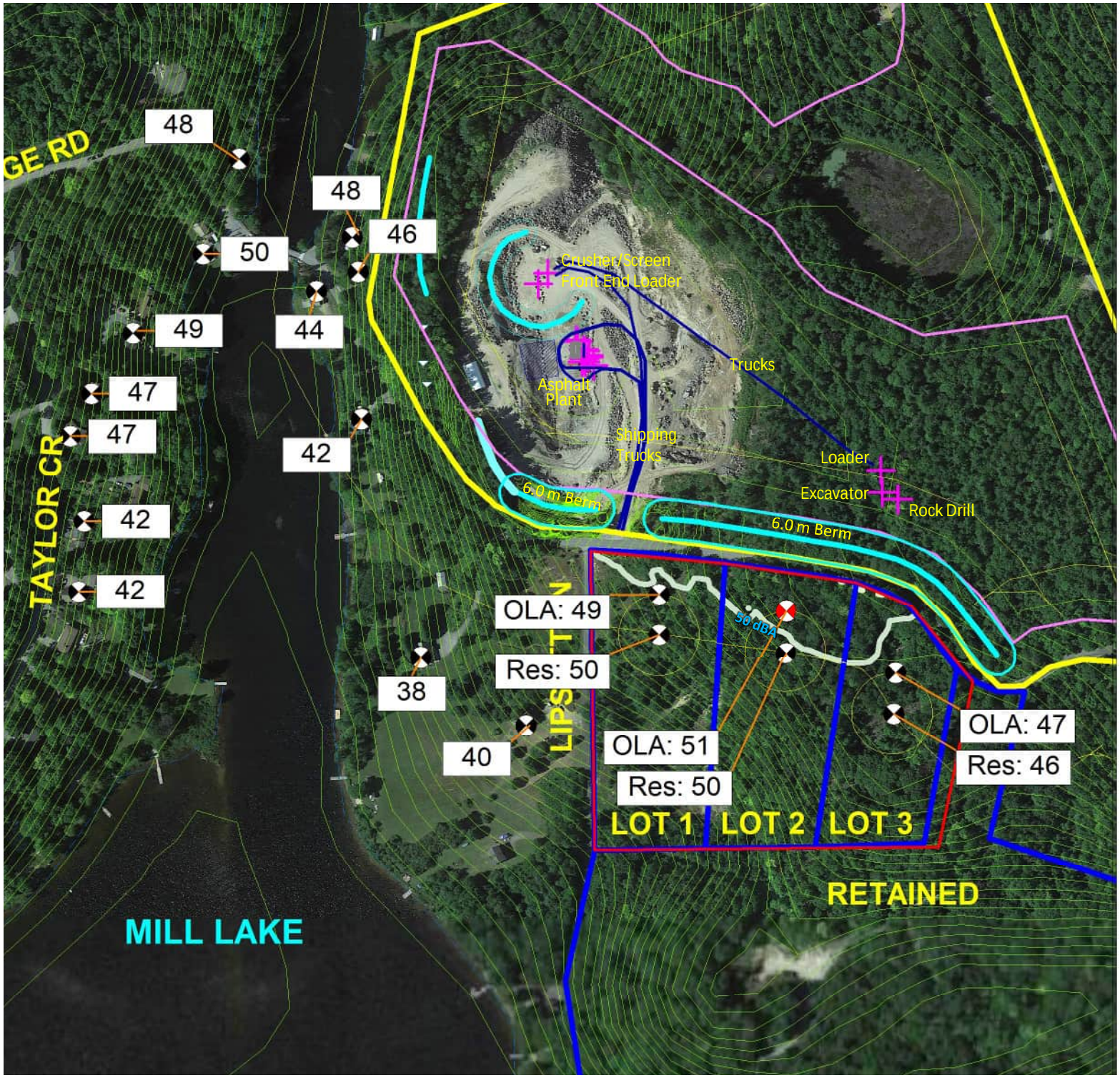
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 6 –
FUTURE AGGREGATE
OPERATION
MITIGATED AT SOURCE

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 17
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 7 –
FUTURE ASPHALT PLANT
MITIGATED AT SOURCE

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 18
Project No.	241.30610.00000		

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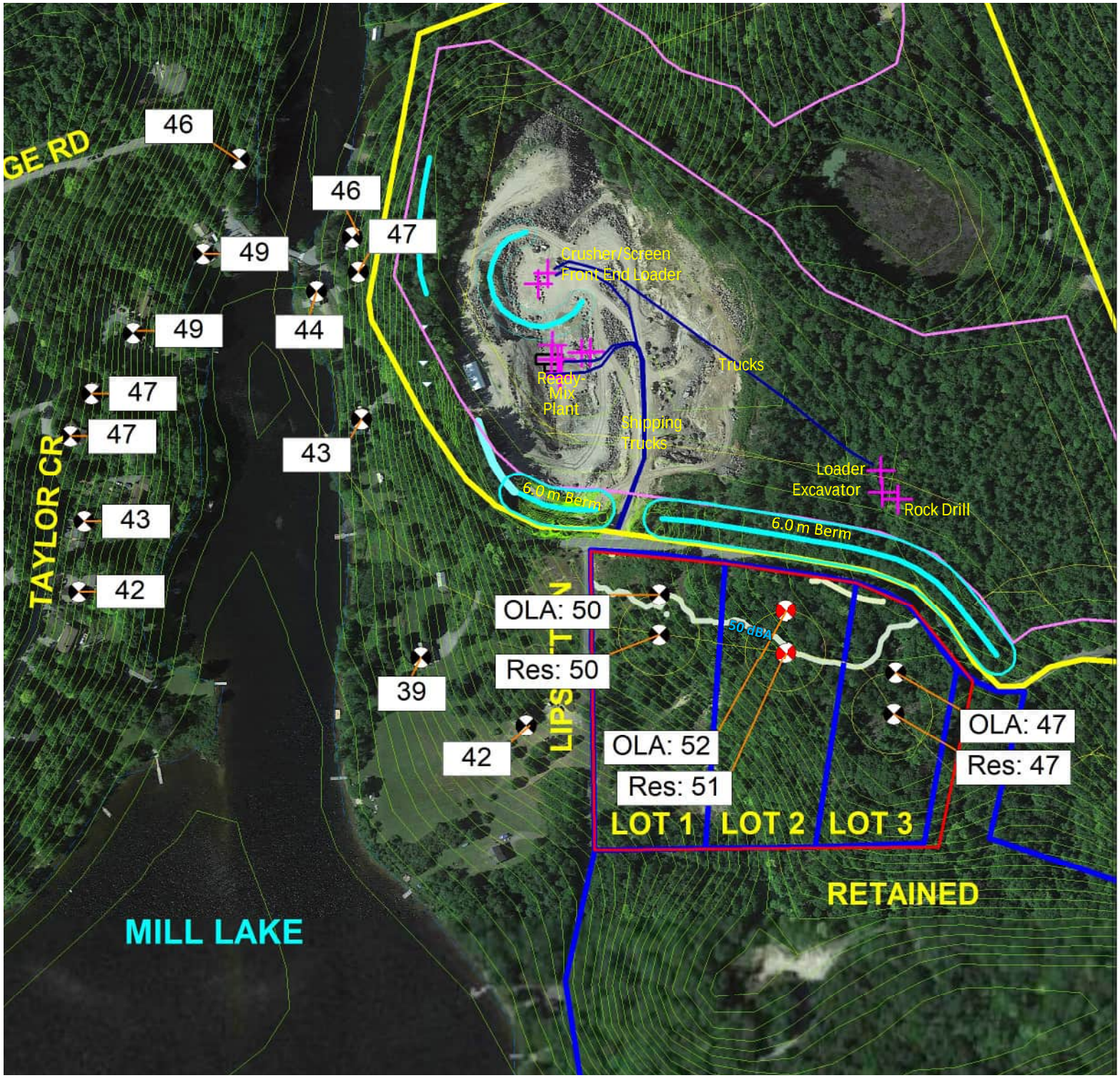


LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

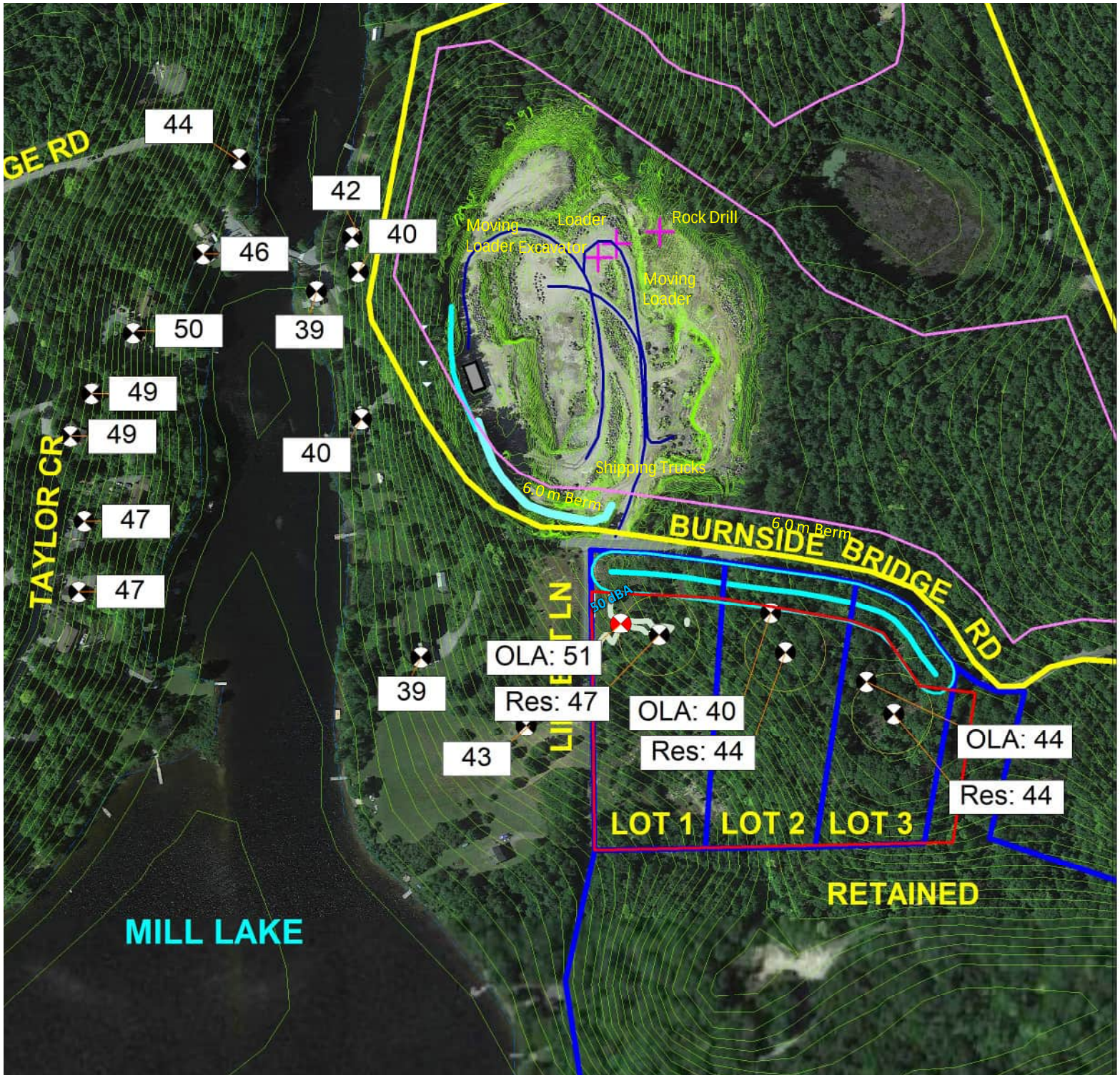
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 8 –
FUTURE READY-MIX
CONCRETE PLANT
MITIGATED AT SOURCE

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 19
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

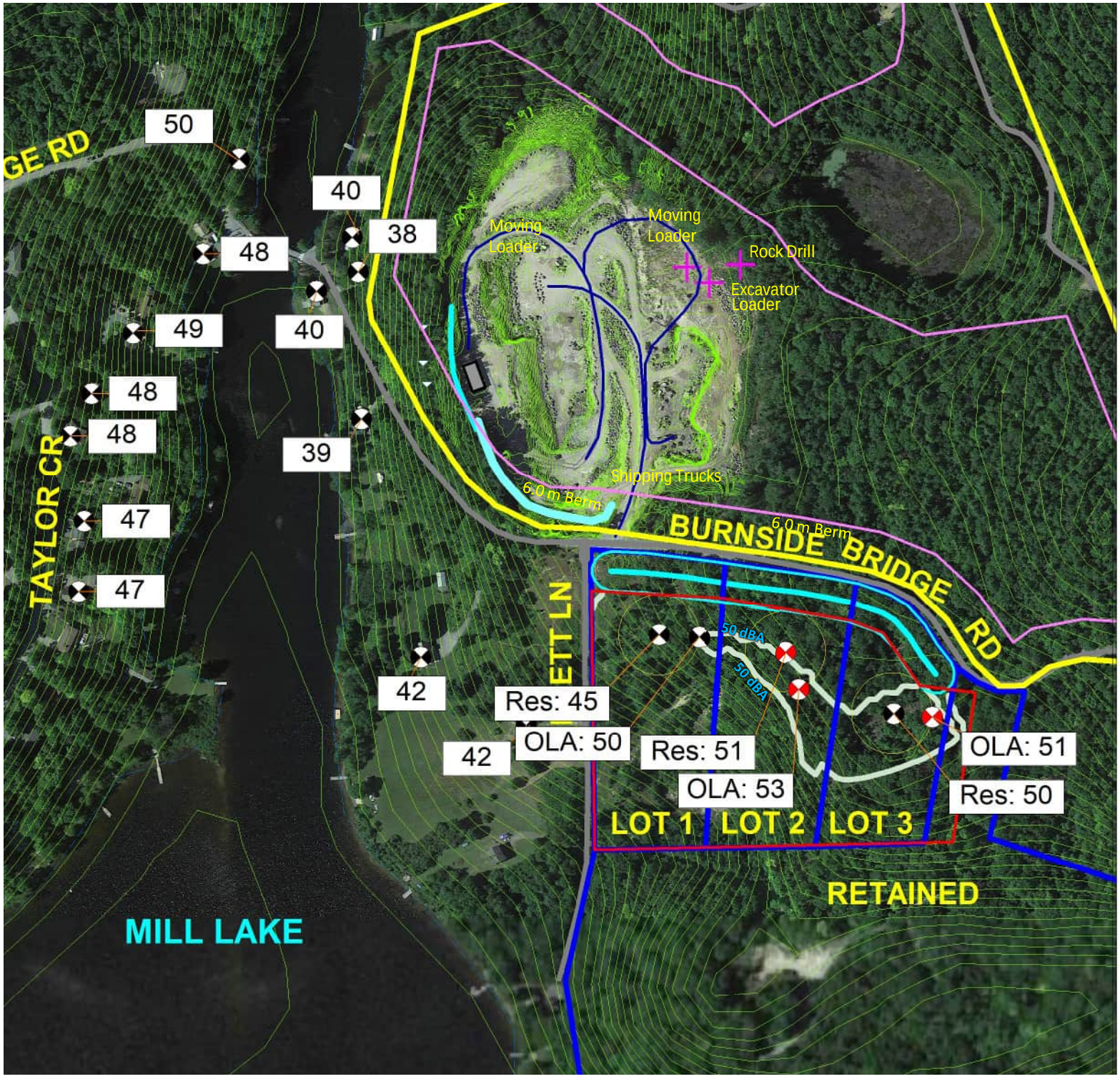
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 1 –
ROCK DRILLING
MITIGATED AT RECEPTOR

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 20
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

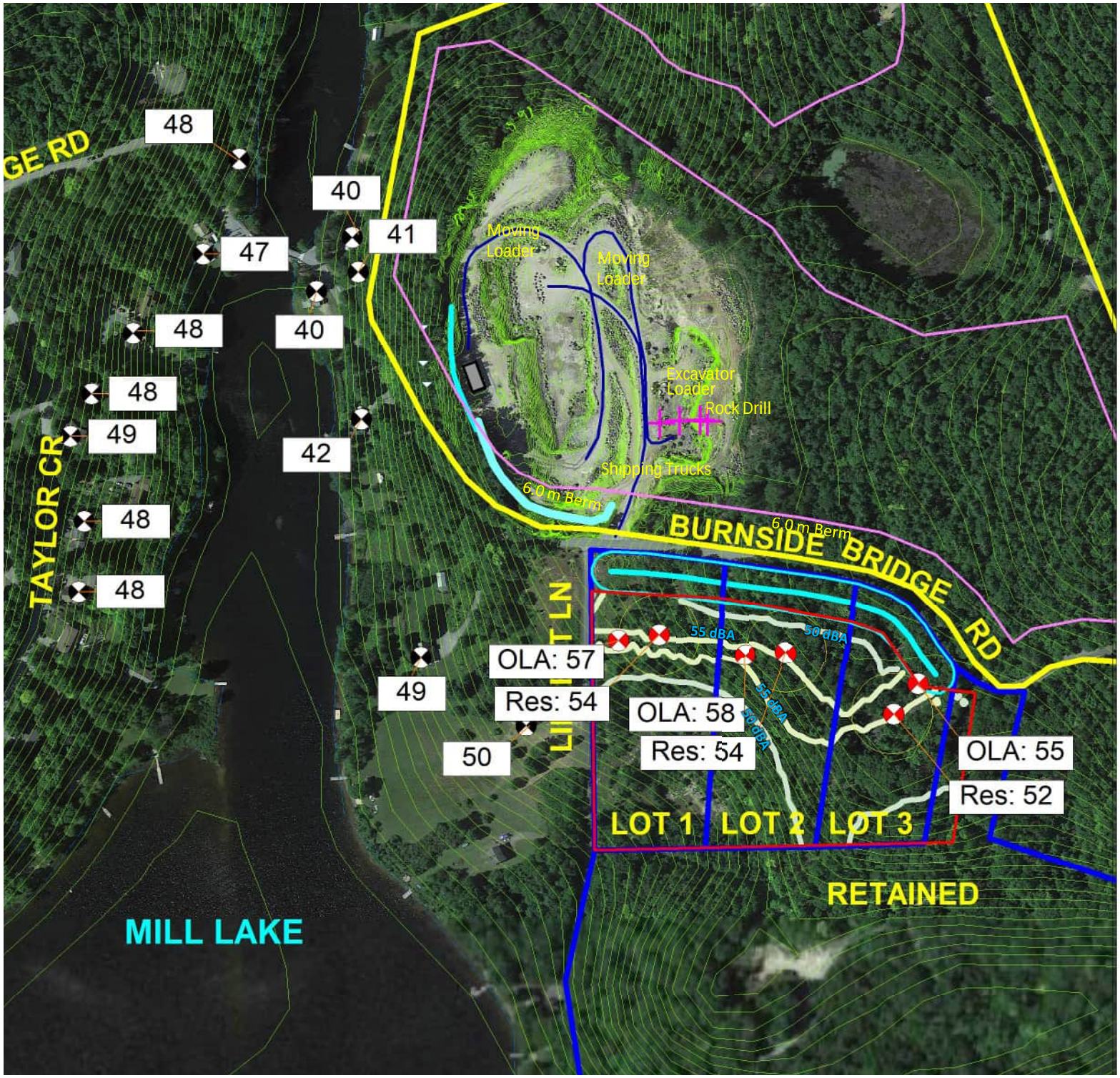
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 2 –
ROCK DRILLING
MITIGATED AT RECEPTOR

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 21
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

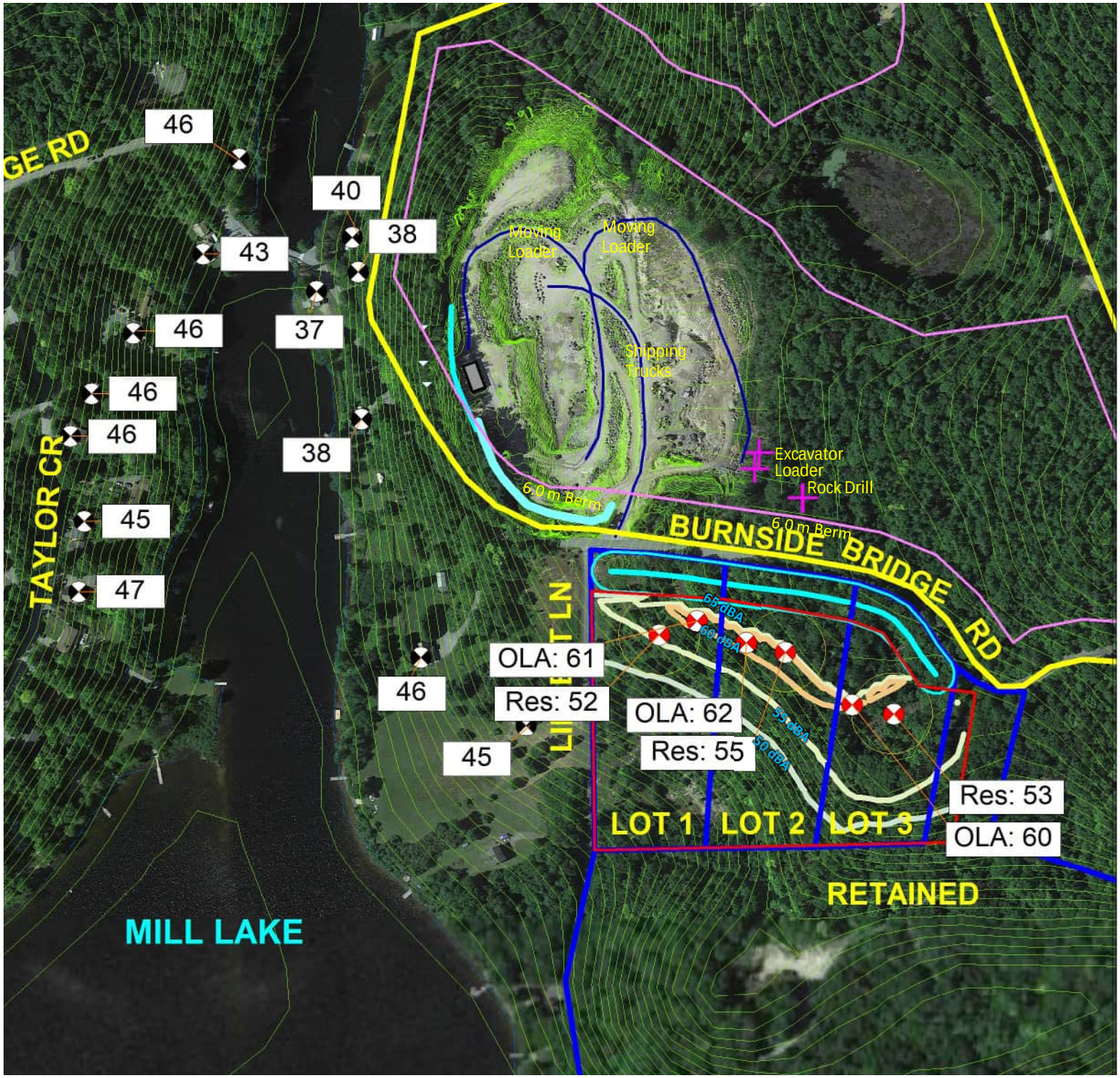
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 3 –
ROCK DRILLING
MITIGATED AT RECEPTOR

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 22
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

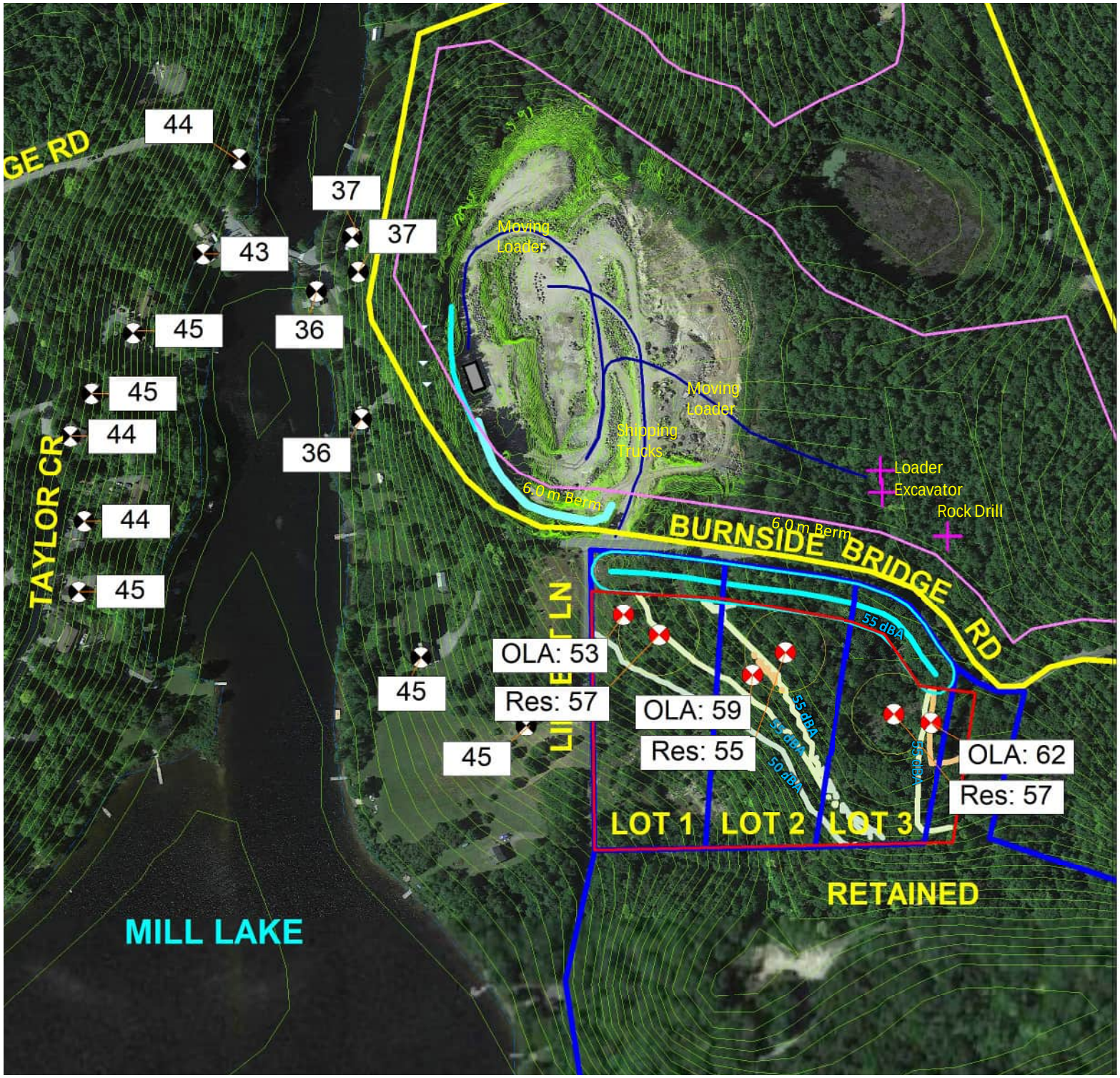
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 4 –
ROCK DRILLING
MITIGATED AT RECEPTOR

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 23
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

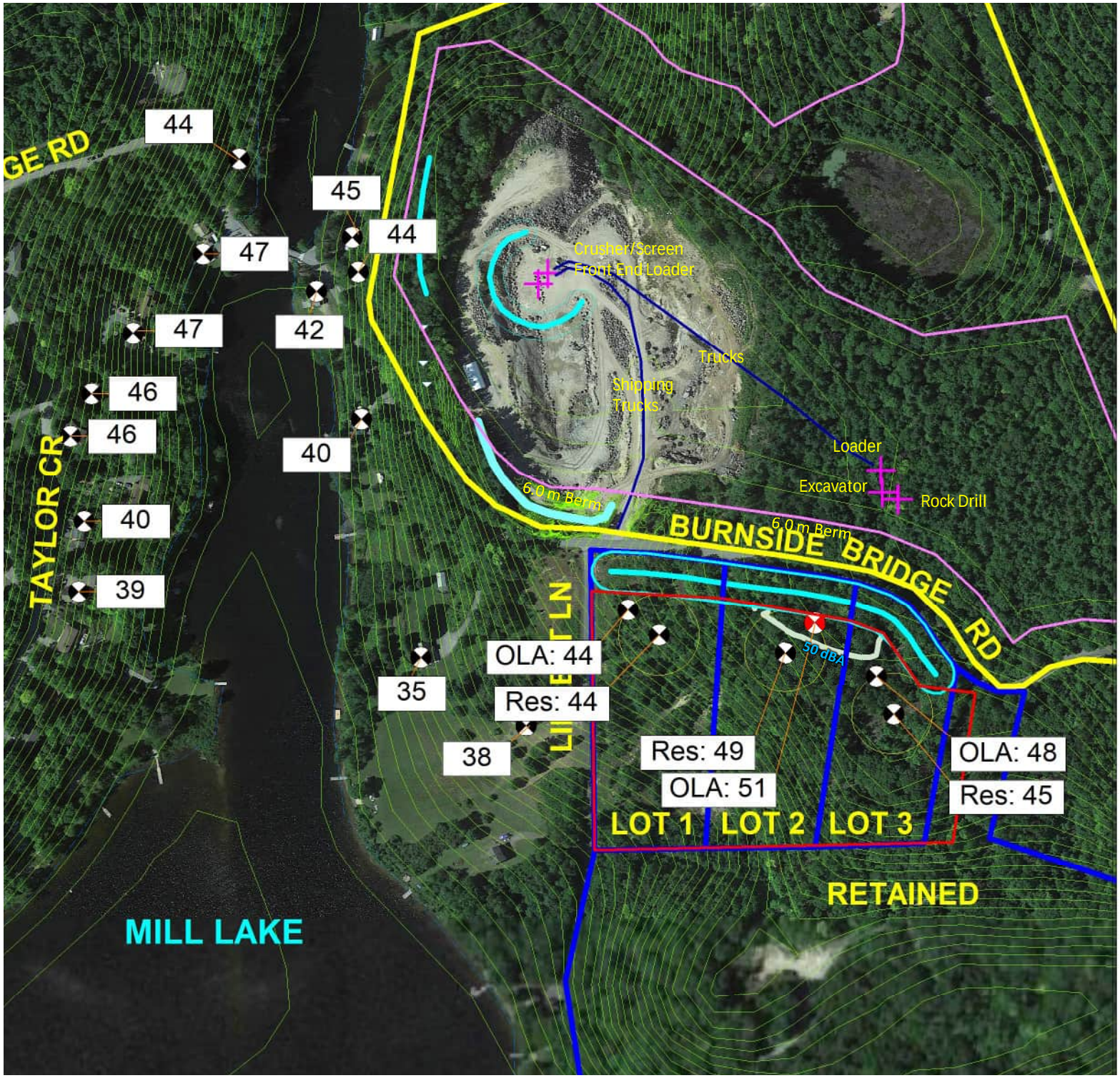
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 5 –
ROCK DRILLING
MITIGATED AT RECEPTOR

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 24
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

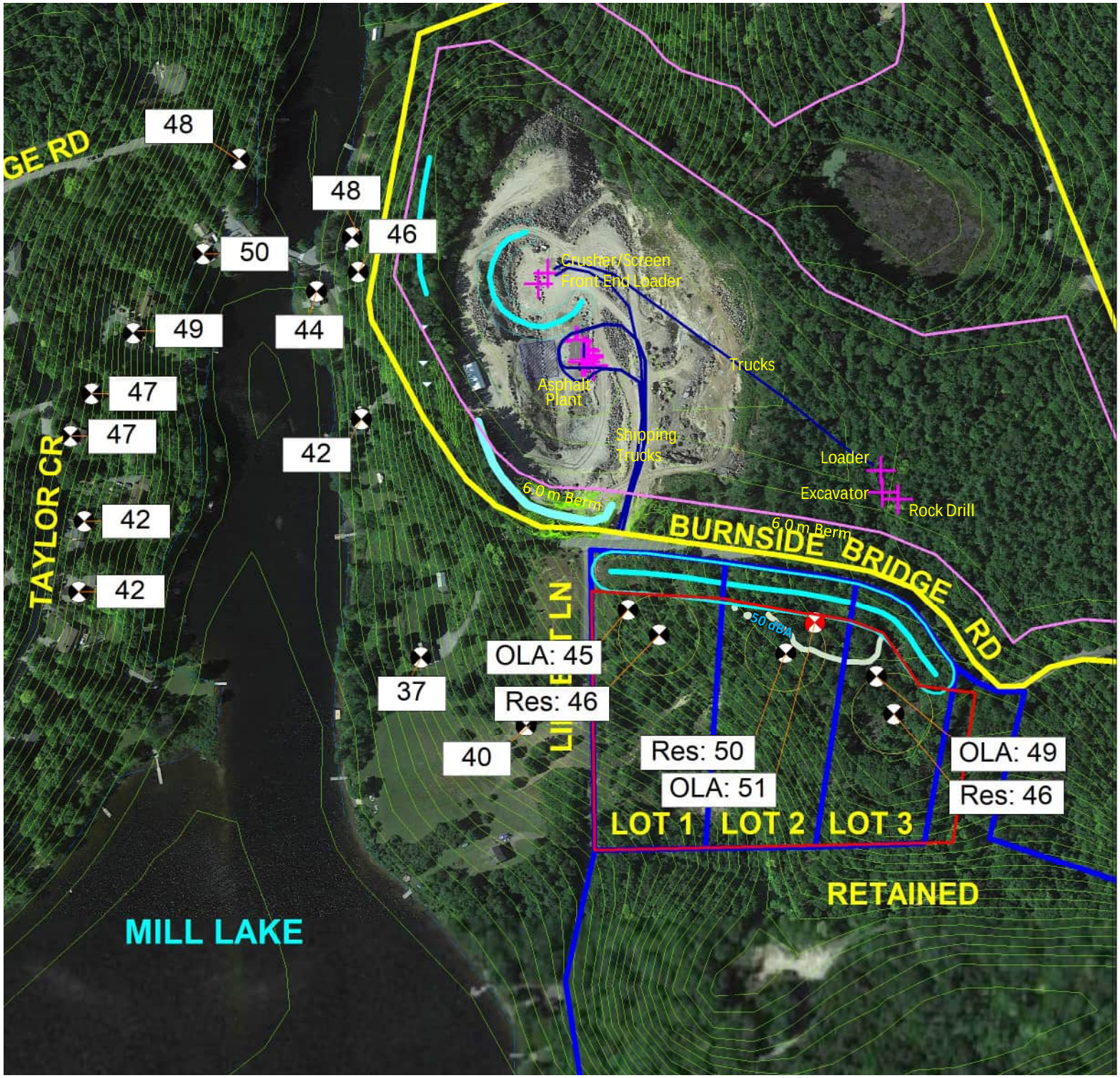
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 6 –
FUTURE AGGREGATE
OPERATION
MITIGATED AT RECEPTOR

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 25
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

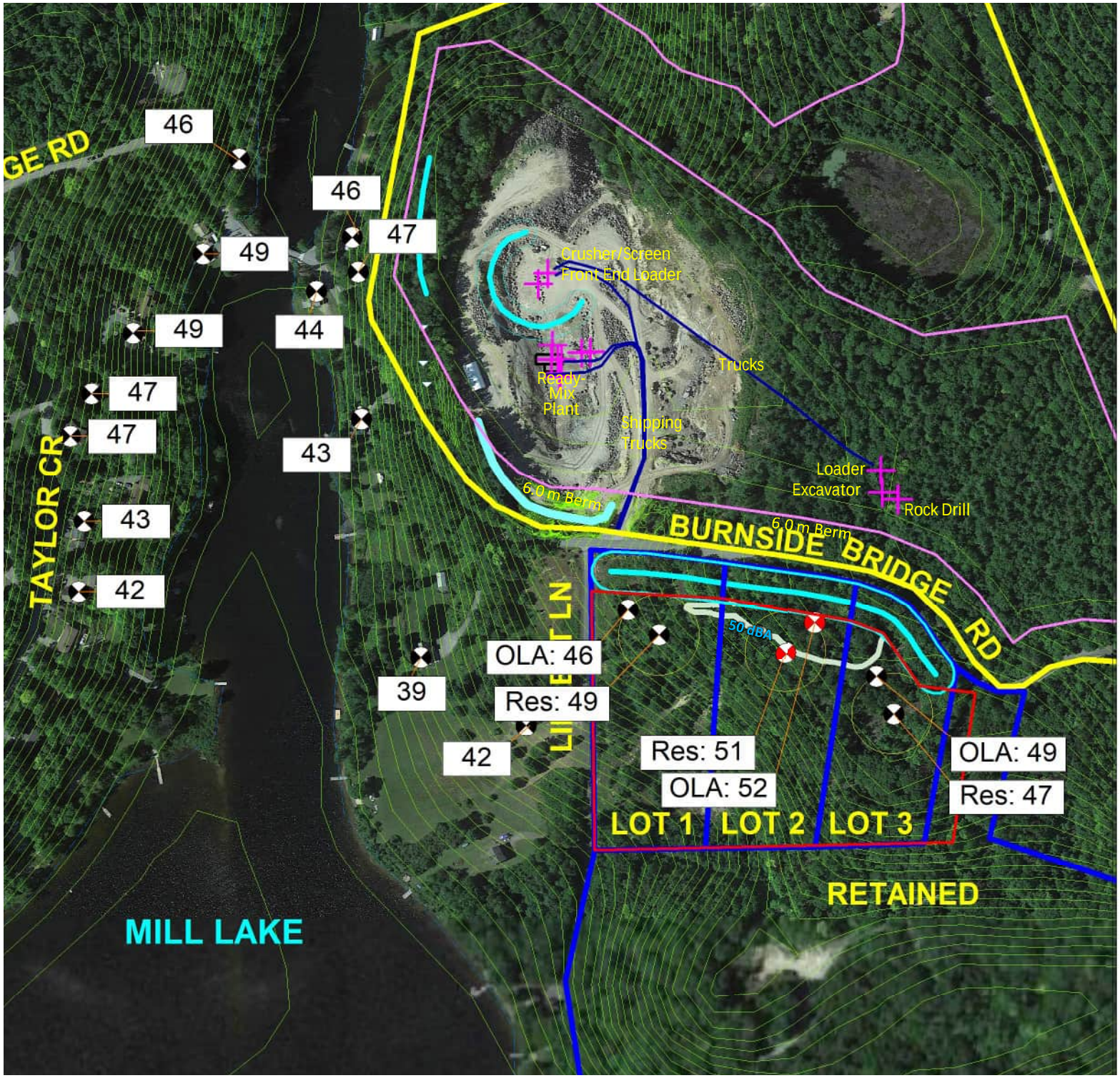
HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 7 –
FUTURE ASPHALT PLANT
MITIGATED AT RECEPTOR

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 26
Project No.	241.30610.00000		

SLR



LEGEND

- Lots to be Severed
- Quarry License Boundary
- Quarry Extraction Limits
- Earthen Berm
- Terrain Contour Line
- Residence
- XX Predicted Sound Level (dBA)
- Point Source
- Line Source

True North

HALL CONSTRUCTION INC.

CONSENT APPLICATION B46/2021
(MCDOUGALL) – (SIM CONSENT)

SCENARIO 8 –
FUTURE READY-MIX
CONCRETE PLANT
MITIGATED AT RECEPTOR

Scale:	1:5,000		METRES
Date:	Oct 2023	Rev 0.0	Figure No. 27
Project No.	241.30610.00000		

SLR

Appendix A Georgian Rock Co. Quarry Site Plan Drawings

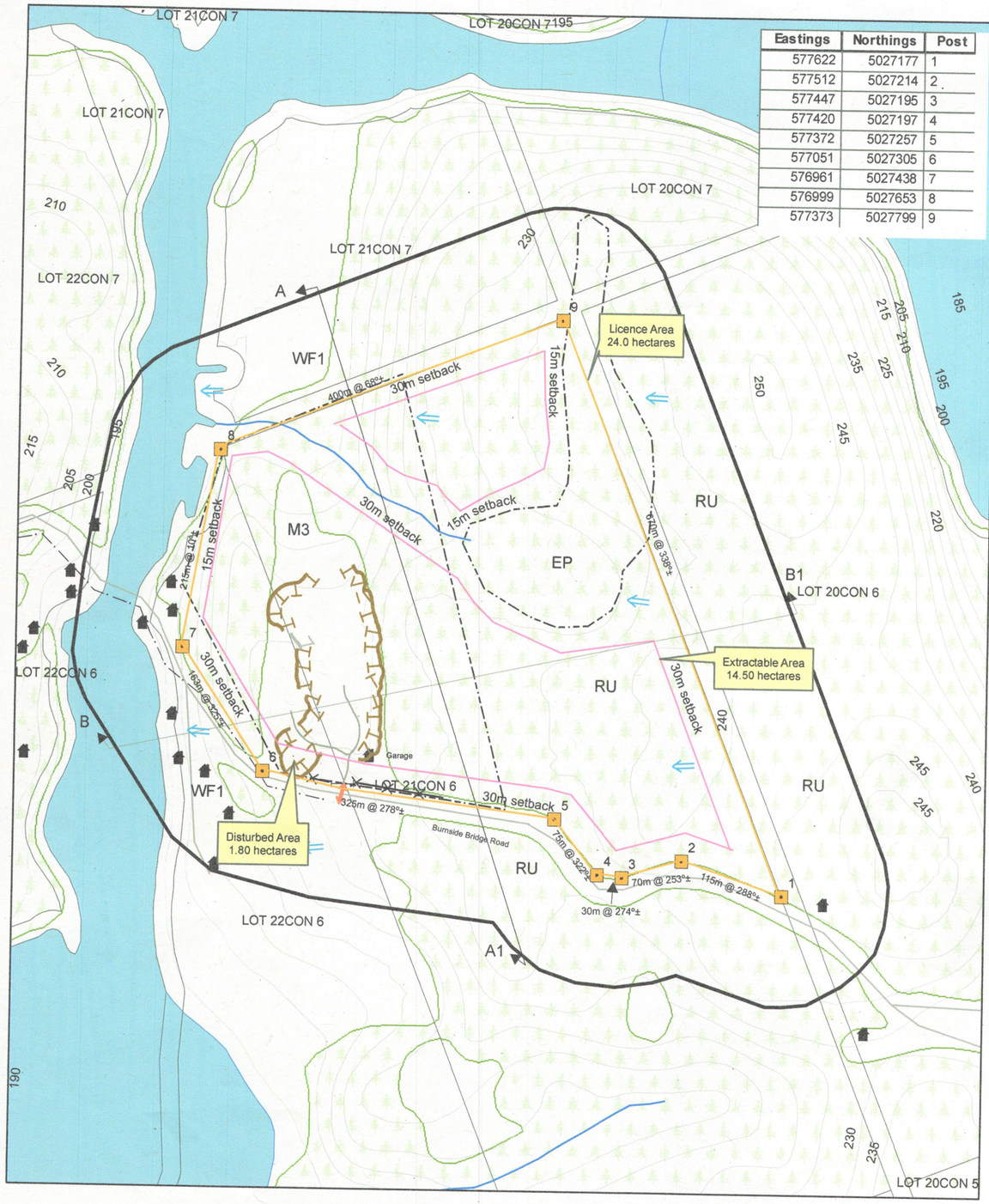
Environmental Noise & Vibration Assessment

Parry Sound Area Planning Board Consent Application B46/2021 (McDougall) – (Sim Consent)

Hall Construction Inc.

SLR Project No.: 241.030610.00000

October 25, 2023



Eastings	Northings	Post
577622	5027177	1
577512	5027214	2
577447	5027195	3
577420	5027197	4
577372	5027257	5
577051	5027305	6
576961	5027438	7
576999	5027653	8
577373	5027799	9

1:5,000

N

0 150 300 600 Meters

Existing Features and Cross Sections

1.1 EXISTING FEATURES NOTES

1.1.1 DRAWINGS NUMBERED AND TOTAL NUMBER OF DRAWINGS SUBMITTED
THERE ARE THREE PAGES IN THIS SITE PLAN. EACH PAGE IS NUMBERED CONSECUTIVELY.

1.1.2 KEY MAP SHOWING THE LOCATION OF THE SITE
THE KEY MAP IS SHOWN ON PAGE 1 OF 3.

1.1.3 GENERAL DESCRIPTION OF THE LOCATION
THE SITE IS LOCATED IN PART OF LOTS 21 & 22, CONCESSION 6, GEOGRAPHIC TOWNSHIP OF McDOUGALL, MUNICIPALITY OF McDOUGALL.

1.1.4 SCALE REFERENCE USING BOTH RATIO AND GRAPHIC METHODS
SHOWN ON SITE PLAN

1.1.5 LICENSEE'S NAME AND ADDRESS
Georgian Rock Company Ltd.
176 Louisa Street, Parry Sound, Ont P2A 3C1 .

1.1.6 STATEMENT OF PURPOSE
THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENCE, CATEGORY 3&4.

1.1.7 A STAMP AND SIGNATURE OF A PROFESSIONAL ENGINEER, ONTARIO LAND SURVEYOR, LANDSCAPE ARCHITECT OR SIGNATURE OF OTHER QUALIFIED PERSON AS APPROVED UNDER SUBSECTION 8(4) OF THE AGGREGATE RESOURCES ACT UNDER WHOSE DIRECTION THIS PLAN WAS PREPARED AND CERTIFIED.
SHOWN ON ALL THREE PAGES.

1.1.8 NORTH ARROW
SHOWN ON ALL THREE PAGES.

1.1.9 SECTION FOR RECORDING SITE PLAN AMENDMENTS, INCLUDING APPROVAL DATES
SHOWN ON ALL THREE PAGES.

1.1.10 LIST OF REFERENCES WHICH APPLY SPECIFICALLY TO THE PREPARATION OF THE SITE PLAN
CONTOUR AND TOPOGRAPHIC MAPPING WAS COMPLETED BY TIMBER CRAFT CONSULTATIONS INC. USING OBM MAPPING PROVIDED BY MNR. THE ACCURACY OF THE DIGITAL DATA IS SUBJECT TO THE ACCURACIES OF THE OBM MAPPING AND THE GPS DATA.

1.1.11 LEGEND
SHOWN ON ALL THREE PAGES.

1.1.12 BOUNDARY OF THE AREA TO BE LICENSED, INCLUDING THE DIMENSIONS AND HECTARAGE OF THE SITE
SHOWN ON PAGE 1 OF 3. THE LICENCE IS 24.0 HECTARES IN SIZE. A LICENCE BOUNDARY THAT ABUTS ANY ROAD AND/OR ROAD ALLOWANCE IS ASSUMED TO BE AT THE EDGE OF THIS ROAD AND/OR ROAD ALLOWANCE AS IT IS SOMETIMES DIFFICULT TO SHOW DUE TO SCALE, THICKNESS OF PLOTTED LINE AND THE ACCURACIES OF THE MAPPING (GPS AND OBM)

1.1.13 DEMARCATION OF LOT AND CONCESSION LINES
LOT AND CONCESSION LINES ARE SHOWN ON PLAN.

1.1.14 USE AND EXISTING ZONING OF LAND ON AND WITHIN 120 METRES OF THE SITE
THE USE AND ZONING ARE SHOWN ON PAGE 1. ZONING REFERENCES ARE FROM DATA PROVIDED BY THE LOCAL MUNICIPALITY. THE ACCURACIES OF THE ZONING BOUNDARIES ARE SUBJECT TO THE ACCURACIES OF THE DATA AVAILABLE AND THE ERRORS INDUCED BY TRANSFERRING BOUNDARIES BETWEEN MAPS OF DIFFFERENT SCALES.

1.1.15 TOPOGRAPHY OF THE SITE ILLUSTRATED BY A ONE OR TWO METRE CONTOUR INTERVAL, EXPRESSED AS METRES ABOVE MEAN SEA LEVEL
SHOWN ON PLAN - 5 METRE CONTOUR INTERVALS

1.1.16 LOCATION AND USE OF ALL BUILDINGS AND OTHER STRUCTURES EXISTING ON AND WITHIN 120 METRES OF THE SITE
SHOWN ON PLAN. THE BUILDINGS WITHIN THE 120 M. ZONE WOULD APPEAR TO BE RESIDENCES AND ASSOCIATED OUTBUILDINGS.

1.1.17 LOCATION OF EVERY EXISTING ENTRANCE TO AND EXIT FROM THE SITE
THERE IS ONE ENTRANCE/EXIT ON THE SITE.

1.1.18 MAIN INTERNAL HAUL ROADS ON THE SITE
ALL ROADS ARE TEMPORARY FOR EXTRACTION AND HAULING AND ARE SHOWN ON THE PLAN.

1.1.19 ELEVATION OF THE ESTABLISHED GROUNDWATER TABLE ON SITE
THE WATER TABLES HAVE NOT BEEN ESTABLISHED.

1.1.20 EXISTING SURFACE WATER DRAINAGE AND DRAINAGE FACILITIES ON AND WITHIN 120 METRES OF THE SITE
DRAINAGE COURSES ON THE SITE ARE SHOWN ON PAGE 1.

1.1.21 THE LOCATION AND TYPE OF EXISTING FENCES ON THE SITE
THERE IS SOME FENCING AT THE ENTRANCE TO THE SITE.

1.1.22 LOCATION OF EXISTING TREE COVER (I.E. WOOD LOTS AND HEDGEROWS) ON THE SITE AND WITHIN 120 METRES OF THE SITE
SHOWN ON PAGE 1 OF 3.

1.1.23 LOCATION OF EXISTING STOCKPILES OF TOPSOIL AND OVERBURDEN ON THE SITE
NONE

1.1.24 LOCATION OF EXISTING AGGREGATE STOCKPILES, INCLUDING ANY RECYCLABLE MATERIALS ON THE SITE
NONE

1.1.25 EXISTING SCRAP LOCATION(S) ON THE SITE
NONE

1.1.26 EXISTING FUEL STORAGE AREA(S) ON THE SITE
NONE

1.1.27 SIGNIFICANT NATURAL FEATURES ON AND WITHIN 120 METRES OF THE SITE
SEE PLAN.

1.1.28 SIGNIFICANT MAN-MADE FEATURES ON AND WITHIN 120 METRES OF THE SITE
AS SHOWN ON PLAN.

1.1.29 ALL EXISTING EXCAVATION FACES AND REHABILITATED AREAS
SHOWN ON PAGE 1 OF 3.

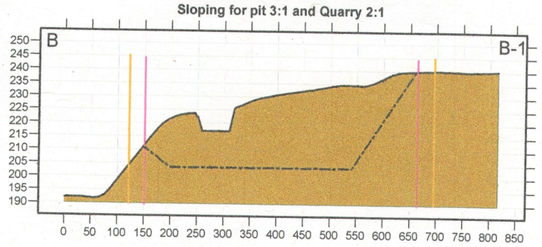
1.1.30 LOCATION OF EXISTING PROCESSING AREA(S) AND WHETHER OR NOT THE EQUIPMENT IS STATIONARY AND/OR PORTABLE
PROCESSING IS NORMALLY CONFINED TO THE FLOOR OF THE PIT/QUARRY/STOCKPILE AREA. ALL EXISTING EQUIPMENT USED IS PORTABLE.

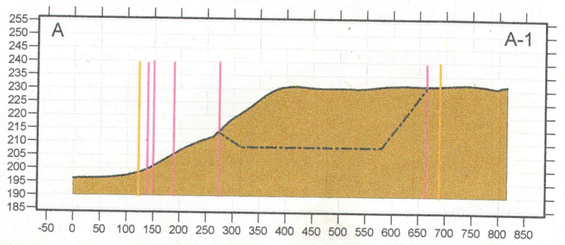
1.1.31 LOCATION OF EXISTING BERMS AND THEIR HEIGHT
NONE

1.1.32 LOCATION OF CROSS-SECTION(S)
TWO CROSS SECTIONS ARE SHOWN ON PAGE 1.

Cross Sections

Sloping for pit 3:1 and Quarry 2:1

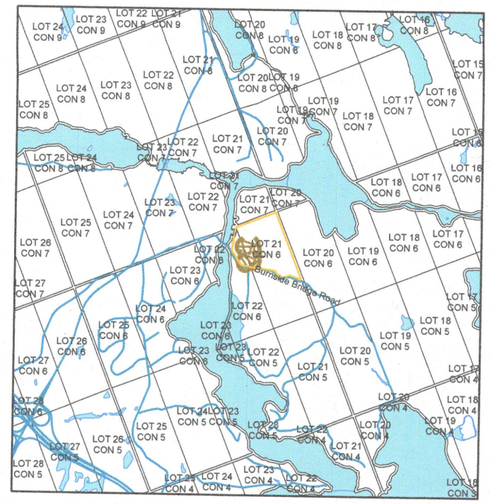




SCHEDULE OF AMENDMENTS			
NO.	DATE	DESCRIPTION	APPROVED

APPROVED

Aggregate Inspector — Date: Dec. 11, 2013
Ontario Ministry of Natural Resources



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Legend

- 120m Information Area
- Licence Boundary
- Extractable Area
- Corner Posts
- Quarry Face
- Pit Face
- Entrance/ Exit
- Natural Water Drainage
- Gate
- Residential Buildings
- Cross Section Line A-A1
- Cross Section Line B-B1
- Zoning
- Utility Line
- Municipal_Roads
- Existing Internal Roads
- Fences
- Lots/Concessions
- Streams
- Lakes
- 5m Contours
- Forested_Areas

PART LOT 21 & 22
CONCESSION 6
TOWNSHIP OF McDOUGALL
MUNICIPALITY OF Mc DOUGALL

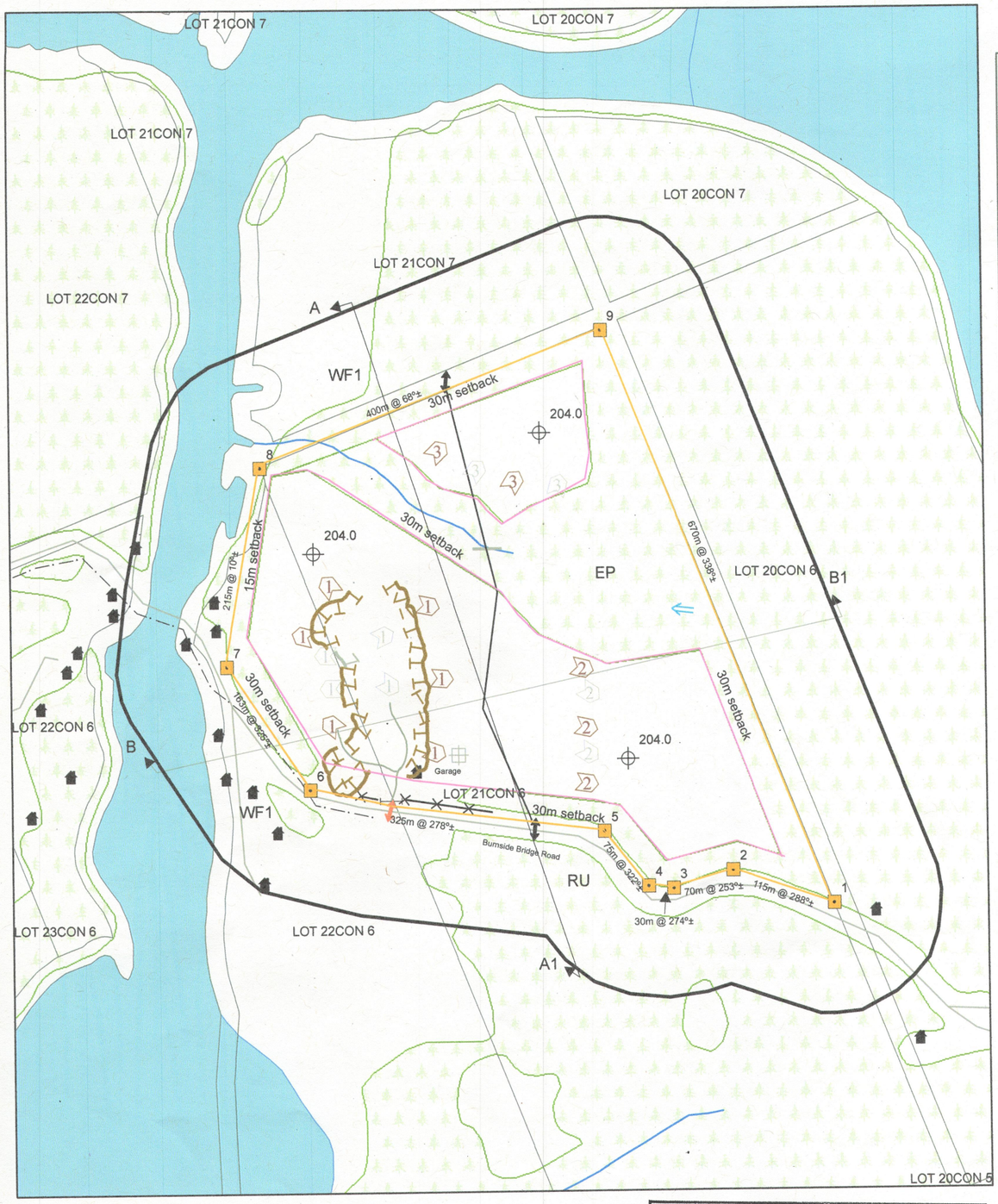
DECLARATION OF PURPOSE
THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS 'A' LICENCE, CATEGORY 3 & 4

Applicant: Georgian Rock Company Ltd.
176 Louisa Street
Parry Sound, ON
P2A 3C1
Signature

Site Plan Prepared by Danny Benson Timber Craft Consultation Inc. who is qualified person under section 8(4) of the Aggregate Resources Act to prepare and certify A Licence site plans.
Signature

Existing Features & Cross Sections

Timber Craft Consultation Inc.
111 King Street
Sturgeon Falls, ON
P2B 1P9
Tel: (705) 753-6743
Cell: (705) 471-6570



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0 150 300 600 Meters

APPROVED

Aggregate Inspector — Date: Dec.11, 2013

Ontario Ministry of Natural Resources

Operational Plan

1.2 OPERATIONS NOTES

1.2.1 SEQUENCE AND DIRECTION OF THE PIT AND QUARRY DEVELOPMENT
THE QUARRY/PIT WILL CONTINUE TO BE DEVELOPED IN THE SAME DIRECTIONS THAT HAS BEEN WORKED TO DATE. EXTRACTION WILL CONTINUE AS INDICATED IN ON THE PLAN IN THREE PHASES THROUGH TO THE LIMIT OF EXTRACTION. DUE TO THE VARIABILITY OF THE MATERIAL AND THE MARKET DEMAND, THE LICENSEE MAY NEED TO OPERATE IN SEVERAL PHASES AT ONE TIME. WHEN THE QUALITY OF THE MATERIAL DOES NOT MEET THE OPERATOR'S MARKET REQUIREMENTS, THE HORIZONTAL EXTENT OR DEPTH OF EXTRACTION MAY BE REDUCED. ACCESS TO PHASE 3 WILL BE VIA A DEEDED ROAD TO BE CONSTRUCTED ACROSS THE INTERMITTENT STREAM. A CULVERT WILL BE INSTALLED.

1.2.2 DETAILS OF HOW STRIPPING AND STOCKPILING OF TOPSOIL AND OVERBURDEN WILL BE DEALT WITH
TREES WILL BE HARVESTED AND ALL REMAINING STUMPS WILL BE REMOVED AND PLACED IN A STOCKPILE FOR FUTURE USE IN SITE REHABILITATION. ALL REMAINING TOPSOIL AND OVERBURDEN WILL BE STRIPPED AND STOCKPILED TOGETHER, BUT SEPARATELY FROM THE WOODY MATERIALS, IN A LOCATION FOR FUTURE PROCESSING. NO TREE REMOVAL SHALL OCCUR IN THE EXCAVATION SETBACK AREAS.

1.2.3 MAXIMUM NUMBER OF LIFTS AND MAXIMUM HEIGHT OF LIFTS
THE NATURE OF EXTRACTION IS SUCH THAT THERE COULD BE SEVERAL LIFTS AT ANY GIVEN TIME. HEIGHTS OF EACH LIFT IN THE QUARRY WILL GENERALLY BE DEPENDANT ON THE HEIGHT OF THE OUTCROPS. MAXIMUM HEIGHTS WILL BE GOVERNED BY THE OCCUPATIONAL HEALTH AND SAFETY ACT.

1.2.4 MAIN INTERNAL HAUL ROADS ON THE SITE
INTERNAL ROADS ARE TEMPORARY AND WILL BE MOVED AS NEED ARISES.

1.2.5 LOCATION OF EVERY PROPOSED ENTRANCE TO AND EXIT FROM THE SITE
AS SHOWN ON PLAN (THERE IS ONE).

1.2.6 ELEVATION OF ESTABLISHED GROUNDWATER TABLE OR PROVIDE INFORMATION THAT FINAL DEPTH OF EXTRACTION IS AT LEAST 2 METRES ABOVE THE ESTABLISHED WATER TABLE
THE GROUNDWATER TABLES IN THE SURFICIAL MATERIAL AND IN THE BEDROCK HAVE NOT BEEN ESTABLISHED. THE FINAL DEPTH OF THE QUARRY (214 M.) AND THE FINAL DEPTH OF THE PIT (204 M.) SHALL BE THE DEPTHS AS OF JANUARY 1, 2007.

1.2.7 ANY PROPOSED WATER DIVERSION AND POINTS OF DISCHARGE TO SURFACE WATER
NONE .

1.2.8 LOCATION, TYPE AND INSTALLATION SCHEDULE OR PHASING FOR ANY PROPOSED FENCING AROUND THE LICENSED BOUNDARY OF THE SITE
BOUNDARIES THAT ARE NOT FENCED SHALL BE CLEARLY IDENTIFIED SUCH THAT THEY ARE EASY TO FOLLOW. FROM ANY ONE MARK, THE MARK AHEAD AND THE ONE BEHIND SHOULD BE CLEARLY VISIBLE.

1.2.9 LOCATION OF ANY PROPOSED BUILDINGS AND OTHER STRUCTURES TO BE ERECTED ON SITE
PIT PRIVIES AND PORTABLE TRAILERS ARE LOCATED ON THE SITE FOR WORKERS, AS REQUIRED BY MINISTRY OF LABOUR REQUIREMENTS AND WILL BE LOCATED SO AS NOT TO IMPACT EXTRACTION AND SO THAT THEY DO NOT VIOLATE THE OPERATIONAL STANDARDS.

1.2.10 LOCATION OF ANY PROPOSED STOCKPILES OF TOPSOIL AND OVERBURDEN ON SITE
STOCKPILES WILL BE ESTABLISHED IN VARIOUS LOCATIONS, HOWEVER THEY WILL BE LOCATED IN ACCORDANCE WITH THE OPERATIONAL STANDARDS.

1.2.11 LOCATION OF ANY PROPOSED AGGREGATE STOCKPILE AREA(S), INCLUDING ANY RECYCLABLE MATERIALS ON SITE
STOCKPILES WILL LOCATED THROUGHOUT THE SITE TO FACILITATE SORTING OF THE VARIOUS PRODUCTS. RECYCLING SHALL ADHERE TO POLICY A.R. 5.00.15.

- Recycling of asphalt, concrete and other aggregate products will be permitted on the site.
- Recyclable asphalt materials will not be stockpiled within:
  - 30 m of any water body or man-made pond
  - 2 m of the surface of the established water table.
- Any rebar and other structural metal must be removed from the recycled material during processing and placed in a designated scrap pile which will be removed on an ongoing basis.
- Removal of recycled aggregate is to be ongoing.
- Once the aggregate on the site has been depleted there will be no further importation of recyclable materials permitted. Once the final rehabilitation has been completed and approved in accordance with the site plan, all recycling operations must ceases.

AUXILLARY USES OF THE SITE
a) Aggregate products from offsite may be imported and temporarily stored in an active area on the quarry floor for the purpose of resale and/or blending with on site material.

1.2.12 ANY PROPOSED SCRAP LOCATION (S) ON SITE
SCRAP FOUND ON THE SITE WILL BE COLLECTED PERIODICALLY AND REMOVED FROM THE SITE AT LEAST ANNUALLY. A SCRAP LOCATION IS SHOWN ON PAGE 2 OF 3.

1.2.13 LOCATION OF ANY PROPOSED FUEL STORAGE AREA(S) ON SITE
TEMPORARY PORTABLE FUEL STORAGE WILL BE LOCATED ON THE SITE AND MAY BE MOVED TO VARIOUS LOCATIONS TO FACITATE FUELING AND EXTRACTION. A SPILLS PLAN WILL BE DEVELOPED PRIOR TO ANY FUEL STORAGE OR REFUELLING ON THE SITE.

1.2.14 AREA IN HECTARES TO BE EXTRACTED
14.50 HECTARES WILL BE EXCAVATED.

1.2.15 LOCATION AND LABELLING OF ALL EXCAVATION SETBACKS FROM THE LICENSED BOUNDARY
SHOWN ON PAGE 1 OF 3. IN THE AREA THAT HAS BEEN PREVIOUSLY EXCAVATED WITHIN THE SETBACK AND/OR OUTSIDE THE LICENCE BOUNDARY, STAKES WILL BE INSTALLED TO DEFINE THE EXTRACTION BOUNDARY TO ENSURE THAT NO FURTHER EXTRACTION OCCURS OUTSIDE THE LICENCE BOUNDARY OR WITHIN THE SETBACKS.

1.2.16 FINAL EXTRACTION ELEVATION OF THE SITE USING SPOT ELEVATIONS
SEE PLAN.

1.2.17 LOCATION OF ANY PROPOSED PERMANENT AND/OR TEMPORARY PROCESSING AREA(S) ON SITE
PROCESSING AREAS WILL NORMALLY BE RESTRICTED TO THE PIT/QUARRY/STOCKPILE AREA. EQUIPMENT WILL BE PORTABLE AND OF A TEMPORARY NATURE, ALTHOUGH SOME EQUIPMENT MAY BE ESTABLISHED PERMANENTLY IN THE FUTURE.

1.2.18 LOCATION OF ANY PROPOSED BERMS AND THE MINIMUM HEIGHT
NO BERMS ARE PROPOSED.

1.2.19 DETAILS ON HOW BERMS WILL BE VEGETATED AND MAINTAINED
N/A.

1.2.20 GENERAL TYPES OF EQUIPMENT THAT WILL NORMALLY BE USED ON SITE
EQUIPMENT USED ON THE SITE WILL INCLUDE AIR TRACK DRILLS, SCALES, SCREENING PLANTS, CRUSHERS, ASPHALT PLANT, CONCRETE PLANT, BOOM TRUCKS, FORK LIFTS, GENERATORS, LOADERS, EXCAVATORS, BULLDOZERS, BACKHOES, AND OTHER EXCAVATION EQUIPMENT AND A VARIETY OF TRUCKS. A CERTIFICATE OF APPROVAL IS REQUIRED FROM MOE FOR PORTABLE ASPHALT PLANTS AND CONCRETE PLANTS OPERATING ABOVE GRADE. AND MUNICIPAL APPROVAL AS PER ARA, 2004 SECT. 2.5.5.

Sd. Dec. 11, 2013
Dec 11, 2013

1.2.21 LOCATION, DESIGN AND PHASING OF ANY PROPOSED TREE SCREENS AND WHETHER DECIDUOUS, CONIFEROUS OR BOTH ADDITIONAL
TREE SCREENS ARE NOT PROPOSED FOR THE SITE.

1.2.22 DETAILS ON HOURS OF OPERATION OF THE SITE TAKING INTO ACCOUNT ALL FACETS OF THE OPERATION WHICH INVOLVES THE ACTUAL PHYSICAL MOVEMENT OF AGGREGATE
HOURS WILL BE 7 AM TO 7 PM MONDAY TO SATURDAY, EXCLUDING STATUTORY HOLIDAYS. EMERGENCY WORK MAY REQUIRE LOADING AND HAULING OUTSIDE OF THE NORMAL WORK HOURS.

1.2.23 DETAILS ON HOW TREES AND STUMPS SHALL BE DISPOSED OF OR UTILIZED
TREES WILL BE HARVESTED AND ALL REMAINING STUMPS WILL BE REMOVED AND PLACED IN A STOCKPILE FOR FUTURE USE IN SITE REHABILITATION. ALL REMAINING TOPSOIL AND OVERBURDEN WILL BE STRIPPED AND STOCKPILED TOGETHER, BUT SEPARATELY FROM THE WOODY MATERIALS, IN A LOCATION FOR FUTURE PROCESSING. NO TREE REMOVAL SHALL OCCUR IN THE EXCAVATION SETBACK AREAS

1.2.24 LOCATION OF CROSS-SECTION(S)
TWO SECTIONS RUN THROUGH THE SITE; ONE EAST/WEST AND ONE NORTH/SOUTH.

1.2.25 A SECTION TO RECORD ANY VARIATIONS FROM THE OPERATIONAL STANDARDS THAT RELATE TO THE SITE

- LICENSED BOUNDARIES WILL NOT BE FENCED. (5.1)
- TOPSOIL ANDS OVERBURDEN MAY BE STOCKPILED TOGETHER. (5.6)
- THERE HAS BEEN EXTRACTION INTO THE SETBACK ALONG THE SOUTH BOUNDARY. THE LICENSEE IS ATTEMPTING TO OBTAIN COMMON BOUNDARY AGREEMENTS FOR THE SOUTH AND EAST BOUNDARIES SO AS TO ELIMINATE THE SETBACKS. (5.10)
- EXISTING SLOPE WITHIN THE SOUTH SETBACK WILL BE LEFT AS IS. (5.19).

1.2.26 DETAILS OF FREQUENCY AND TIMING OF BLASTS
BLASTING WILL BE CONDUCTED PERIODICALLY AS NEED FOR QUARRIED STONE ARISES. THERE WILL BE NO BLASTING ON A HOLIDAY OR BETWEEN 6 PM ON ANY DAY AND 8 AM ON THE FOLLOWING DAY.

1.2.27 A STATEMENT TO INDICATE THE MAXIMUM NUMBER OF TONNES OF AGGREGATE TO BE REMOVED FROM THE SITE IN ANY CALENDAR YEAR
UNLIMITED

1.2.28 ANY RECOMMENDATIONS AND/OR MONITORING PROGRAM(S) IDENTIFIED IN THE TECHNICAL REPORTS.
N/A.

SCHEDULE OF AMENDMENTS			
NO.	DATE	DESCRIPTION	APPROVED

Legend

- 120m Information Area
- Licence Boundary
- Extractable Area
- Corner Posts
- Quarry Face
- Phasing Quarry
- Pit Face
- Phasing pit
- Entrance/ Exit
- Proposed Road
- Proposed Culvert
- Proposed Entrance/Exit
- Natural Water Drainage
- Gate
- Spot Elevations
- Residential Buildings
- Proposed Scrap Pile
- Cross Section Line A-A1
- Cross Section Line B-B1
- Utility Line
- Municipal_Roads
- Existing Internal Roads
- Fences
- Lots/Concessions
- Streams
- Lakes
- Forested_Areas Operational

PART LOT 21 & 22
CONCESSION 6
TOWNSHIP OF McDOUGALL
MUNICIPALITY OF Mc DOUGALL

DECLARATION OF PURPOSE
THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS 'A' LICENCE, CATEGORY 3 & 4

Applicant: Georgian Rock Company Ltd.
176 Louisa Street
Parry Sound, ON
P2A 3C1

Signature

Site Plan Prepared by Danny Benson
Timber Craft Consultation Inc. who is qualified person under section 8(4) of the Aggregate Resources Act to prepare and certify site plans.

Signature

Operational Plan

Timber Craft Consultation Inc.
111 King Street
Sturgeon Falls, ON
P2B 1P9
Tel: (705) 753-6743
Cell: (705) 471-6570

Rehabilitation Plan

SCHEDULE OF AMENDMENTS			
NO.	DATE	DESCRIPTION	APPROVED

APPROVED

Aggregate Inspector — Dec 11, 2013 — Date

Ontario Ministry of Natural Resources

1:5,000

N

0 150 300 600 Meters

1.3 PROGRESSIVE REHABILITATION NOTES

1.3.1 SEQUENCE AND DIRECTION OF PROGRESSIVE REHABILITATION
PROGRESSIVE REHABILITATION WILL OCCUR AS AREAS BECOME DEPLETED OR REACH THE EXCAVATION LIMIT. THE NATURE OF THE EXCAVATION IS SUCH THAT THERE WILL BE MINIMAL PROGRESSIVE REHABILITAITON, AS EXTRACTION WILL OCCUR THROUGHOUT THE ENTIRE LICENCE AT THE SAME TIME.

1.3.2 DETAILS ON HOW OVERBURDEN AND TOPSOIL WILL BE USED TO FACILITATE PROGRESSIVE REHABILITATION
ALL TOPSOIL AND OVERBURDEN WILL BE USED TO REHABILITATE THE SITE. SLOPES CREATED IN THE QUARRY WILL BE AT LEAST 2 HORIZONTAL FOR EACH METRE VERTICAL. SLOPES CREATED IN THE PIT, WILL BE AT LEAST 3 METRES HORIZONTAL FOR EACH METRE VERTICAL. ANY AVAILABLE MATERIAL FROM THE SITE WILL BE UTILIZED TO FILL VOIDS NEAR THE SURFACE. THESE SLOPES WILL THEN BE COVERED WITH TOPSOIL AND OVERBURDEN AND SEEDED. STUMPS AND OTHER WOODY MATERIAL WILL BE SPREAD OVER THE REHABILITATED SLOPE TO DETER UNAUTHORISED RECREATIONAL VEHICLES FROM DISTURBING THE SITE, AND TO CREATE COVER FOR SMALL ANIMALS.

1.3.3 LOCATION, DESIGN AND TYPE OF VEGETATION (E.G. GRASSES, LEGUMES, SHRUBS AND TREES, ETC.) THAT WILL BE ESTABLISHED ON SITE DURING PROGRESSIVE REHABILITATION
THE ENTIRE SITE, OTHER THAN THAT REQUIRED FOR ROADS FOR ACCESS, WILL BE VEGETATED WITH A GRASS/LEGUME SEED MIX OR NATURAL VEGETATION.

1.3.4 HOW THE SLOPE WILL BE ESTABLISHED ON EXCAVATION FACES AND THE PIT/QUARRY FLOOR
ALL SLOPES WILL BE CREATED USING CUT/FILL OR BACKFILL METHODS, USING CLEAN MATERIAL FROM THE SITE. BEDROCK AND PIT SLOPES AND FLOORS WILL BE COVERED WITH FILL TO DEVELOP DRAINAGE AND ROOTING ZONE SUFFICIENT TO ACCOMMODATE PLANT GROWTH. THE LICENCE BOUNDARIES MUST BE VISIBLY MARKED. AS EXCAVATION APPROACHES, THE EXCAVATION SETBACK BOUNDARIES WILL ALSO BE VISIBLY MARKED TO TRIGGER SLOPE CONSIDERATIONS AND PREVENT EXCAVATION INTO THE SETBACK AREAS.

1.3.5 DETAILS ON HOW PROGRESSIVE REHABILITATION WILL BE CONDUCTED IN RELATION TO THE OPERATIONAL SEQUENCES
EXCAVATION WILL BE DIRECTED TO FINAL DEPTH AND UPON REACHING EXCAVATION LIMITS, WHERE ROOM PERMITS, AREAS WILL BE PROGRESSIVELY REHABILITATED.

1.3.6 IF PROPOSED, DETAILS ON THE IMPORTATION OF TOPSOIL OR INERT MATERIAL TO FACILITATE REHABILITATION OF THE SITE
NO MATERIALS WILL BE IMPORTED TO ASSIST IN SITE REHABILITATION.

1.4 FINAL REHABILITATION NOTES

1.4.1 IF PROPOSED, DETAILS ON THE IMPORTATION OF TOPSOIL OR INERT MATERIAL TO FACILITATE REHABILITATION OF THE SITE
NO MATERIALS WILL BE IMPORTED FOR SITE REHABILITATION

1.4.2 HOW FINAL SLOPES WILL BE ESTABLISHED ON ALL EXCAVATION FACES AND THE QUARRY FLOOR
ALL SLOPES WILL BE CREATED USING CUT/FILL OR BACKFILL METHODS, USING CLEAN MATERIAL FROM THE SITE

1.4.3 LOCATION, DESIGN AND TYPE OF VEGETATION (E.G. GRASSES, LEGUMES, SHRUBS, AND TREES, ETC.) THAT WILL BE STABLISHED ON SITE DURING FINAL REHABILITATION
THE ENTIRE SITE, OTHER THAN THAT REQUIRED FOR ROADS FOR ACCESS, WILL BE VEGETATED WITH A GRASS/LEGUME SEED MIX OR A NATURAL VEGETATION.

1.4.4 ANY BUILDING(S) OR STRUCTURE(S) TO REMAIN ON THE SITE
EXISTING AND PROPOSED BUILDINGS MAY REMAIN ON THE SITE AFTER LICENCE SURRENDER.

1.4.5 ANY INTERNAL HAUL ROADS THAT WILL REMAIN ON THE SITE
SOME ROADS FOR ACCESS WILL REMAIN.

1.4.6 FINAL SURFACE WATER DRAINAGE AND DRAINAGE FACILITIES ON THE SITE
DRAINAGE WILL BE BY PERCOLATION, EVAPORATION AND RUNOFF, FOLLOWING EXISTING PATTERNS. (REFER TO THE PLAN). IN ORDER TO ALLEVIATE COMPACTION, THE PIT FLOOR WILL NEED TO BE RIPPED AND/OR TILLED TO ALLOW FOR GREATER INFILTRATION.

1.4.7 FINAL ELEVATIONS OF REHABILITATED AREAS OF THE SITE ILLUSTRATED BY A ONE OR TWO METRE CONTOUR INTERVAL, EXPRESSED AS METRES ABOVE MEAN SEA LEVEL
REFER TO THE PLAN.

1.4.8 LOCATION OF CROSS-SECTION(S)
TWO CROSS-SECTIONS ARE SHOWN ON THE PLAN.

1.5 CROSS-SECTIONS

1.5.1 ONE OR MORE CROSS-SECTIONS OF EXISTING CONDITIONS AND THE REHABILITATION OF THE SITE
TWO CROSS-SECTIONS A-A1 AND B-B1 RUN THROUGH THE SITE.

1.5.2 THE ELEVATION OF THE ESTABLISHED GROUNDWATER TABLE, OR SHOW THAT EXTRACTION WILL REMAIN AT LEAST 1.5/2.0 METRES ABOVE THE ESTABLSIHED GROUNDWATER TABLE.
THE FINAL DEPTH OF THE QUARRY (214 M.) AND THE FINAL DEPTH OF THE PIT (204 M.) SHALL BE THE DEPTHS AS OF JANUARY 1, 2007.

1.5.3 FINAL SLOPE GRADIENT THAT WILL BE ESTABLISHED
SLOPE GRADIENTS WILL BE 2:1 FOR THE QUARRY AND 3:1 FOR THE PIT.

1.5.4 CROSS-SECTION OF A TYPICAL BERM DESIGN THAT WILL BE CONSTRUCTED ON SITE
NO BERMS ARE PROPOSED

1.5.5 APPROPRIATE HORIZONTAL AND VERTICAL SCALES
SEE CROSS SECTION

Legend

- 120m Information Area
- Licence Boundary
- Extractable Area
- Corner Posts
- Entrance/ Exit
- Natural Water Drainage
- Gate
- Spot Elevations
- Residential Buildings
- Cross Section Line A-A1
- Cross Section Line B-B1
- Utility Line
- Municipal_Roads
- Fences
- Lots/Concessions
- Streams
- Lakes
- Final Contours
- Forested_Areas Operational

PART LOT 21 & 22
CONCESSION 6
TOWNSHIP OF McDOUGALL
MUNICIPALITY OF Mc DOUGALL

DECLARATION OF PURPOSE
THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS 'A' LICENCE, CATEGORY 3 & 4

Applicant: **Georgian Rock Company Ltd.**
176 Louisa Street
Parry Sound, ON
P2A 3C1

Signature

Site Plan Prepared by Danny Benson
Timber Craft Consultation Inc. who is qualified person under section 8(4) of the Aggregate Resources Act to prepare and certify A Licence site plans.

Signature

Rehabilitated Plan

Timber Craft Consultation Inc.
111 King Street
Sturgeon Falls, ON
P2B 1P9
Tel: (705) 753-6743
Cell: (705) 471-6570

Appendix B Noise Modelling Information

Environmental Noise & Vibration Assessment

Parry Sound Area Planning Board Consent Application B46/2021 (McDougall) – (Sim Consent)

Hall Construction Inc.

SLR Project No.: 241.030610.00000

October 25, 2023

Sound Power Levels

Name	ID	Type	1/3 Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Rock Drill, drilling (per F5)	RockDrill4	Lw		109	108	106	102	107	110	113	116	111	120	120	Measured 22/09/23
Excavator, moving rocks	Exc	Lw		100	109	113	104	109	107	104	98	83	111	117	Measured 22/09/23
Loader, pass-by	Loader_passby1	Lw		103	118	113	106	104	104	98	93	88	108	120	Measured 22/09/23
Loader, pass-by	Loader_passby2	Lw		102	113	119	103	104	105	97	92	90	109	120	Measured 22/09/23
Crusher Crusher and Screen	Generic_Crusher_Screen	Lw			115	116	118	116	116	114	109	101	121	124	SLR Library
Heavy Truck - Passby	HeavyTruckPassby	Lw (c)		98.2	101	101	96.5	96.3	95.6	91.5	84.1	78	99.5	107	SLR Library
Moving Trucks	GenAsphalt_MovingTrucks	Lw			104	101	101	98.5	96.7	94.1	88.9	80.6	102	108	SLR Library
Drag Conveyor Motor	GenAsphalt_DragConvMotr	Lw			72.4	86.1	94.7	102	94.2	88.2	83.6	81.8	100	103	SLR Library
Burner	GenAsphalt_DryerBurner	Lw			116	115	109	102	99	101	104	96	109	119	SLR Library
Baghouse Exhaust	GenAsphalt_BaghouseEx	Lw			109	111	109	107	106.1	101.1	93.1	85.1	110	116	SLR Library
Baghouse Fan Motors	GenAsphalt_BagHseMotor	Lw			99.1	94.3	98.8	98.2	96.2	97.5	87.3	82.4	102	106	SLR Library
Baghouse Fan Casing	GenAsphalt_BaghsCasing	Lw			103	103	104	99.3	95.3	93.1	85	80.1	102	109	SLR Library
Burner Blower Fan	GenAsphalt_BurnerBlower	Lw			94.3	102	105	103	100.2	97.9	95.1	88.1	106	110	SLR Library
Front End Loader	GenAsphalt_FEL	Lw			110	104	100	100	102	100	93	89	106	112	SLR Library
Dryer Drive Chain Gear	GenAsphalt_ChainGear	Lw			81.5	85.8	-80.7	83.2	81.6	84	88	82.9	91.8	92.9	SLR Library
Secondary Blower Fan	GenAsphalt_SecBlower	Lw			88.8	94.8	87	90.4	90.1	86.1	81.6	78.3	93.9	98.5	SLR Library
Hot Mix Elevator Head	GenAsphalt_HMAElevHead	Lw			102	107	99.9	97.8	94.4	98.5	89.6	83.1	103	109	SLR Library
Dryer Drive Motor	GenAsphalt_DryerDrive	Lw			85.6	87.1	86.4	85.1	79.4	78.5	75.9	73	86.8	92.7	SLR Library
Dryer Drum	GenAsphalt_DryerDrum	Lw			106	111	109	88.2	94.3	77.3	94.7	85.7	103	114	SLR Library
Compressor Enclosure	GenAsphalt_CompEncl	Lw				86.9	89.7	84.4	86.2	85.8	75	68.6	90.9	94	SLR Library
Generic Baghouse Exhaust	Gen_Baghouse	Lw			109	111	109	107	106.1	101.1	93.1	85.1	110	116	SLR Library
Pneumatic Tanker Truck	Gen_BlowerTruck	Lw			110	118	109	110	110	107	104	96	114	120	SLR Library
Generic Idling Heavy Truck	Gen_HvyTruckIdle	Lw			101	101	97	96	96	92	84	78	99.7	106	SLR Library
Generic Truck Pass-by at <= 20 km/h	Gen_HvyTruckMoving	Lw			98	97	91	95	97	102	106	104	110	110	SLR Library
Generic Large Front End Loader	Gen_Loader	Lw			110	104	100	100	102	100	93	89	106	112	SLR Library

Point Sources

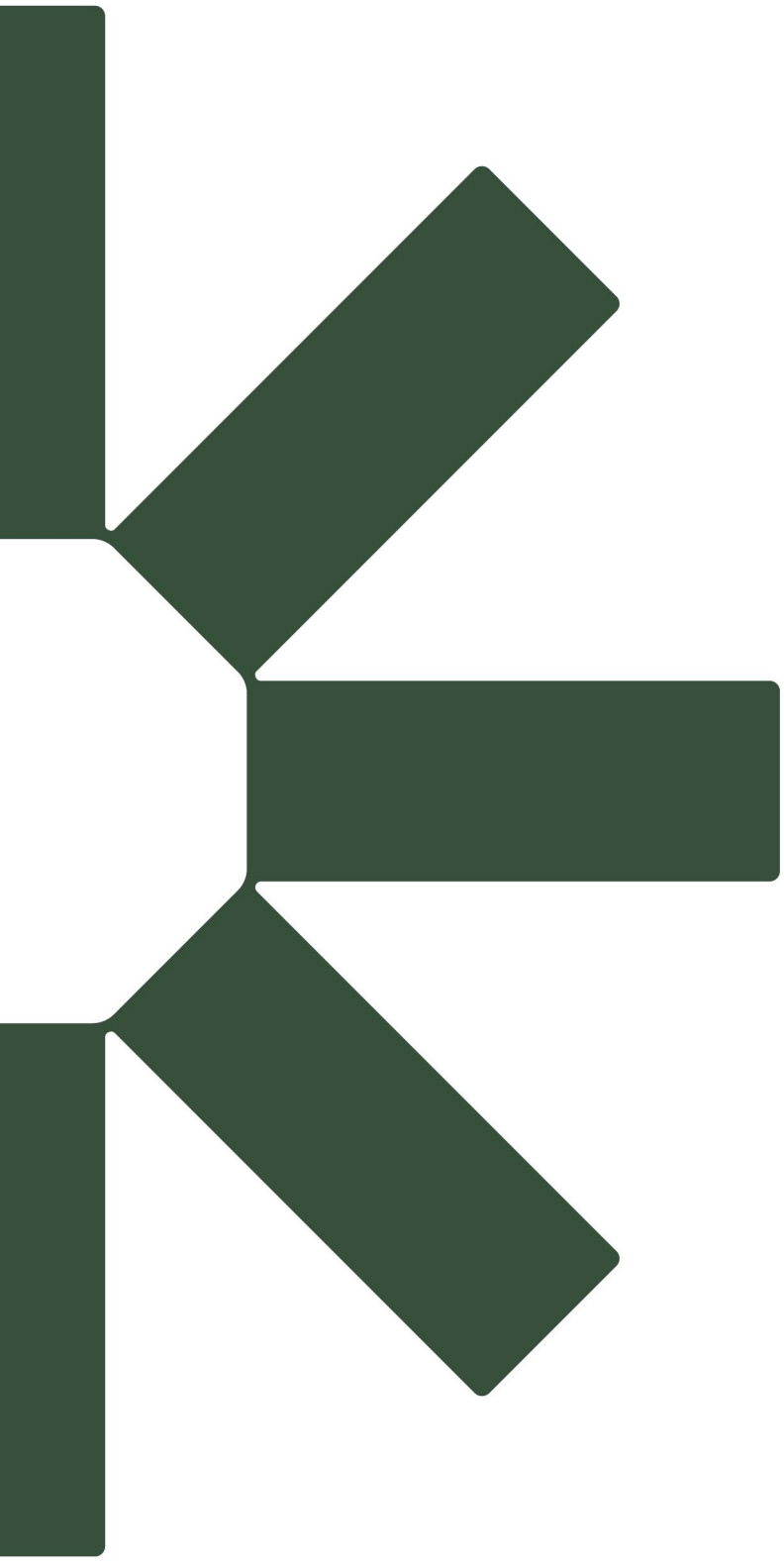
Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	Correction norm. dB(A)	Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuation	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height (m)		Coordinates X (m)	Y (m)	Z (m)	Directivit X	Y	Z	PREv
Rock Drill	~	RockDrill1_drill	120	120	120	Lw	RockDrill4		0	0	0				50	0	0	0		(none)	2	r	577174.99	5027513.1	221.4	0	0	1	
Rock Drill	~	RockDrill1_qs	130	130	130	Lw	RockDrill4+10		0	0	0				10	0	0	0		(none)	2	r	577175.17	5027512.9	221.5	0	0	1	
excavator - moving rocks	~	RockDrill1_excavator	111.4	111.4	111	Lw	Exc		0	0	0				60	60	0	0		(none)	3	r	577142.73	5027504.1	215.9	0	0	1	
Loader - loading truck	~	RockDrill1_loader	108.8	108.8	109	Lw	Loader_passby2		0	0	0				60	60	0	0		(none)	3	r	577129.38	5027494.1	215.5	0	0	1	
Rock Drill - working face (drilling)	~	RockDrill2_drill	120	120	120	Lw	RockDrill4		0	0	0				50	0	0	0		(none)	2	r	577234.71	5027488.7	230	0	0	1	
Rock Drill	~	RockDrill2_qs	130	130	130	Lw	RockDrill4+10		0	0	0				10	0	0	0		(none)	2	r	577234.47	5027489.1	230	0	0	1	
Rock Drill - on bench 1	~	RockDrill3_drill	120	120	120	Lw	RockDrill4		0	0	0				50	0	0	0		(none)	2	r	577204.95	5027374.2	229	0	0	1	
Rock Drill - on bench 1	~	RockDrill3_qs	130	130	130	Lw	RockDrill4+10		0	0	0				10	0	0	0		(none)	2	r	577210.09	5027373	229.5	0	0	1	
Rock Drill - on bench 1	~	RockDrill4_drill	120	120	120	Lw	RockDrill4		0	0	0				50	0	0	0		(none)	2	r	577280.2	5027316.3	230.7	0	0	1	
Rock Drill - on bench 1	~	RockDrill4_qs	130	130	130	Lw	RockDrill4+10		0	0	0				10	0	0	0		(none)	2	r	577280.94	5027316.3	230.7	0	0	1	
excavator - moving rocks	~	RockDrill2_excavator	111.4	111.4	111	Lw	Exc		0	0	0				60	60	0	0		(none)	3	r	577211.64	5027475.4	218.8	0	0	1	
Loader - loading truck	~	RockDrill2_loader	108.8	108.8	109	Lw	Loader_passby2		0	0	0				60	60	0	0		(none)	3	r	577194.9	5027486.8	218.2	0	0	1	
Rock Drill - on bench 1	~	RockDrill5_qs	130	130	130	Lw	RockDrill4+10		0	0	0				10	0	0	0		(none)	2	r	577388.15	5027287.8	234	0	0	1	
Rock Drill	~	RockDrill5_drill	120	120	120	Lw	RockDrill4		0	0	0				50	0	0	0		(none)	2	r	577388.1	5027288	234	0	0	1	
excavator - moving rocks	~	RockDrill3_excavator	111.4	111.4	111	Lw	Exc		0	0	0				60	60	0	0		(none)	3	r	577189.53	5027373.5	223.4	0	0	1	
Loader - loading truck	~	RockDrill3_loader	108.8	108.8	109	Lw	Loader_passby2		0	0	0				60	60	0	0		(none)	3	r	577175.09	5027371.9	223.9	0	0	1	
excavator - moving rocks	~	RockDrill4_excavator	111.4	111.4	111	Lw	Exc		0	0	0				60	60	0	0		(none)	3	r	577245.12	5027338.2	227	0	0	1	
Loader - loading truck	~	RockDrill4_loader	108.8	108.8	109	Lw	Loader_passby2		0	0	0				60	60	0	0		(none)	3	r	577248.62	5027350.2	224	0	0	1	
excavator - moving rocks	~	RockDrill5_excavator	111.4	111.4	111	Lw	Exc		0	0	0				60	60	0	0		(none)	3	r	577339.45	5027320.4	224	0	0	1	
Loader - loading truck	~	RockDrill5_loader	108.8	108.8	109	Lw	Loader_passby2		0	0	0				60	60	0	0		(none)	3	r	577338.22	5027337.1	224.6	0	0	1	
Generic Crusher and Screen		Aggregate	120.5	120.5	121	Lw	Generic_Crusher_Screen		0	0	0							0		(none)	3.5	r	577084.85	5027474.7	207.5	0	0	1	
Rock Drill - on bench 1		Aggregate	130	130	130	Lw	RockDrill4+10		0	0	0				10	0	0	0		(none)	2	r	577351.16	5027315.4	214	0	0	1	
Rock Drill		Aggregate	120	120	120	Lw	RockDrill4		0	0	0				50	0	0	0		(none)	2	r	577351.36	5027315.2	214	0	0	1	
Loader - loading truck		Aggregate	108.8	108.8	109	Lw	Loader_passby2		0	0	0				60	60	0	0		(none)	3	r	577338.55	5027337.1	214	0	0	1	
excavator - moving rocks		Aggregate	111.4	111.4	111	Lw	Exc		0	0	0				60	60	0	0		(none)	3	r	577339.53	5027320.4	214.6	0	0	1	
Loader - loading truck		Aggregate	108.8	108.8	109	Lw	Loader_passby2		0	0	0				60	60	0	0		(none)	3	r	577092.05	5027482.6	207	0	0	1	
Dryer Burner	~	Gen_Asphalt	109.4	109.4	109	Lw	GenAsphalt_DryerBurner		0	0	0							0		(none)	1.8	r	577118.69	5027419.2	205.8	0	0	0	
Primary Burner Blower	~	Gen_Asphalt	105.8	105.8	106	Lw	GenAsphalt_BurnerBlower		0	0	0							0		(none)	1.75	r	577122.55	5027421.6	205.8	0	0	0	
Secondary Blower	~	Gen_Asphalt	93.9	93.9	93.9	Lw	GenAsphalt_SecBlower		0	0	0							0		(none)	1.5	r	577122.18	5027420	205.5	0	0	0	
Dryer Drive Motor	~	Gen_Asphalt	86.8	86.8	86.8	Lw	GenAsphalt_DryerDrive		0	0	0							0		(none)	0.5	r	577118.54	5027426.1	204.5	0	0	0	
Dryer Drive Chain/Gear	~	Gen_Asphalt	91.8	91.8	91.8	Lw	GenAsphalt_ChainGear		0	0	0							0		(none)	1.6	r	577119.91	5027425	205.6	0	0	0	
Baghouse Fan Casing	~	Gen_Asphalt	101.7	101.7	102	Lw	GenAsphalt_BaghsCasing		0	0	0							0		(none)	1.6	r	577112.81	5027432.6	205.6	0	0	0	
Baghouse Fan Motors	~	Gen_Asphalt	102.2	102.2	102	Lw	GenAsphalt_BagHseMotor		0	0	0							0		(none)	1.6	r	577112.87	5027433.4	205.6	0	0	0	
Baghouse Exhaust	~	Gen_Asphalt	103.5	103.5	104	Lw	GenAsphalt_BaghouseEx		0	0	0	BaghouseSilencer						0		Hot Stack, Dia = 1.0 m	23	r	577113.92	5027432.5	227	0	0	1	
Air Compressor	~	Gen_Asphalt	90.9	90.9	90.9	Lw	GenAsphalt_CompEncl		0	0	0							0		(none)	1	r	577119.65	5027416.9	205	0	0	0	
Silo Elevator Head	~	Gen_Asphalt	100.4	100.4	100	Lw	GenAsphalt_DragConvMotr		0	0	0							0		(none)	25	r	577126.03	5027414	229	0	0	0	
Hot Mix Elevator Head	~	Gen_Asphalt	102.7	102.7	103	Lw	GenAsphalt_HMAElevHead		0	0	0							0		(none)	18.6	r	577117.56	5027416.8	222.6	0	0	0	
Front End Loader		GenReadyMix	105.9	105.9	106	Lw	Gen_Loader		0	0	0				60	60	60	0		(none)	3	r	577095.44	5027429.3	207	0	0	0	
Dust Collector		GenReadyMix	95	95	95	Lw	Gen_Baghouse		0	0	0	15			60	0	0	0		(none)	3	g	577099.35	5027418.4	227	0	0	0	
Dust Collector		GenReadyMix	95	95	95	Lw	Gen_Baghouse		0	0	0	15			60	0	0	0		(none)	3	g	577094.8	5027418.5	225	0	0	0	
Dust Collector		GenReadyMix	95	95	95	Lw	Gen_Baghouse		0	0	0	15			60	0	0	0		(none)	3	g	577102.18	5027418.4	219	0	0	0	
Tanker Truck Unload		GenReadyMix	114.4	114.4	114	Lw	Gen_BlowerTruck		0	0	0				60	0	0	0		(none)	3	r	577101.06	5027408.3	207	0	0	0	
Tanker Truck Unload		GenReadyMix	114.4	114.4	114	Lw	Gen_BlowerTruck		0	0	0				60	0	0	0		(none)	3	r	577100.76	5027406	207	0	0	0	
Idling Truck		GenReadyMix	99.7	99.7	99.7	Lw	Gen_HvyTruckIdle		0	0	0				20	20	20	0		(none)	3	r	577117	5027423.7	207	0	0	0	
Idling Trucks "Slump Up"		GenReadyMix	99.7	99.7	99.7	Lw	Gen_HvyTruckIdle		0	0	0				60	60	60	0		(none)	3	r	577123.59	5027424.1	207	0	0	0	

Line Sources

Name	Sel.	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Result. PWL' Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	Correction norm. dB(A)	Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuation	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number Day	Evening	Night	Speed (km/h)
Truck		~	Shipping	79.5	79.5	79.5	56.5	56.5	56.5	PWL-Pt	HeavyTruckPassby		1	0	0							0	(none)		1	1	1	20
Truck		~	Shipping	71.6	71.6	71.6	56.5	56.5	56.5	PWL-Pt	HeavyTruckPassby		1	0	0							0	(none)		1	1	1	20
Loader (pads from floor)		~	Loader	107.8	107.8	108	82.8	82.8	82.8	Lw	Loader_passby1		0	0	0				30	0	0	0	(none)					
Loader (blast1 to blast2)		~	RockDrill1_route_loader	107.8	107.8	108	82.4	82.4	82.4	Lw	Loader_passby1		0	0	0				30	0	0	0	(none)					
Loader (blast1 to blast2)		~	RockDrill2_route_loader	107.8	107.8	108	81.5	81.5	81.5	Lw	Loader_passby1		0	0	0				30	0	0	0	(none)					
Loader (blast1 to blast2)		~	RockDrill3_route_loader	107.8	107.8	108	82.2	82.2	82.2	Lw	Loader_passby1		0	0	0				30	0	0	0	(none)					
Loader (blast1 to blast2)		~	RockDrill4_route_loader	107.8	107.8	108	81.6	81.6	81.6	Lw	Loader_passby1		0	0	0				30	0	0	0	(none)					
Loader (blast1 to blast2)		~	RockDrill5_route_loader	107.8	107.8	108	83.2	83.2	83.2	Lw	Loader_passby1		0	0	0				30	0	0	0	(none)					
Truck to Central Plant			Aggregate	99.5	99.5	99.5	74.9	74.9	74.9	Lw	HeavyTruckPassby		0	0	0				30	0	0	0	(none)					
Truck			Aggregate	93.2	93.2	93.2	69.5	69.5	69.5	PWL-Pt	HeavyTruckPassby		1	0	0							0	(none)		20	20	20	20
Arriving/Departing Asphalt Cement Truck		~	Gen_Asphalt	84.6	84.6	84.6	58.6	58.6	58.6	PWL-Pt	GenAsphalt_MovingTrucks		0	0	0							0	(none)		1	1	1	20
Dryer Drum		~	Gen_Asphalt	103.4	103.4	103	93.3	93.3	93.3	Lw	GenAsphalt_DryerDrum		0	0	0							0	(none)					
Arriving/Departing Hot Mix Asphalt Trucks		~	Gen_Asphalt	97.7	97.7	97.7	71.6	71.6	71.6	PWL-Pt	GenAsphalt_MovingTrucks		10	10	10							0	(none)		20	20	20	20
Cement Powder Arrive & Depart			GenReadyMix	99.2	99.2	-6.8	75.9	75.9	-30.1	PWL-Pt	Gen_HvyTruckMoving		0	0	0							0	(none)		4	4	0	10
Concrete Truck Arrive & Depart			GenReadyMix	102.9	102.9	103	79.9	79.9	79.9	PWL-Pt	Gen_HvyTruckMoving		0	0	0							0	(none)		20	20	20	20

Area Sources

Name	Sel.	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Result. PWL" Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuation	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number Day	Evening	Night
Front End Loader		~	Gen_Asphalt	106	105.9	106	77.7	77.7	77.7	Lw	GenAsphalt_FEL		0	0	0							0		(none)			



Making Sustainability Happen