



**Marathon Palladium Project
Environmental
Noise Updated Baseline Report**

FINAL

November 13, 2020

File: 129673006

Prepared for:

Generation PGM Inc. (GenPGM)

Prepared by:

Stantec Consulting Ltd.



**MARATHON PALLADIUM PROJECT ENVIRONMENTAL
NOISE UPDATED BASELINE REPORT**

Table of Contents

1.0	INTRODUCTION.....	1.1
1.1	PROJECT LOCATION	1.2
1.2	PROJECT OVERVIEW	1.2
1.3	STUDY OBJECTIVES.....	1.4
2.0	PREVIOUS CHARACTERIZATION OF EXISTING CONDITIONS	2.1
3.0	REGULATORY SETTING	3.1
4.0	STUDY AREA.....	4.1
4.1	SITE STUDY AREA (SSA).....	4.1
4.2	LOCAL STUDY AREA (LSA)	4.1
4.3	REGIONAL STUDY AREA (RSA).....	4.1
5.0	METHODOLOGY.....	5.1
5.1	NOISE RECEPTORS.....	5.1
5.2	FIELD SURVEYS.....	5.2
5.3	MODELLING	5.2
6.0	UPDATED BASELINE NOISE CONDITIONS.....	6.1
6.1	CHANGES TO TRAFFIC – HIGHWAY 17	6.1
6.2	NOISE-SENSITIVE RECEPTORS.....	6.1
6.2.1	Original Noise Receptors.....	6.2
6.2.2	New Noise Receptors.....	6.2
6.2.3	Rail Load Out Receptors	6.3
7.0	SUMMARY AND CONCLUSIONS	7.1
8.0	REFERENCES.....	8.1

LIST OF TABLES

Table 2.1:	Background Sound Level Measurements.....	2.1
Table 2.2:	Baseline Noise Modelling Results.....	2.2
Table 5.1:	Noise-Sensitive Receptors.....	5.1
Table 6.1:	Traffic Volumes.....	6.1

LIST OF APPENDICES

APPENDIX A FIGURES

- Figure 1: Site Study Area
- Figure 2: Local and Regional Study Area
- Figure 3: Noise Receptors
- Figure 4: Noise Monitoring Locations



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Abbreviations and Glossary

A- Weighting	Weighting characteristic that approximates the relative sensitivity of human hearing to different frequencies (pitch) of sound
AIR	Additional Information Request
CEA Agency	Canadian Environmental Assessment Agency
CEAA, 2012	Canadian Environmental Assessment Act, 2012
CIAR	Canadian Impact Assessment Registry
dB	Decibel, dimensionless unit of measure for sound pressure level
dba	A-weighted decibel(s): the sound pressure level modified by application of A-weighting
EA	Environmental Assessment
EIS	Environmental Impact Statement
GenPGM	Generation PGM Inc.
IR	Information Request
ISO	International Standards Organization
L	Sound pressure level
Leq	Equivalent continuous A-weighted sound pressure level
Leq(1)	One hour Leq
Leq(16)	Sixteen hour Leq
Leq(8)	Eight hour Leq
LSA	Local Study Area
MECP	Ontario Ministry of Environment, Conservation and Parks
MOE	Ontario Ministry of Environment (former name for MECP)
NPC	Noise Pollution Control, reference to a former MOE section
NSR	Noise sensitive receptor(s)
ORNAMENT	Ontario Road Noise Analysis Method for Environment and Transportation
RSA	Regional Study Area
SIR	Supplemental Information Request
SSA	Site Study Area
TNM	Traffic Noise Model
VEC	Valued Ecosystem Component



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Introduction
November 13, 2020

1.0 INTRODUCTION

Generation PGM Inc. (GenPGM) proposes to develop the Marathon Palladium Project (the “Project”), which is a platinum group metals (PGM) and copper (Cu) open-pit mine and milling operation near the Town of Marathon, Ontario. The Project is being assessed in accordance with the *Canadian Environmental Assessment Act* (CEAA, 2012) and Ontario’s *Environmental Assessment Act* (EA Act) through a Joint Review Panel (the Panel) pursuant to the *Canada-Ontario Agreement on Environmental Assessment Cooperation* (2004).

Stantec Consulting Ltd. (Stantec) has been retained by GenPGM to conduct an updated assessment of Noise baseline conditions for the Project. This report provides an update to the baseline conditions as described in the information currently on the record, including:

- Supporting Information Document #13: Baseline Technical Report – Noise Marathon PGM – Cu Project prepared by True Grit Consulting Ltd. (July 5, 2012) (CIAR #227)
- Response to IR11.3 (CIAR #395)
- Response to IR11.11 (CIAR #374)
- Response to SIR2 Measuring Baseline Levels (CIAR #577)
- Response to AIR15 Baseline Noise Level (CIAR #664)

This noise baseline study has been completed as an Addendum to the Marathon PGM-Cu Environmental Impact Statement (EIS Addendum) in the Joint Review Panel process. It has been prepared pursuant to the *Canadian Environmental Assessment Act, 2012* and in consideration of the *Guidelines for the Preparation of an Environmental Impact Statement – Marathon Platinum Group Metals and Copper Mine Project* (EIS Guidelines) (Canadian Environmental Assessment Agency and Ontario Ministry of the Environment (MOE, now the Ontario Ministry of the Environment, Conservation, and Parks (MECP 2011)).

The information presented in this report is intended to summarize and document any changes to the existing environmental conditions relating to noise, relative to those conditions considered in the previous assessment, in order to support the updated assessment of potential environmental effects provided in the EIS Addendum.

The information presented herein was obtained from a review of historical information and the updated design plans for the Project provided by GenPGM.

This document should be read in conjunction with the EIS Addendum.



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Introduction
November 13, 2020

1.1 PROJECT LOCATION

The Project is located approximately 10 km north of the Town of Marathon, Ontario (Appendix A, Figure 1). Marathon is a community of approximately 3,300 people (Statistics Canada, 2017) located adjacent to the Trans-Canada Highway (Highway 17) on the northeast shore of Lake Superior approximately 300 km east of Thunder Bay and 400 km northwest of Sault Ste. Marie. The centre of the Project footprint sits at approximately 48° 47' N latitude, 86° 19' W longitude (UTM NAD83 N16 Easting 550197 and Northing 5403595). The footprint of the proposed mine location is roughly bounded by Highway 17 and the Marathon Airport to the south, the Pic River and Camp 19 Road to the east, Hare Lake to the west, and Bamooos Lake to the north (Appendix, Figure 1). Access is currently gained through Camp 19 Road.

The Project is proposed within an area characterized by relatively dense vegetation, comprised largely of a birch and spruce-dominated mixed wood forest. The terrain is moderate to steep, with frequent bedrock outcrops and prominent east-west oriented valleys. Several watercourses and lakes traverse the area, with drainage flowing either eastward to the Pic River or westward to Lake Superior. The climate of this area is typical of northern areas within the Canadian Shield, with long winters and short, warm summers.

The Project is proposed on Crown Land, with GenPGM holding surface and mineral rights for the area. Regional land-use activities in the area include hunting, fishing, trapping and snowmobiling, as well as mineral exploration (and mining) and forestry. Other localized land uses in the area include several licensed aggregate pits, the Marathon Municipal Airport, the Marathon Landfill, a municipal works yard, and several commercial and residential properties.

The primary industries in the area have historically been forestry, pulp and paper, mining, and tourism. Exploration for copper and nickel deposits in the area extend as far back as the 1920s. A large copper-PGM deposit was discovered in 1963. Advanced exploration programs have continued across the site since then. These programs have been supported by various feasibility studies to confirm the economic viability of extracting the deposits.

Several First Nation and Métis groups were originally identified as having a potential interest in the Project based on Treaty Rights, asserted traditional territory and proximity to the Project. Traditional uses which they have identified as occurring in the area include hunting, trapping, fishing and plant harvesting, with activities generally focused on the larger waterways, such as the Pic River, Bamooos Lake and Hare Lake.

1.2 PROJECT OVERVIEW

The Project is based on the development of an open pit mining and milling operation for copper and platinum group metals. Ore will be mined from the pits and processed (crushed, ground, concentrated) at an on-site processing facility. Final concentrates containing copper and platinum group metals will be transported off-site via existing roadways and/or rail to a smelter and refinery for subsequent metal



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Introduction
November 13, 2020

extraction and separation. Iron sulfide, magnetite and vanadium concentrates may also be produced, depending upon the results of further metallurgical testing and market conditions at that time.

The construction workforce will average approximately 450-550 people, with a peak workforce of an estimated 900 people, and will be required for between 18 and 24 months. During operations, the workforce will comprise an estimated 350 workers. The mine workforce will reside in local and surrounding communities, as well as in an accommodations complex that will be constructed off site.

Most of the mine rock¹ produced through mining activities is non-acid generating (NAG) and will be permanently stored in a purposefully built Mine Rock Storage Area (MRSA). The NAG (also referred to as Type 1 mine rock) will also be used in the construction of access roads, dams and other site infrastructure, as needed. Drainage from the MRSA will be collected in a series of collection basins and treated, as necessary, to meet applicable water quality criteria prior to discharge to the Pic River. The remaining small portion of the mine rock is considered to be potentially acid generating (PAG) (also referred to as Type 2 mine rock) and will be stored in the open pits or the Process Solids Management Facility (PSMF). This will ensure that drainage from the Type 2 mine rock will be contained during operations. Following closure, the Type 2 mine rock will be permanently stored below water by flooding the open pits and maintaining saturated conditions in the PSMF to prevent acid generation in the future.

Most of the process solids² produced at the site will be NAG (Type 1 process solids) with the minority being PAG (Type 2 process solids). Both the Type 1 and Type 2 process solids will be stored in the PSMF and potentially within the open pits. In both cases, the Type 2 process solids will be managed to prevent acid generation during both the operation and closure phases of the Project. Water collected within the PSMF as well as water collected around the mine site (other than the MRSA), such as water pumped from the pits or run-off collected from the plant site, will be managed within the PSMF. Excess water not needed for processing ore will be discharged, following treatment as necessary, to Hare Lake.

Access to the Project is currently provided by the Camp 19 Road, opposite Peninsula Road at Highway 17. The existing road will be upgraded and utilized from its junction with Highway 17 to a new road running north that will be constructed to access the Project site. The Project will also require the construction of a new 115 kV transmission line that will connect to the Terrace Bay-Manitouwadge transmission line (M2W Line). The width of the transmission corridor will be approximately 30 m.

Disturbed areas of the Project footprint will be reclaimed in a progressive manner during all Project phases. Natural drainage patterns will be restored as much as possible. The ultimate goal of mine decommissioning will be to reclaim land within the Project footprint to permit future use by resident biota and as determined through consultation with the public, Indigenous people and government. A certified Closure Plan for the Project will be prepared as required by Ontario Regulation (O. Reg.) 240/00 as

¹ Mine rock: rock that has been excavated from active mining areas but does not have sufficient ore grades to process for mineral extraction.

² Process solids: solids generated during the ore milling process following extraction of the ore (minerals) from the host material.



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Introduction
November 13, 2020

amended by O. Reg. 194/06 “Mine Development and Closure under Part VII of the Mining Act” and “Mine Rehabilitation Code of Ontario”.

A further description of the Project and associated activities and phases will be provided under separate cover in the EIS Addendum.

1.3 STUDY OBJECTIVES

This updated noise baseline study provides information to inform the EIS Addendum for the Project. The objectives of this update were to describe and present available information and characterize changes to the baseline conditions of noise in the study area. The scope of the updated noise baseline study includes the following:

- collection and review of available background information and data (Section 2.0)
- identification of regulatory guidance for the collection of baseline data (Section 3.0)
- confirmation of spatial boundaries (Section 4.0)
- description of the data collection methods and a review of available background (Section 5.0)
- analysis of baseline noise conditions to determine any changes that have occurred since September 2013 (Section 6.0)
- provision of an updated summary of baseline conditions in the Site Study Area (SSA), Local Study Area (LSA) and Regional Study Area (RSA) specific to conditions relevant to the effects being assessed in the EIS Addendum (Section 7.0)



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Previous Characterization Of Existing Conditions
November 13, 2020

2.0 PREVIOUS CHARACTERIZATION OF EXISTING CONDITIONS

Baseline noise measurements were completed in August 2009 as part of the Baseline Technical Report. Further to review and comment by the MECP, updated baseline noise measurements were completed in September 2013. The measurement procedures and locations were approved by the MECP in a pre-test plan.

Baseline noise measurements in August 2009 were completed at five locations (N1 to N5) around the project property. The measurements in September 2013 were completed at four locations (N1, N3, N5, and N6) which are considered the most representative for the project; the results are reproduced below. The monitoring locations are shown on Figure 3.

Table 2.1: Background Sound Level Measurements

Location	Measurement Period (2013)	Lowest Leq (dBA)		Lowest L90 (dBA)	
		Day	Night	Day	Night
N1: Pic River	Sept 21 to 24	28.0	21.3	21.8	20.2
N3: Hare Lake	Sept 21 to 24	31.2	31.6	29.7	30.6
N5: North Property	Sept 26 to 30	25.7	25.2	23.5	23.2
N6: North Hare Lake Cottage	Sept 21 to 24	31.9	32.0	30.8	28.9

Notes: 1. dBA: sound pressure level in A-weighted decibels
2. Leq: One hour equivalent continuous A-weighted sound pressure level
3. L90: One hour ninetieth percentile A-weighted sound pressure level
4. Daytime Hours: 7:00 am to 7:00 pm; Night Time Hours: 7:00pm to 7:00 am

Baseline noise levels from traffic along Highway 17 and in the Town of Marathon were predicted using the SoundPlan software program, which incorporated both the ISO 9613-2 and TNM 2.5 noise modelling standards. MECP provided comments to these in IR11.11, which requested comparison of results to the MECP ORNAMENT modelling method. These were provided and showed reasonable correlation to satisfy the MECP to accept the TNM modelling methodology for the project.



**MARATHON PALLADIUM PROJECT ENVIRONMENTAL
NOISE UPDATED BASELINE REPORT**

Previous Characterization Of Existing Conditions
November 13, 2020

The results of the baseline noise modelling, as provided in IR11.11, are shown below.

Table 2.2: Baseline Noise Modelling Results

Location (Noise Parameter)	Predicted Result (dBA)	
	TNM	ORNAMENT
May's Gifts Traffic Background (Leq 1h)	53.4	56.4
May's Gifts Traffic Background (Leq 16hr)	55.5	58.9
Town of Marathon Residence Traffic Background (Leq 16hr)	56.1	55.0
Second Floor of Senior's Center Traffic Background (Leq 16hr)	48.6	N/A*
Notes: *Traffic was less than ORNAMENT 40 vehicle per hour threshold.		



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Regulatory Setting
November 13, 2020

3.0 REGULATORY SETTING

The Baseline Technical Report and supplemental baseline noise measurements (SIR2) were completed in accordance with the following reference publications:

- MECP publication NPC 102: Sound and Vibration Measurement Equipment Specifications (NPC-102);
- MECP publication NPC 103: Noise Measurement Procedures (NPC-103); and
- MECP publication NPC 233: Information to be Submitted for Approval of Stationary Sources of Sound (NPC-233).

These publications have not changed since completion of the baseline noise measurements and are appropriate for the project today.



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Study Area
November 13, 2020

4.0 STUDY AREA

For the purposes of this assessment, the spatial boundaries considered include the direct and indirect effects related to site preparation, construction, operation, and decommissioning/closure of the Project. These areas are generally consistent with the spatial boundaries used in the EIS (2012) and associated supporting information documents, with appropriate revisions/refinements and rationale provided below.

4.1 SITE STUDY AREA (SSA)

The SSA is the direct footprint of the Project. Based on refinements to the Project footprint, and in recognition of project components originally located outside of the SSA, a revised SSA has been developed that encompasses the immediate area in which Project activities and components may occur and, as such, represents the area within which direct physical disturbance may occur as a result of the Project, whether temporary or permanent. The SSA is consistent for all Valued Ecosystem Components (VECs) as depicted on Figure 1 (Appendix A).

4.2 LOCAL STUDY AREA (LSA)

The LSA is the maximum area within which environmental effects from Project activities and components can be predicted or measured with a reasonable degree of accuracy and confidence. It consists of the SSA and adjacent areas where Project-related environmental effects are reasonably expected to occur based on available information and professional judgment. The LSA for noise is depicted on Figure 2 (Appendix A).

Although the LSA was described in Sections 2.4 and 5.1 of the Main EIS Report (2012), it was not highlighted again in the Baseline Technical Report – Noise Marathon PGM – Cu Project prepared by True Grit Consulting Ltd. (July 5, 2012) (Supporting Information Document #13) (CIAR #227). Therefore, for the purpose of this updated baseline report, an LSA is included that encompasses the noise receptors within a 1 km setback from the SSA boundary, as well as the Town of Marathon.

4.3 REGIONAL STUDY AREA (RSA)

The RSA is the area within which residual environmental effects from Project activities and components may interact cumulatively with the residual environmental effects of other past, present and future (i.e., certain or reasonably foreseeable) physical activities. The RSA is based on the potential for interactions between the Project and other existing or future potential projects. The RSA for noise is depicted on Figure 2 (Appendix A).



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Study Area
November 13, 2020

Although the RSA was described in Sections 2.4 and 5.1 of the Main EIS Report (2012), , it was not highlighted again in the Baseline Technical Report – Noise Marathon PGM – Cu Project prepared by True Grit Consulting Ltd. (July 5, 2012) (Supporting Information Document #13) (CIAR #227). Therefore, for the purpose of this updated baseline report, an RSA is included that encompasses noise receptors within a 5 km setback from the SSA, as well as the Town of Marathon.

MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Methodology
November 13, 2020

5.0 METHODOLOGY

5.1 NOISE RECEPTORS

Figure 3 shows the locations of the noise-sensitive receptors (NSRs) identified for the project. This includes those within the Town of Marathon, and locations outside of the existing project boundary. A list of these noise receptors is provided in Table 5.1.

Table 5.1: Noise-Sensitive Receptors

NSR Description	Location	Number of Storeys
Project Site		
North Hare Lake Cottage	Hare Lake	1
South Hare Lake Cottage	Hare Lake	1
May's Gifts	Highway 17	1
Wayfare Inn	Highway 17	2
Peninsula Inn	Highway 17	2
Travelodge Hotel	Highway 17	2
Rail Loadout Transportation Routes		
Anglican Church	Steven's Avenue	1
Bayview Apartments	Steven's Avenue	3
Senior's Centre	Steven's Avenue	2
Catholic Church	Steven's Avenue	1
Condominium	North corner of Peninsula Road and Hemlo Drive	3
Harbour Inn	Peninsula Road	1
Hospital	Peninsula Road	2
Library	Peninsula Road	2
Pic Motel	Peninsula Road	1
Kingdom Hall Church	Peninsula Road	1
Zero-100 Motor Inn	Peninsula Road	1
Residence	North corner of Peninsula Road and Industrial Park Road	1
Residence	North corner of Peninsula Road and Ontario Street (Across from Hospital)	1
Residence	South corner of Peninsula Road and Ontario Street (Across from Hospital)	1
Residence	Northeast corner of Ontario Street and Alberta Street	1
Residence	North End of Steedman Drive	1



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Methodology
November 13, 2020

Table 5.1: Noise-Sensitive Receptors

NSR Description	Location	Number of Storeys
Residence	Southwest corner of Sund Crescent and Peninsula Road	1
Residence	East corner of Stevens Avenue and Drake Street	1
Residence	West side of Whitman Court	2

5.2 FIELD SURVEYS

Baseline noise measurements were completed in August 2009 as part of the Baseline Technical Report. Further to review and comment by the MECP, updated baseline noise measurements were completed in September 2013. The measurement procedures and locations were approved by the MECP in a pre-test plan. GenPGM has not updated the baseline measurements since 2013 and considers them representative of the current (2020) condition as there have been no significant changes within the LSA or RSA that would change the ambient noise in the area.

5.3 MODELLING

Baseline noise modelling was completed in the Baseline Technical Report to produce grid maps describing baseline traffic noise conditions at the Project site, along Highway 17 and within the Town of Marathon. Two noise models were prepared to provide the following: 1) baseline traffic noise at the nearest NSR (Mary's Gifts), and 2) along Highway 17 and within the Town of Marathon. GenPGM has not updated the baseline modelling and considers them representative of the current (2020) condition as there have been no significant changes to the project area that would change the ambient noise in the area.

MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Updated Baseline Noise Conditions
November 13, 2020

6.0 UPDATED BASELINE NOISE CONDITIONS

6.1 CHANGES TO TRAFFIC – HIGHWAY 17

Traffic baseline noise modelling for Highway 17 is based on traffic data from 2008. The original Baseline Report used the 2008 MTO traffic data for Highway 17, without future growth rate applied, as a conservative estimate of the expected baseline noise at the sensitive receptors. Thus, for comparison to the baseline modelling, the updated 2016 MTO traffic data (accessed from the MTO website, <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Theme.aspx?r=702797&f=files%2fProvincial+Highways+Traffic+Volumes+2016+AADT+Only.pdf&m=resource>) were directly compared to the 2008 MTO traffic data, as presented in Table 6.1.

Table 6.1: Traffic Volumes

Highway 17 Segment	2008 MTO Traffic Data (AADT)	2016 MTO Traffic Data (AADT)	% Traffic Data Difference (+/-)	Traffic Volume Difference (+/-)	dB Difference (+/-)
West of Peninsula Road	1600	2100	31%	500	1.2
East of Peninsula Road	2650	2600	-2%	-50	-0.1

The Highway 17 segment, west of Peninsula Road, shows an increase in traffic volume from 2008 to 2016, which is expected. However, in keeping with the 2008 baseline traffic, the original baseline modelling would be a conservative estimate of the Highway 17 noise for the purposes of impact assessment. The Highway 17 segment, east of Peninsula Road, shows a reduction in traffic volume from 2008 to 2016. However, the difference is relatively minor (-2%), and the expected change in baseline traffic modelling results would be negligible (-0.1 dB).

The 2008 Highway 17 traffic volumes will be retained for the impact assessment West of Peninsula Road, and the Highway 17 traffic volumes East of Peninsula Road show a negligible change in predicted noise level with updated traffic volumes. Therefore, the baseline noise modelling results for Highway 17 presented in the Baseline Report have not been updated to reflect 2016 MTO traffic data and are expected to be representative of the baseline noise level at the nearest sensitive receptors.

6.2 NOISE-SENSITIVE RECEPTORS

Stantec has confirmed with GenPGM (email dated September 16, 2020) that there are new receptors, and changes to the original receptors, since the Baseline Report was completed.



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Updated Baseline Noise Conditions
November 13, 2020

6.2.1 Original Noise Receptors

For the original NSRs identified in the Baseline Report, the following changes are noted:

- The North Hare Lake Cottage is now owned by GenPGM.
- The Wayfare Inn and the Peninsula Inn are currently being used for worker accommodations but are no longer owned by GenPGM.
- Bayview Apartments no longer exists as the building burned down. However, this NSR was left as is for the purposes of the assessment in the event of future development or if the original building is reconstructed.

These original locations are identified on Figure 3. We have reviewed these original receptor locations and the changes since the Baseline Report was prepared and confirmed that they do not need to be updated.

6.2.2 New Noise Receptors

For the new NSRs identified since the previous Baseline Report was completed, the following are noted:

- OPP station, which has an overnight jail (101 Peninsula Road)
- Sew Studio and Residence (3 Woodson Street)
- Bergagnini Apartment Rental (85 Peninsula Road)
- Residence along Highway 17 adjacent to Travelodge (Highway 17)
- Laughing Moose Restaurant and Residence (RR10 Highway 17)

These new locations are identified on Figure 3. We have reviewed these new receptor locations noted above. For each of these new receptors, there is already an original receptor that has been assessed which is expected to have equal or greater impact from the project (i.e. original receptor is closer to the noise than the new receptor). Thus, we identify that the original points of reception identified in the original Baseline Report are representative of these new locations. Therefore, additional baseline modelling is not required to represent these new locations.

MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Updated Baseline Noise Conditions
November 13, 2020

6.2.3 Rail Load Out Receptors

The two proposed rail load out locations identified in the original noise assessment have been addressed with respect to original and new receptors (see Sections 6.2.1 and 6.2.2 above). Since there is no change to the proposed rail load out locations, there are no additional receptors identified for consideration with respect to baseline conditions.



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

Summary and Conclusions
November 13, 2020

7.0 SUMMARY AND CONCLUSIONS

Noise baseline data was collected between 2009 and 2013 through a combination of field measurement and traffic noise modelling for the project. These results were presented in the Baseline Noise Report, and in supplemental work prepared through the IR process to address MECP comments. The original noise baseline has been reviewed and noted that no significant revisions were required to the original work presented.



MARATHON PALLADIUM PROJECT ENVIRONMENTAL NOISE UPDATED BASELINE REPORT

References
November 13, 2020

8.0 REFERENCES

MECP publication NPC 102: Sound and Vibration Measurement Equipment Specifications (NPC 102).

MECP publication NPC 103: Noise Measurement Procedures (NPC 103).

MECP publication NPC 233: Information to be Submitted for Approval of Stationary Sources of Sound (NPC 233).

International Standards Organization, "ISO 9613-2 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General Method of Calculation"; 2017

Statistics Canada. 2017. Marathon, Town [Census subdivision], Ontario, Ontario (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017.

<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E> (accessed September 8, 2020)

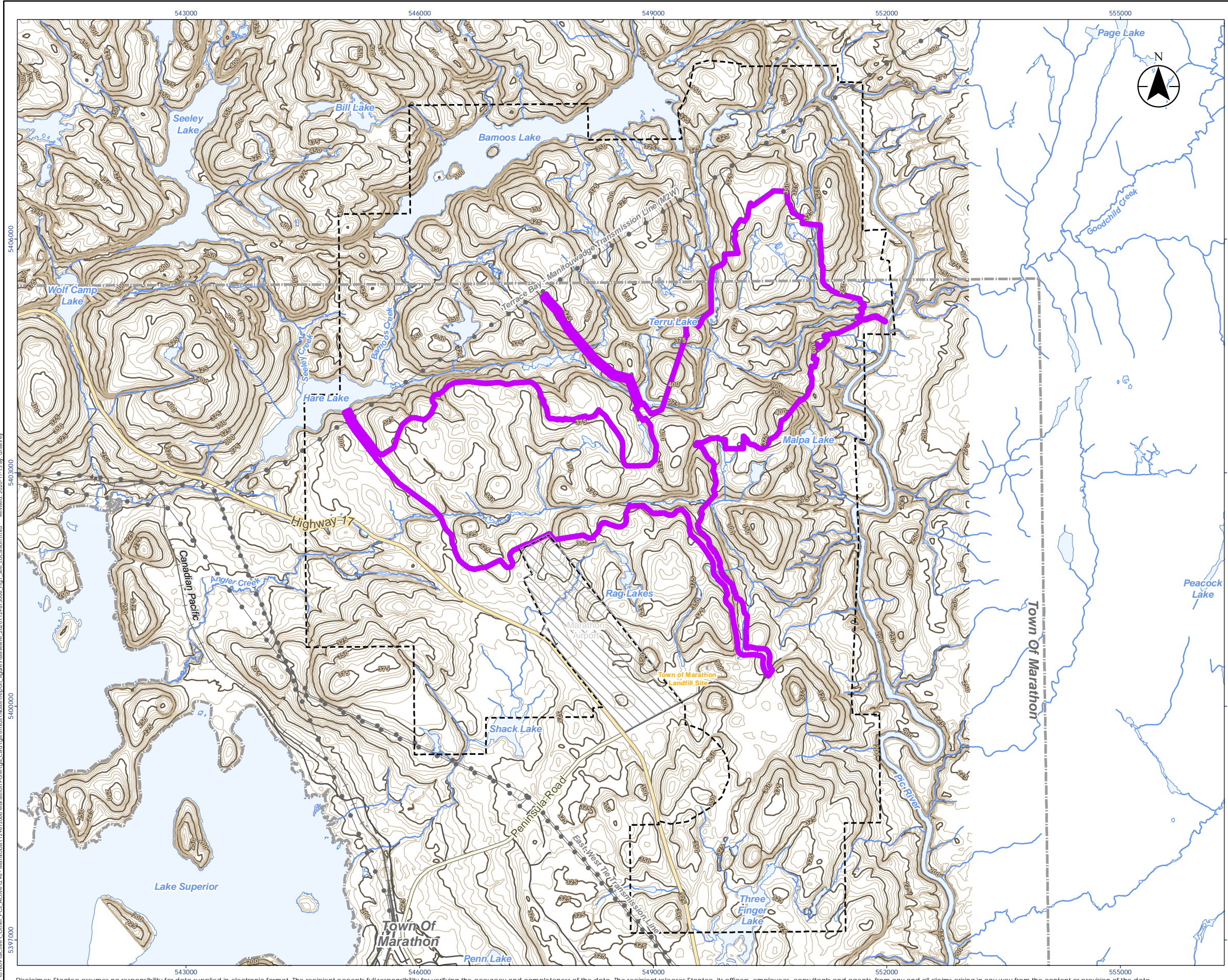
True Grit Consulting Ltd., "Supporting Information Report #13: Baseline Technical Report – Noise Marathon PGM – Cu Project prepared by True Grit Consulting Ltd.", July 5, 2012



APPENDIX A

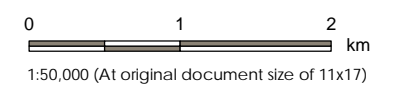
Figures





Legend

- Project Boundary (MLAS, MENDM Changed 2017)
- Site Study Area Boundary
- Topographic Contour (5 m Intervals)
- Topographic Contour (25 m Intervals)
- Highway
- Major Road
- Minor Road
- Hydro Line
- Railway
- Watercourse
- Airport
- Municipal Boundary, Lower Tier
- Waterbody



- Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.

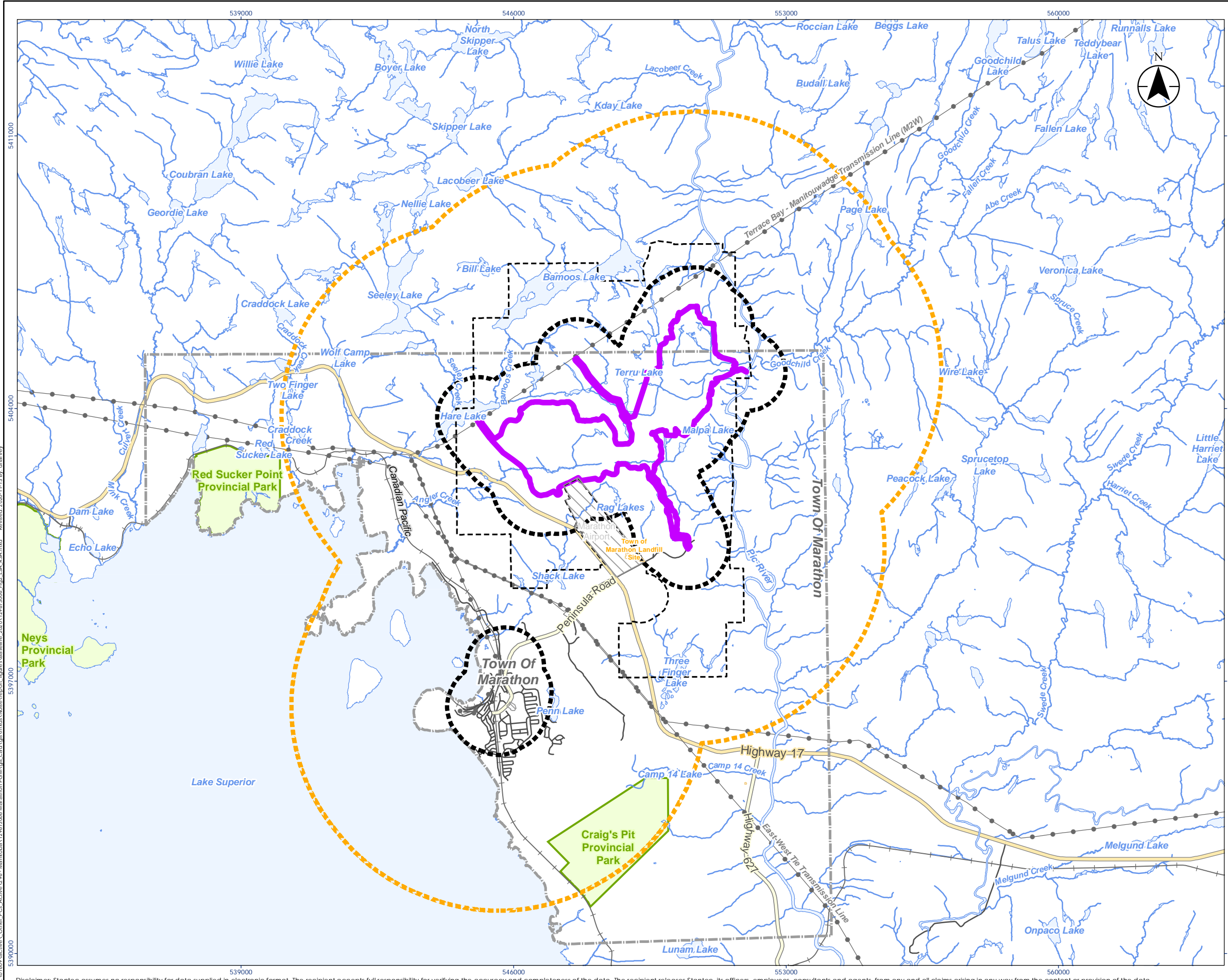


Project Location: Marathon
 Prepared by SW on 2020-11-13
 Technical Review by DH on 2020-09-16
 Independent Review by ABC on yyyy-mm-dd

Client/Project: GENERATION PGM INC.
 MARATHON PALLADIUM PROJECT

Figure No.: 1
 Title: Site Study Area

V:\01609\active\Other_PCs_Active\296 - Manitowish\129673006_Marathon_PGM\GIS\cad\gdb\mxd\Nexus\report_figures\baseline_2020\129673006_Fig1_Site_Location.mxd Revised: 2020-11-13 By: charev



Legend

- Project Boundary (MLAS, MENDM Changed 2017)
- Site Study Area Boundary
- Local Study Area
- Regional Study Area
- Highway
- Major Road
- Minor Road
- Hydro Line
- Railway
- Watercourse
- Airport
- Municipal Boundary, Lower Tier
- Provincial Park
- Waterbody
- Waste Management Site

0 1 2 km
 1:100,000 (At original document size of 11x17)

Notes
 1. Coordinate System: NAD 1983 UTM Zone 16N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.



Project Location: Marathon
 129673006 REVA
 Prepared by SW on 2020-11-13
 Technical Review by DH on 2020-11-13
 Independent Review by ABC on yyyy-mm-dd

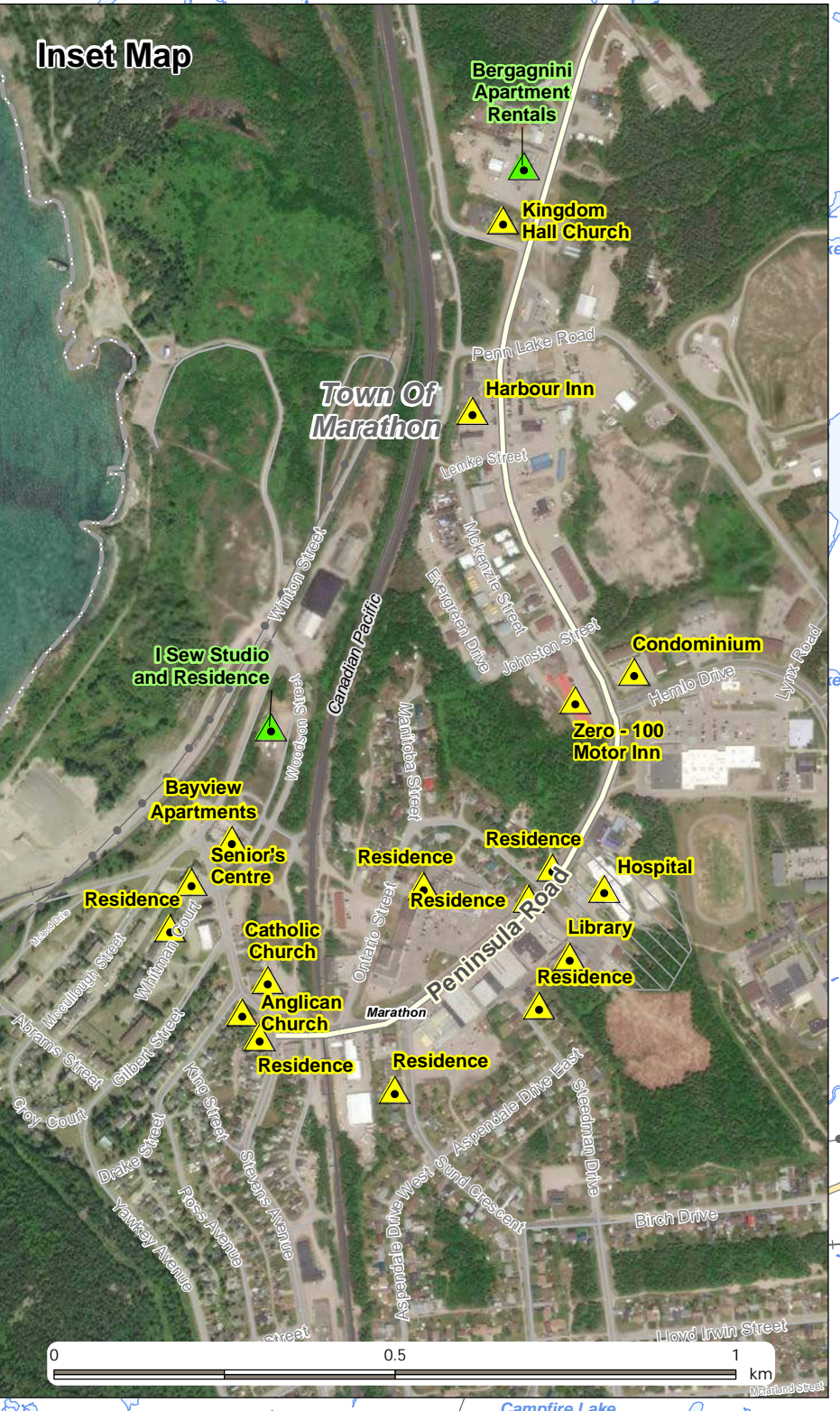
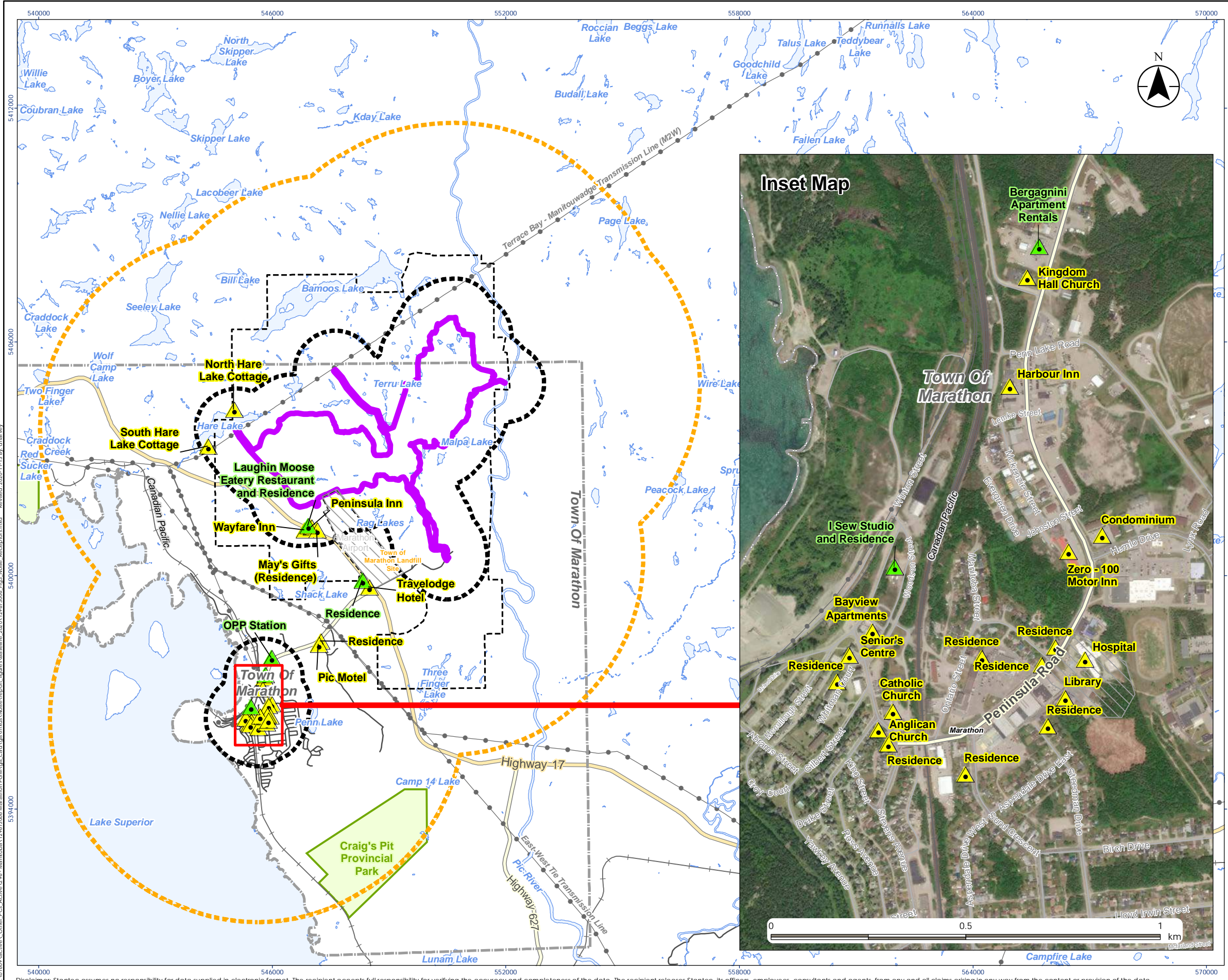
Client/Project: GENERATION PGM INC. MARATHON PALLADIUM PROJECT

Figure No.: 2

Title: Local and Regional Study Area

V:\01609\active\Other_PCs_Active\296 - Manitowadge - Manitowadge PGM\GIS\cad\gdb\mxd\Marathon_PGM\GIS\cad\gdb\mxd\Neys\mapdoc\Neys\mapdoc\Fig2_LSA_RSA.mxd Revised: 2020-11-13 By: dharvey

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.



- Legend**
- ▲ New Receptors
 - ▲ Closest Representative Noise Receptor
 - Project Boundary (MLAS, MENDM Changed 2017)
 - Site Study Area Boundary
 - Local Study Area
 - Regional Study Area
 - Highway
 - Major Road
 - Minor Road
 - Hydro Line
 - Railway
 - Airport
 - Municipal Boundary, Lower Tier
 - Provincial Park
 - Waterbody

0 1 2 km
1:100,000 (At original document size of 11x17)

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 16N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.
 3. Orthomagey: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



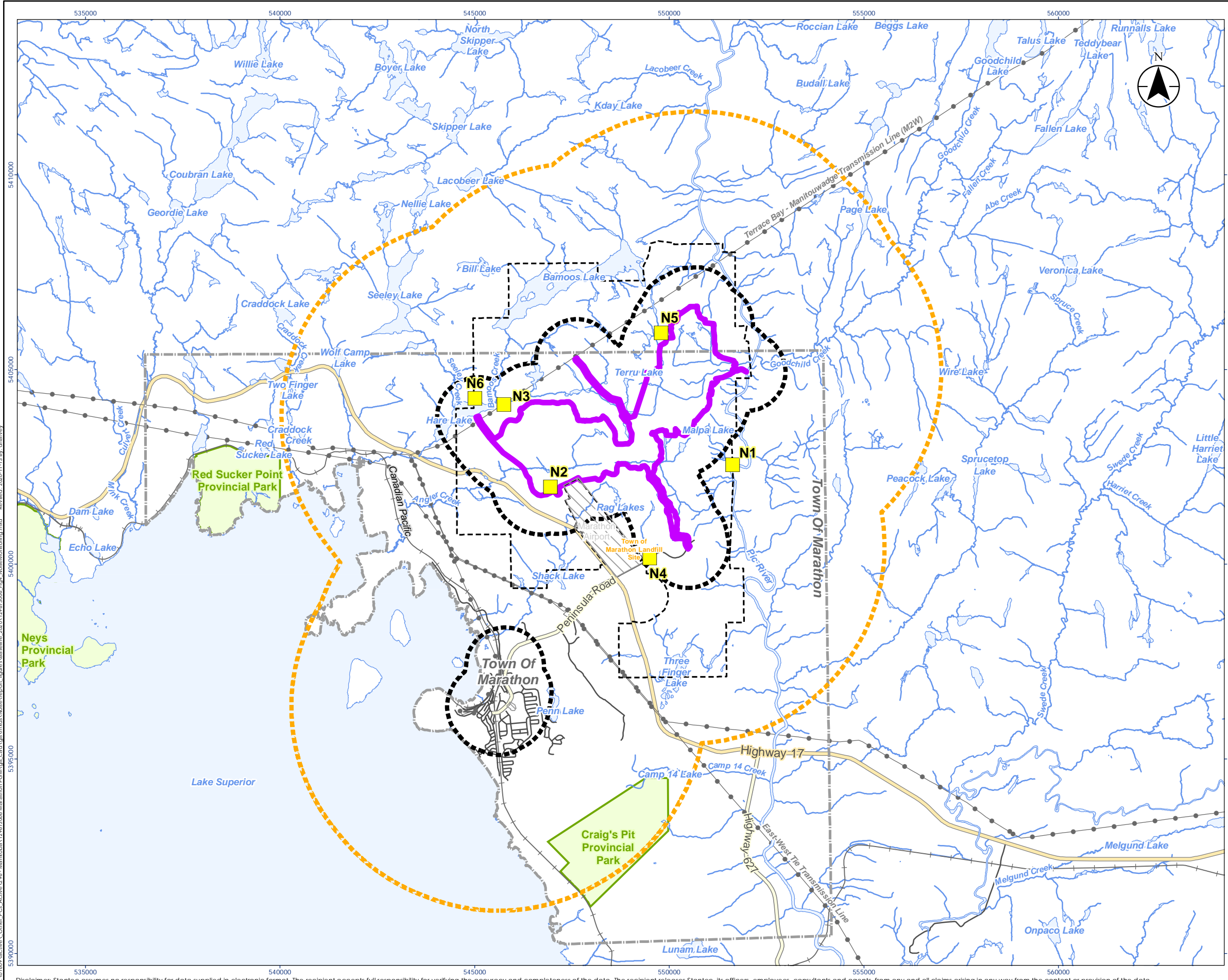
Project Location: Marathon
 129673006 REVA
 Prepared by SW on 2020-11-13
 Technical Review by DH on 2020-09-16
 Independent Review by ABC on yyyy-mm-dd

Client/Project:
GENERATION PGM INC.
MARATHON PALLADIUM PROJECT

Figure No.
3

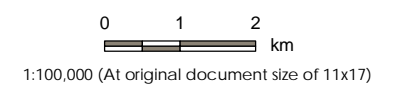
Title
Noise Receptors

V:\01609\active\Other_PCs_Active\296 - Manitowish - Marathon PGM\GIS\cad\gdb\mxd\NoiseReceptor_Fig3_Noise_Receptors.mxd
 Revised: 2020-11-13 By: chawry



Legend

- Noise Measurement Location
- Project Boundary (MLAS, MENDM Changed 2017)
- Site Study Area Boundary
- Local Study Area
- Regional Study Area
- Highway
- Major Road
- Minor Road
- Hydro Line
- Railway
- Watercourse
- Airport
- Municipal Boundary, Lower Tier
- Provincial Park
- Waterbody



Notes
 1. Coordinate System: NAD 1983 UTM Zone 16N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.



Project Location: Marathon
 Prepared by SW on 2020-11-13
 Technical Review by DH on 2020-09-16
 Independent Review by ABC on yyyy-mm-dd

Client/Project: GENERATION PGM INC. MARATHON PALLADIUM PROJECT

Figure No. 4

Title: Noise Monitoring

V:\01609\active\Other_PCs_Active\296 - Manitowish - Marathon PGM\GIS\cad\gdb\mxd\Noise\report_fig4_NoiseMonitoring.mxd Revised: 2020-11-13 By: dhanvey