

## SOCIO-ECONOMICS

Generation PGM Inc. will play an active role in supporting local community initiatives and services to ensure the Project has a net positive effect in the region.

The Project will bring much needed economic benefits to local and regional communities and Indigenous peoples along the north shore of Lake Superior including:

Increased direct, indirect and induced employment opportunities during all Project phases;

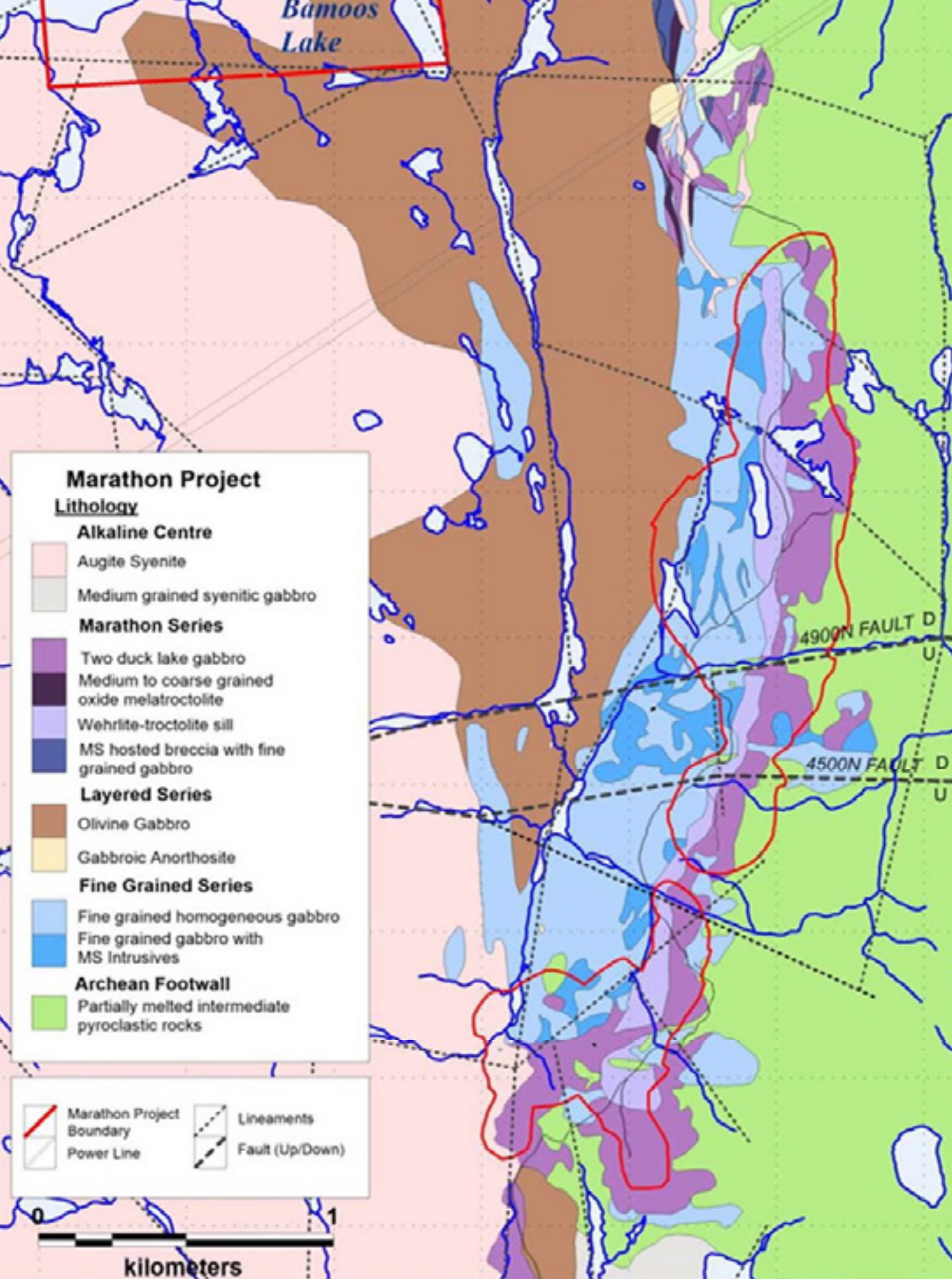
Increased labour incomes in local communities;

Increased economic and business opportunities particularly in the site preparation and construction and operations phases; and,

Increased government revenues (taxes, royalties) for all levels of government during all Project phases.



# GENERATION PGM



## MARATHON PALLADIUM PROJECT

- Generation PGM Inc. (GenPGM) proposes to develop an open pit mine and milling operation near the Town of Marathon and the community of Biigtigong Nishnaabeg.
- Ore will be processed (crushed, ground and concentrated) at an on-site processing facility.
- Final concentrates containing palladium (Pd) and copper (Cu), will be transported off-site via road and/or rail to a smelter and refinery for subsequent metal extraction and separation.
- The site preparation and construction phase will take 18 to 24 months. During peak construction workforce can reach up to 900 workers with an average of approximately 450 to 550.
- Production is estimated to start late 2023. For the operations phase, the workforce will comprise of an estimated 350 to 400 workers.
- The mine has been designed to ensure that the environment will be protected. Air emissions will be limited, water will be treated prior to discharge and disturbed areas will be reclaimed in a progressive manner throughout the mine life.
- Palladium and copper are considered "green metals". Pd is used in vehicle engines to clean exhaust gas and Cu will be used significantly in battery and continued electrification of the future.



## MARATHON PALLADIUM PROJECT STATUS

Key milestones and activities completed and upcoming for the Marathon PGM-Cu Project include:

### Mine Feasibility

A Preliminary Economic Assessment (PEA) was completed in January 2020, and indicates improvements in economics of mine. A Mine Feasibility Study is currently underway and planned for release in early 2021.

### Environmental Assessment

The Environmental Assessment (EA) was paused for the Marathon Palladium Project in 2014. An ongoing Baseline Environmental Program was conducted from 2014 to 2019, and in preparation for the restart of the EA for the Project, the program was enhanced in spring 2020.

Consultations with the federal Impact Assessment Agency (IA Agency) and the provincial Ministry of Environment Conservation and Parks (MECP) resumed in spring 2020.

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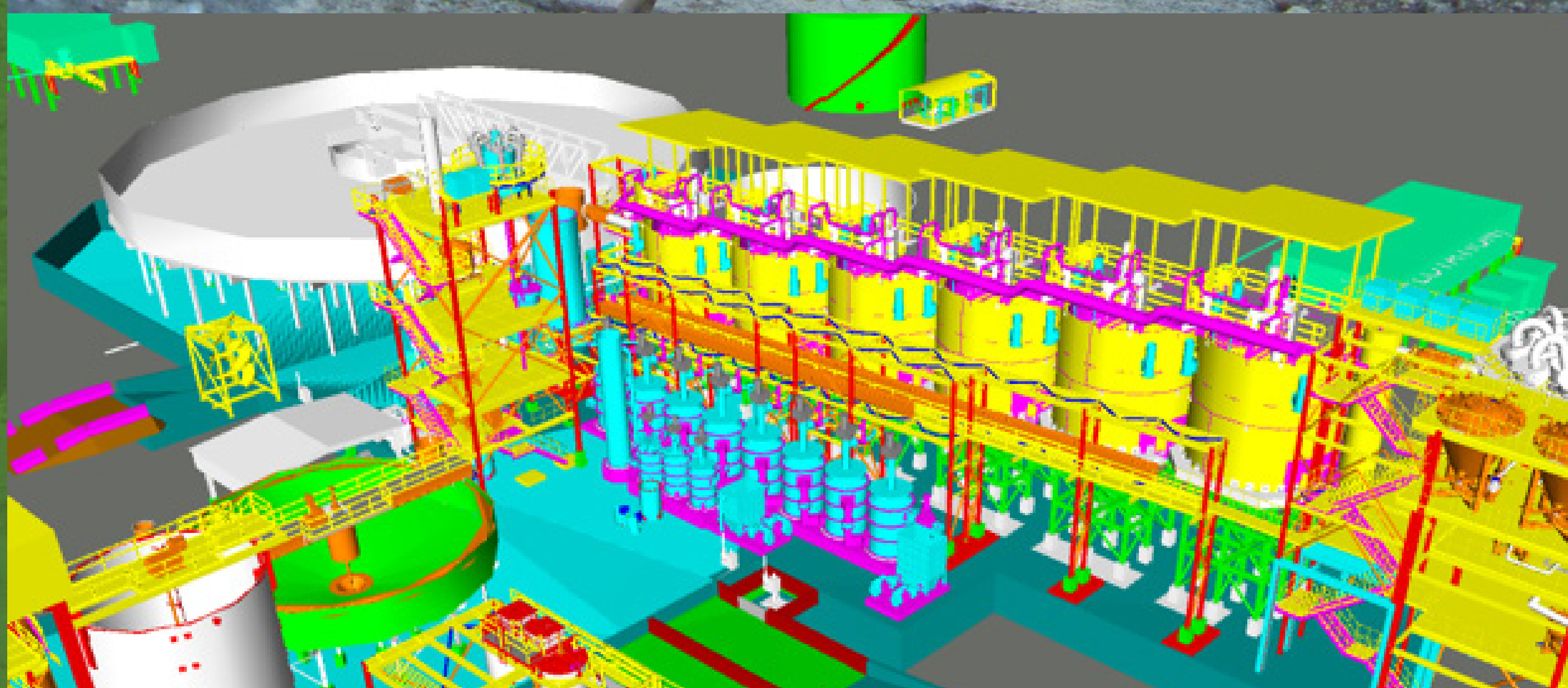


### Key Steps for 2019/2023



### TIMELINE (ESTIMATED)

	2019	2020	2021	2022	2023
Asset Acquisition	✓				
Update Resource	✓				
PEA Study	✓	✓			
New Listing		✓			
Feasibility Study		✓			
Permits/Social Approvals		✓			
Construction					
Production					➤





## ENVIRONMENTAL ASSESSMENT

### FRAMEWORK AND THE PERMITTING PROCESS

The Marathon Palladium Project is subject to federal environmental assessment (EA) legislation. Provincially, certain aspects of the Project such as the transmission corridor, highway improvements and Crown land disposition are subject to Ontario EA legislation.

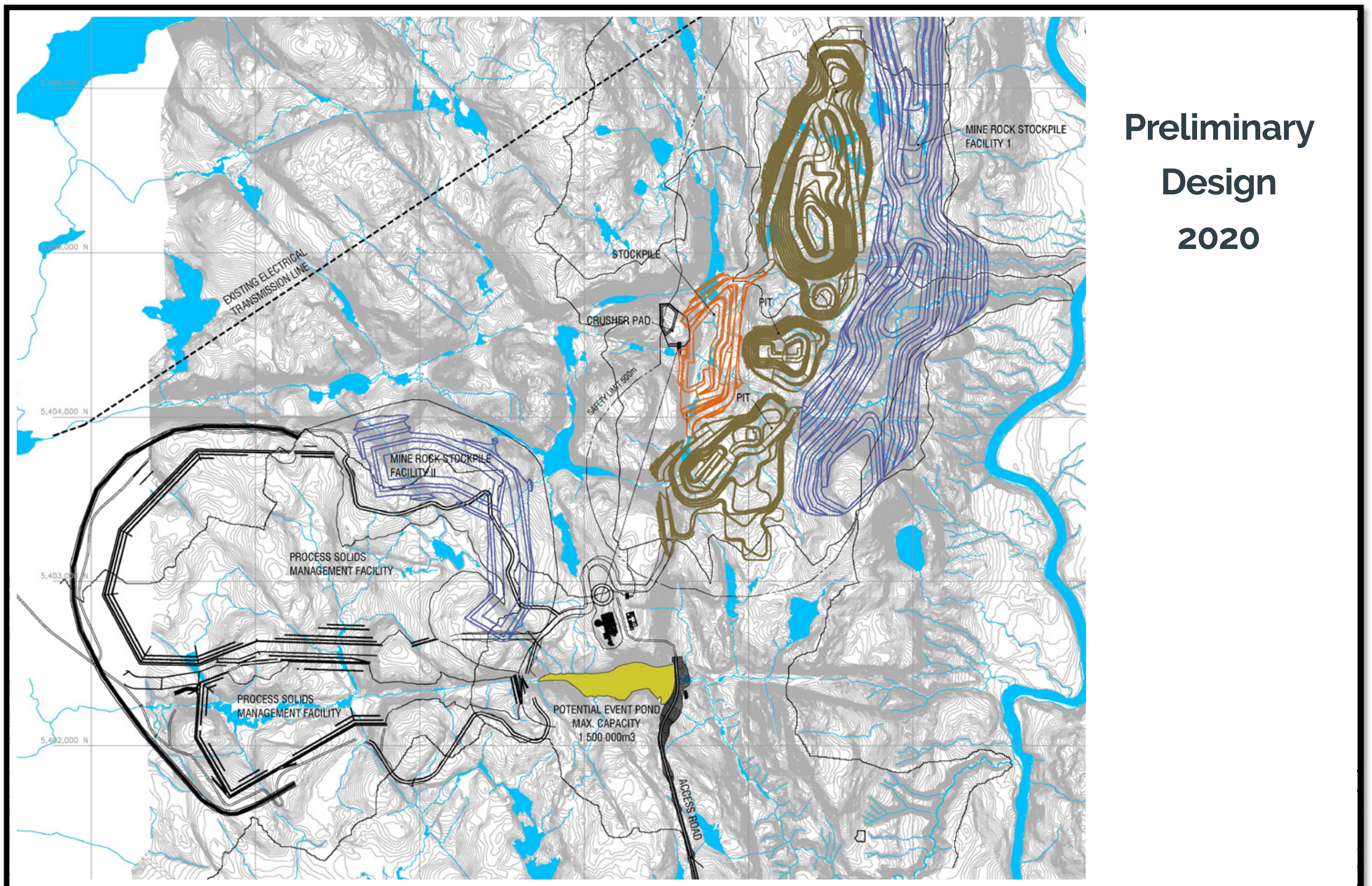
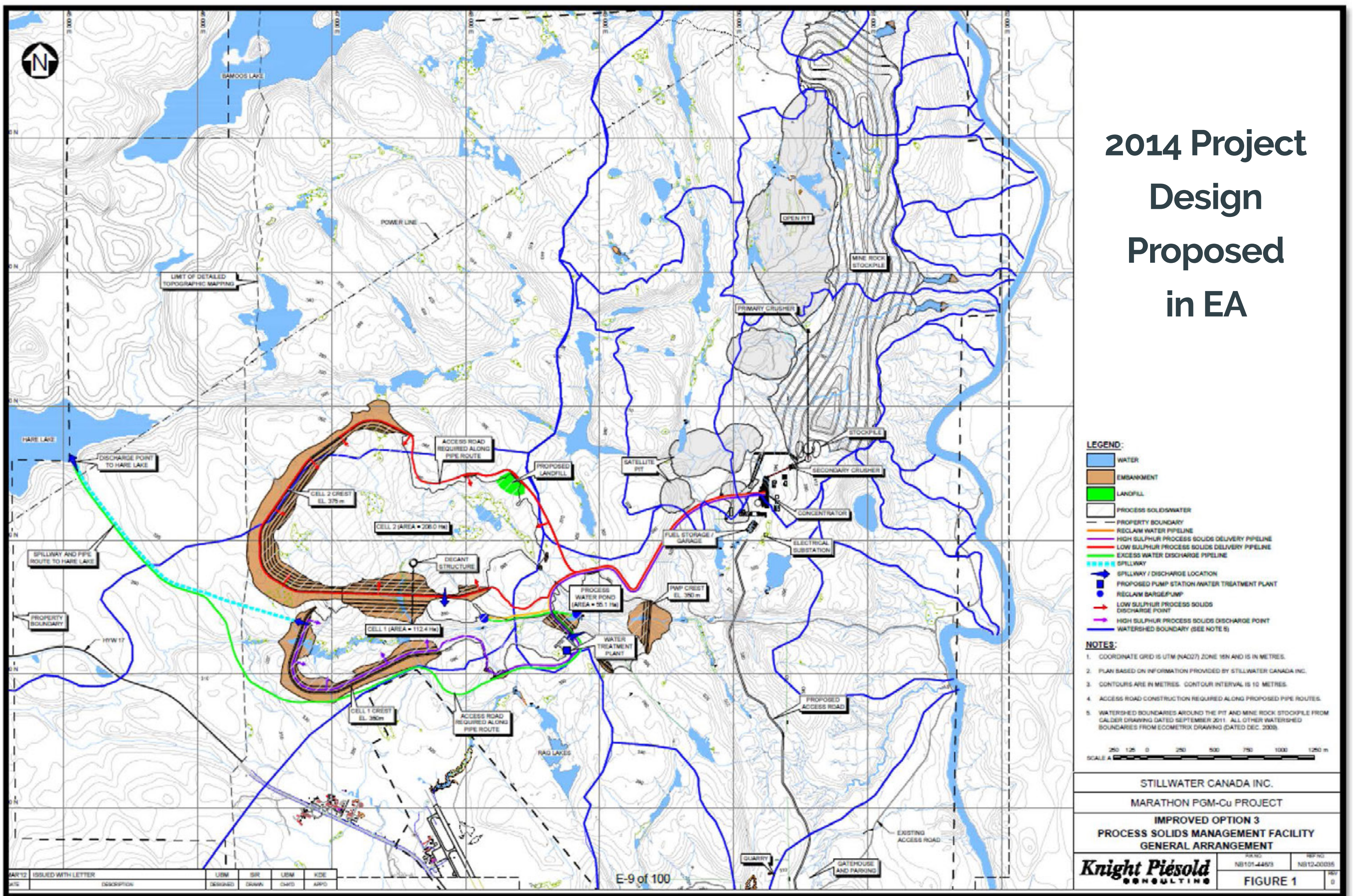
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In addition to the EA process, there are various permits and approvals that Generation PGM Inc. must obtain to allow the Project to go forward. These permits and approvals are obtained from all levels of government.



Stages for Environmental Assessment	TENTATIVE TIMELINE for ENVIRONMENTAL ASSESSMENT																									
	2020												2021												2022	
	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3			
Baseline Data Collection/Confirm																										
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Environment Ministers Decision																										

# GENERATION PGM





# GENERATION PGM

## VALUED ECOSYSTEM COMPONENTS

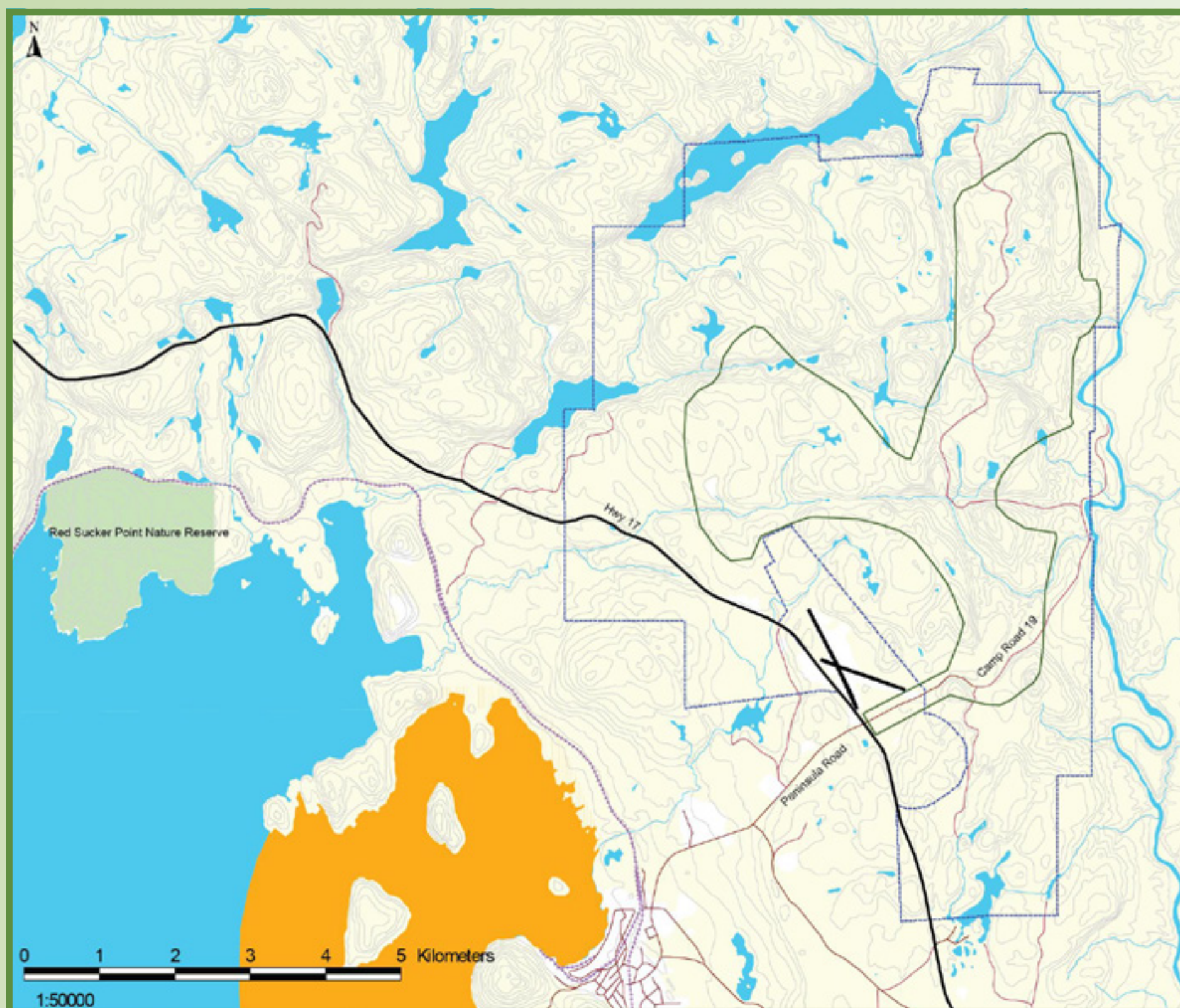
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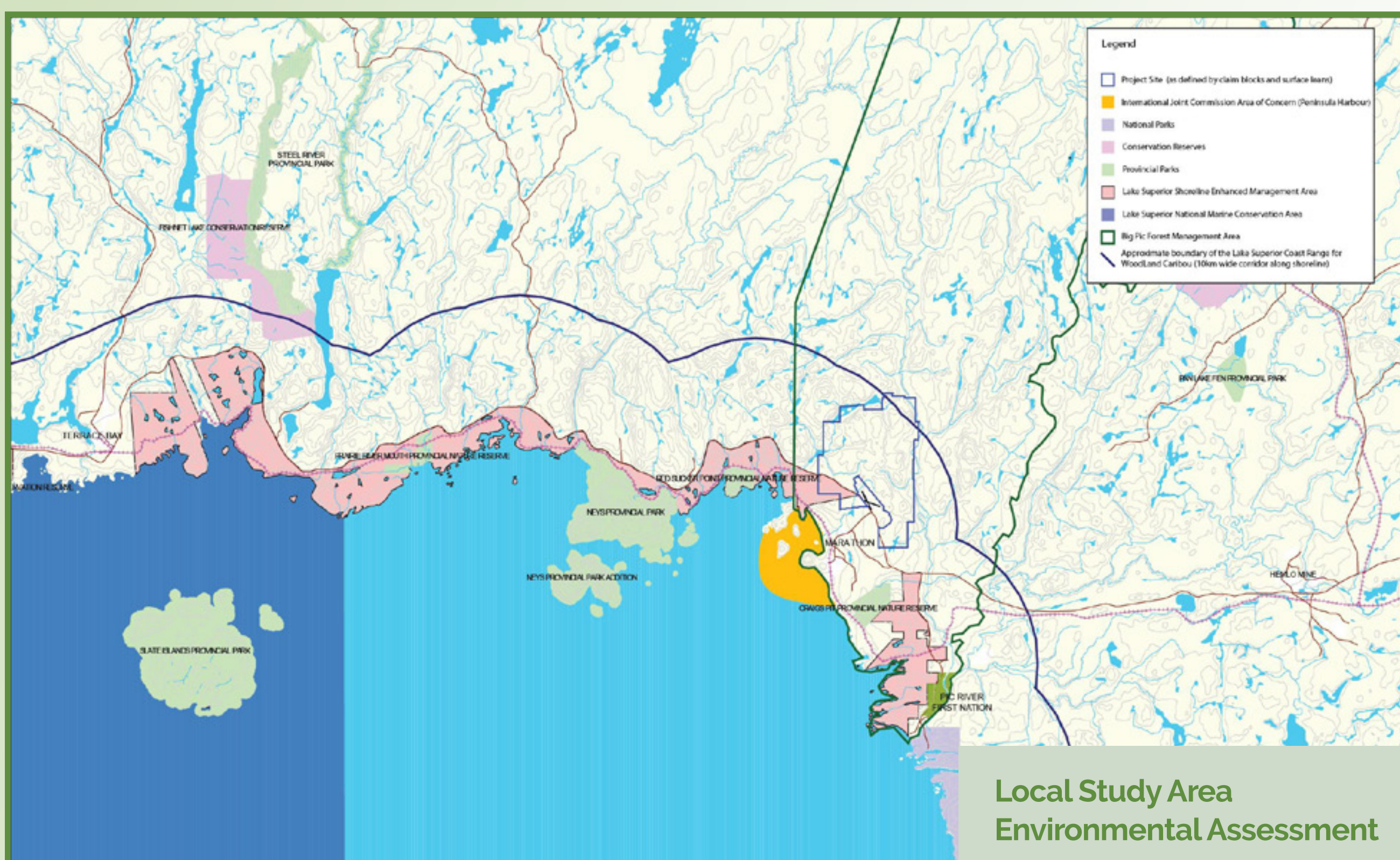
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- prior experience with similar projects
- data that were collected as part of the baseline environmental program
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- guidance from regulatory agencies (e.g. EIS Guidelines)
- direct consultation with stakeholders and Indigenous communities



### PROJECT AREA

- 2020 optimized design largely unchanged from 2014
- project boundary is the same (blue outline)
- 2020 project study area (green outline), relatively the same as 2014
- powerline and access road alternatives being considered



Local Study Area Environmental Assessment

### Examples

- the physical environment (media and habitats)
- vegetation
- wildlife
- species at risk
- aquatic resources
- the social environment
- the economic environment
- land and resource uses
- physical and cultural heritage
- Indigenous and Community considerations

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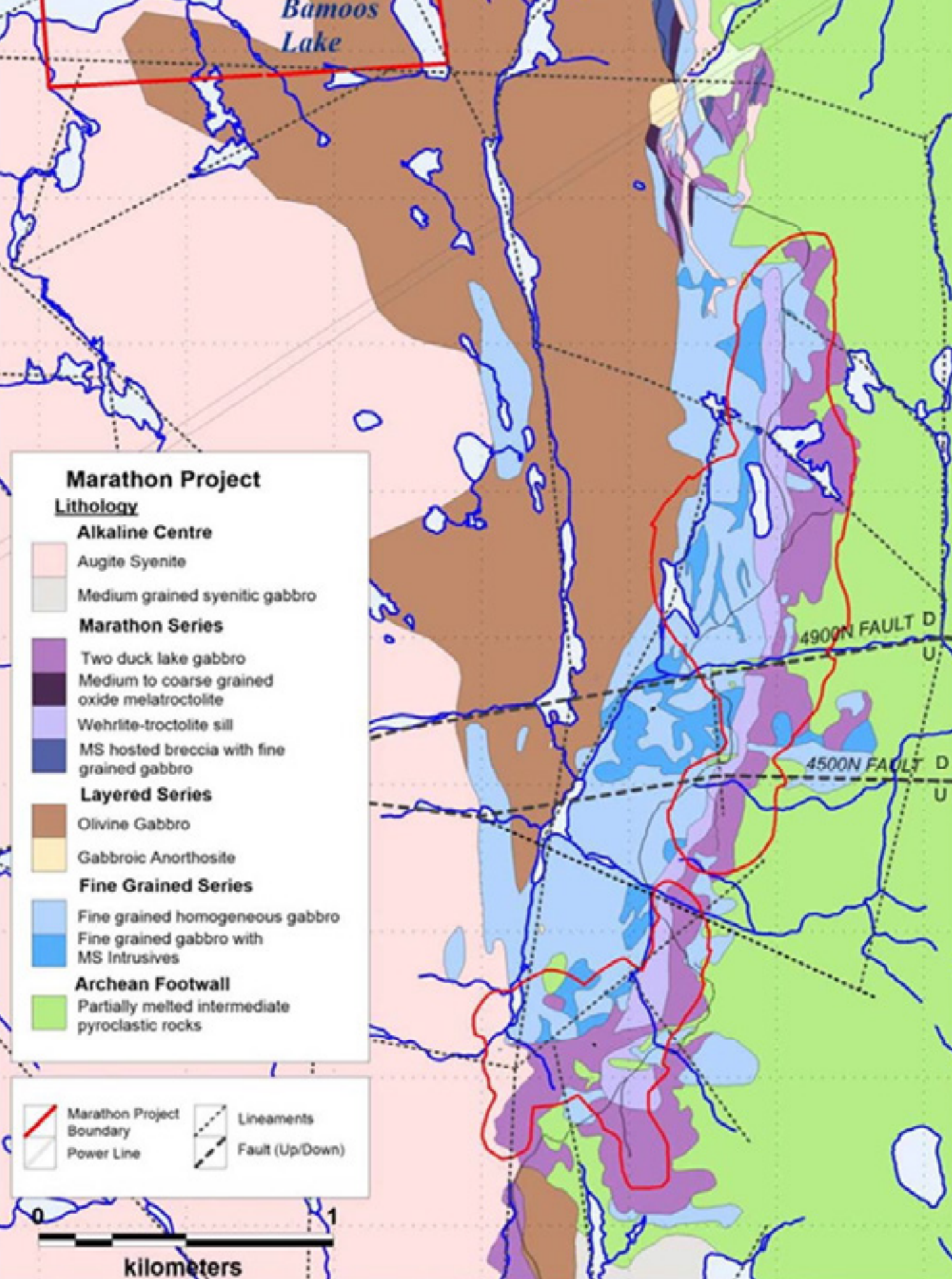
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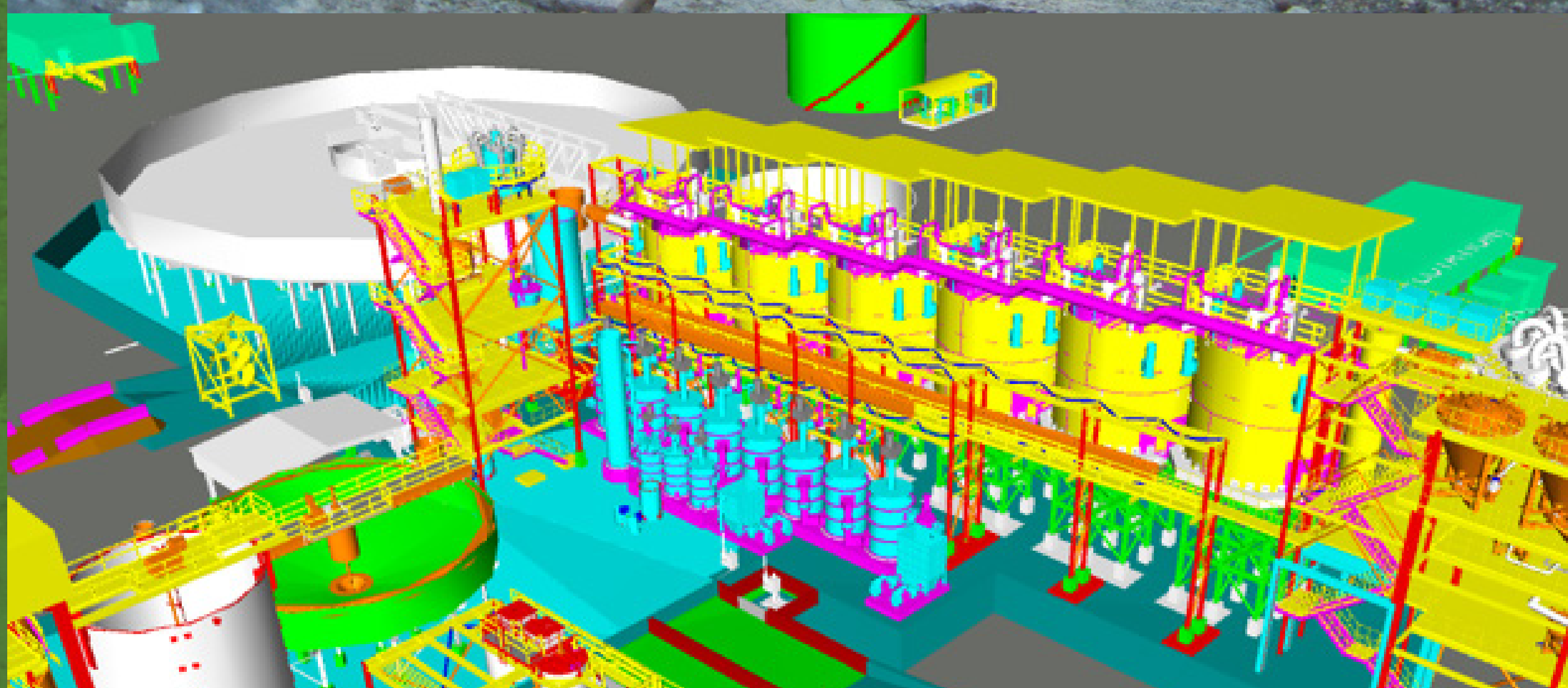


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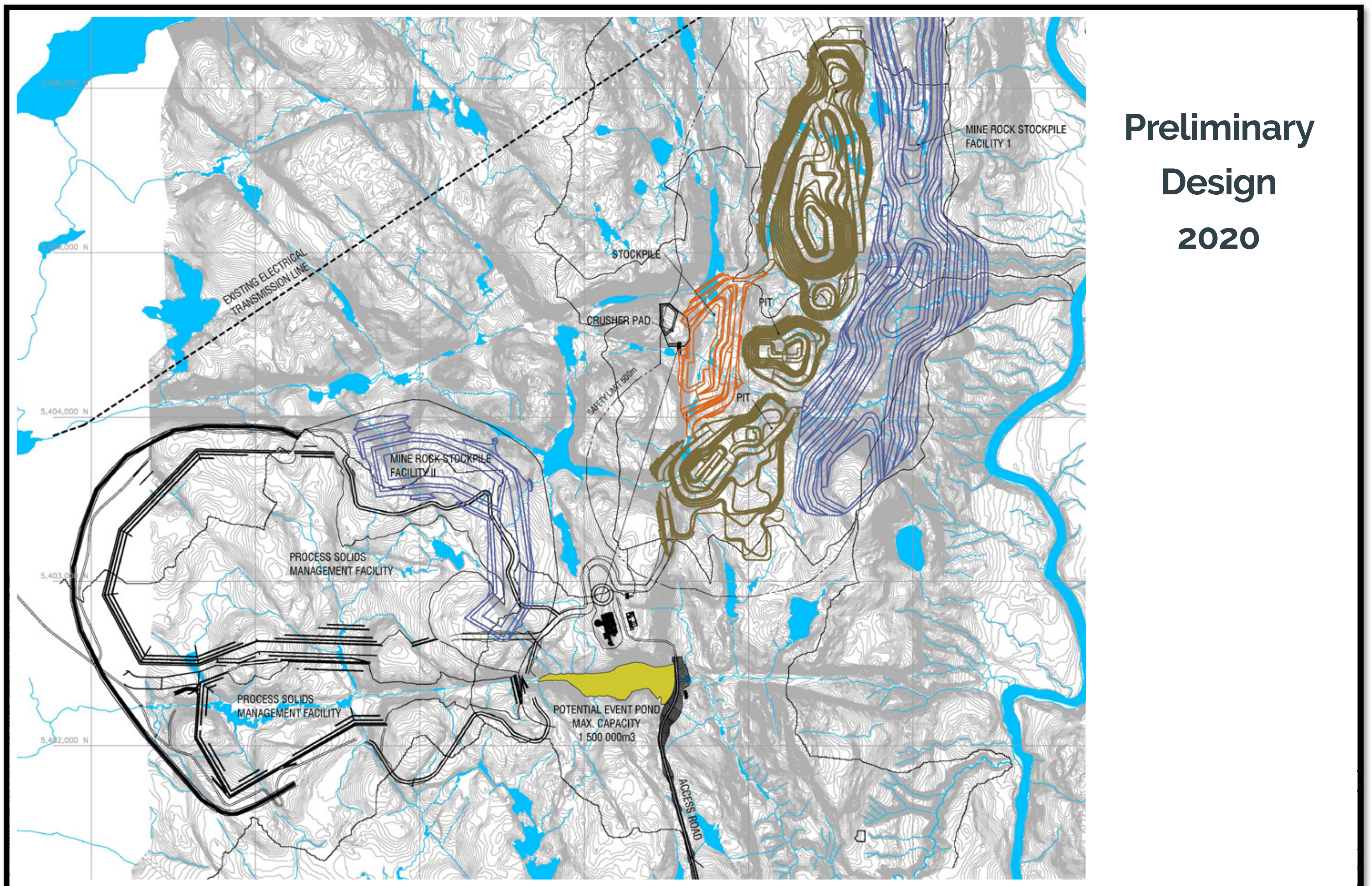
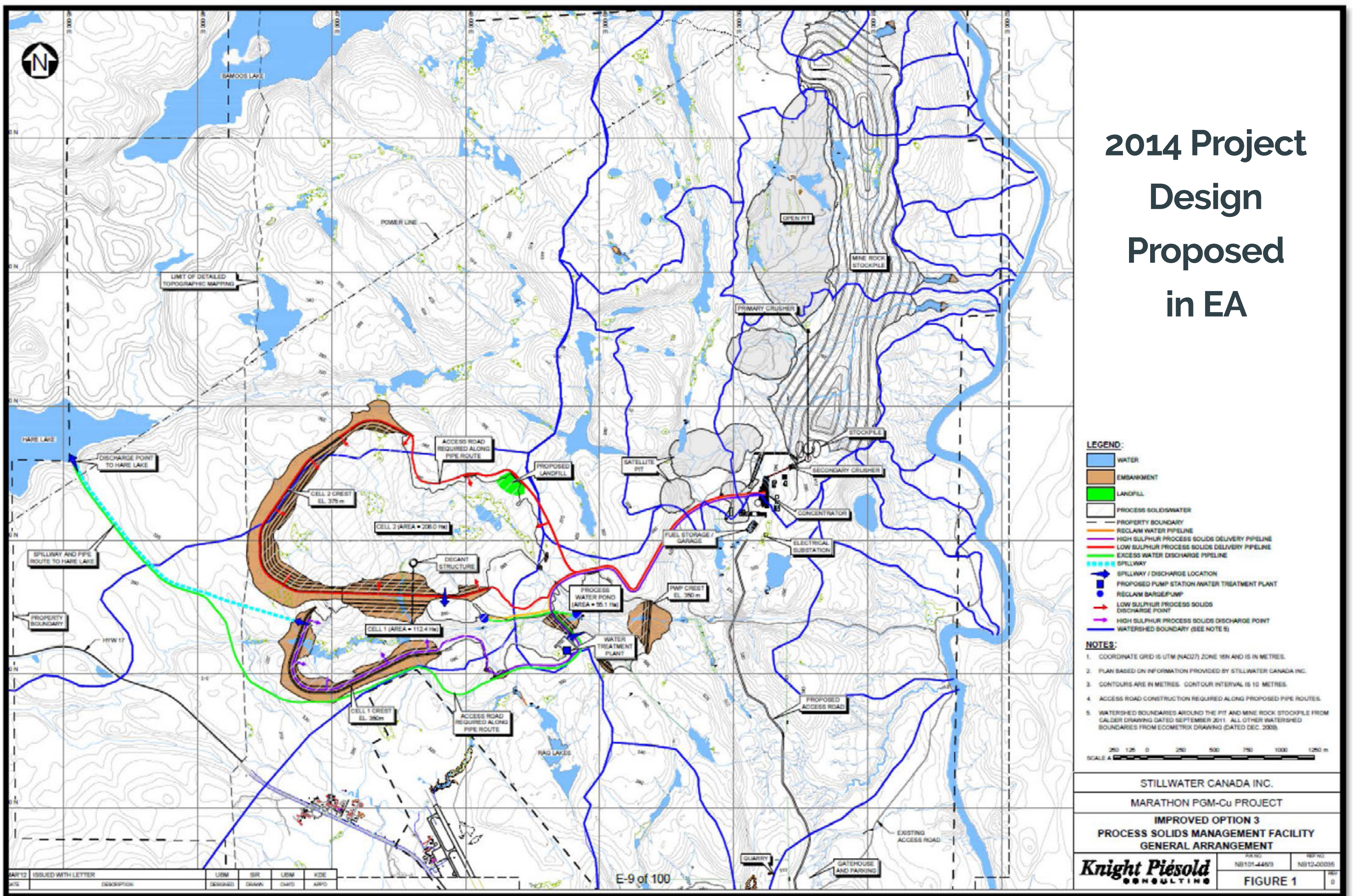
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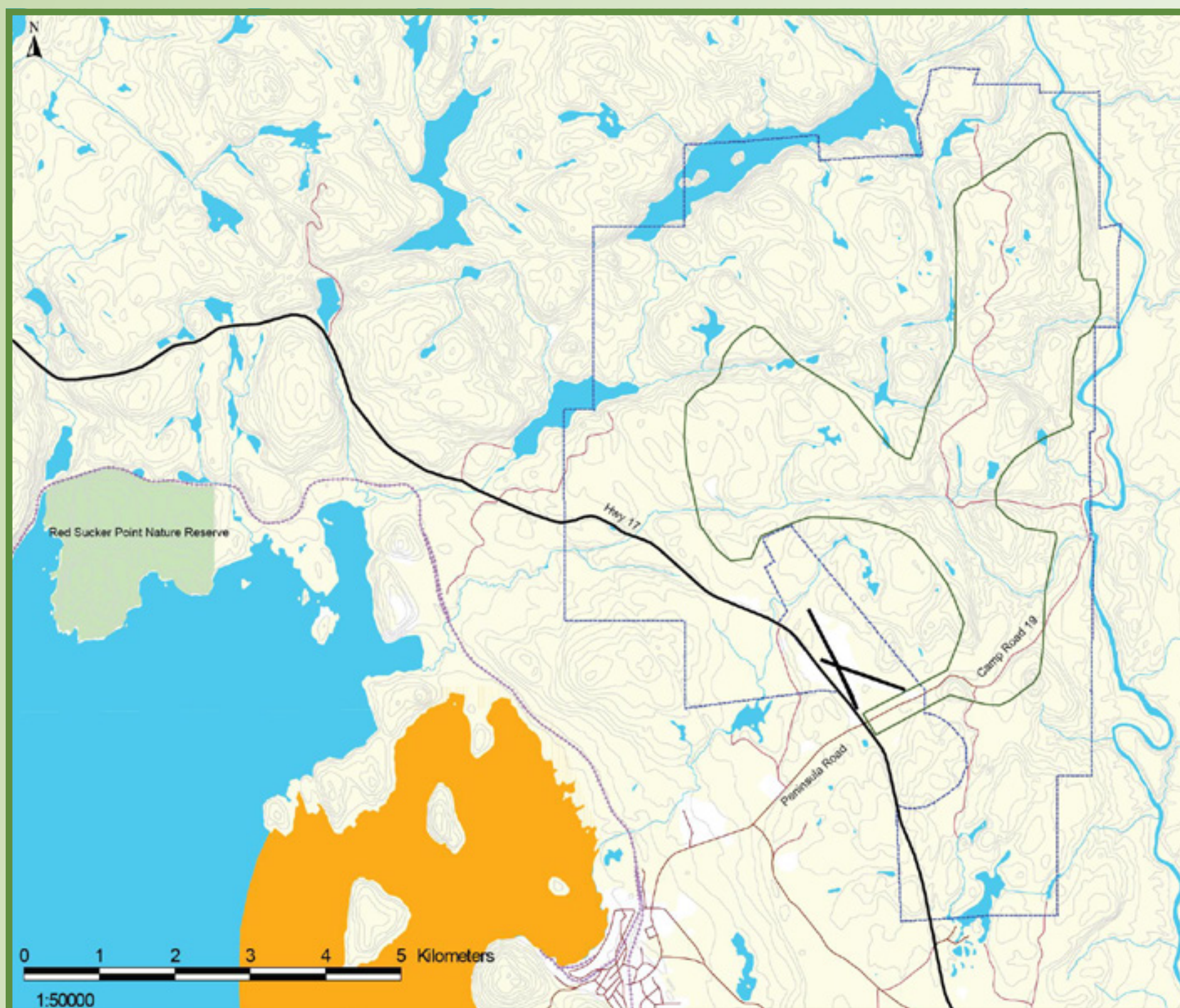
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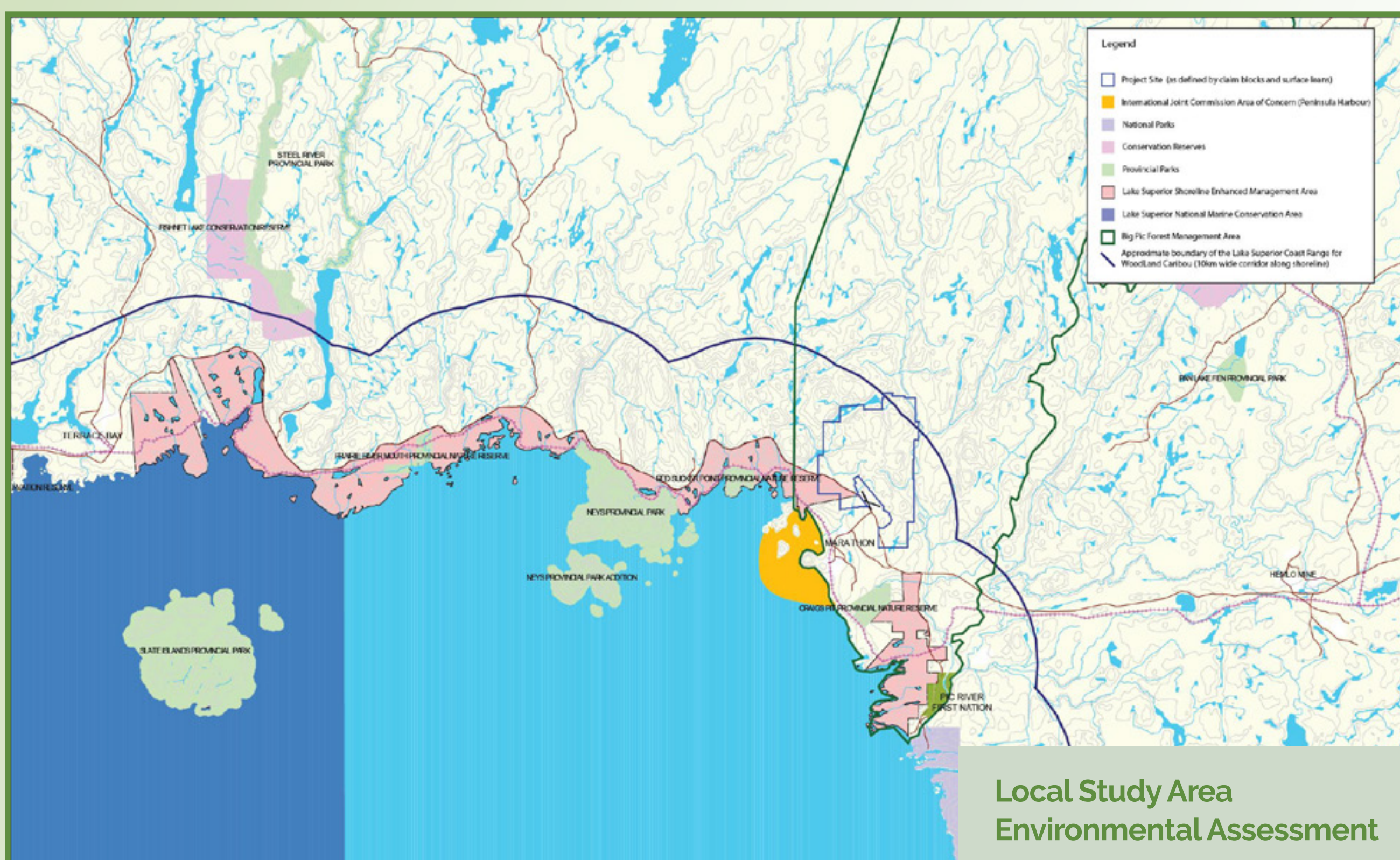
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**Biigtigong Virtual Community Consultation  
October 28, 2020  
Generation Mining – Marathon PGM Project Update**

**Agenda**

**Introductions/Instructions**

**Power Point Presentation**

**Question and Answer Period**

**Closing Remarks**

**Juanita Starr is inviting you to a scheduled Zoom meeting.**

**Topic: Generation Mining - Marathon PGM Project Update - Virtual Consultation**

**Time: Oct 28, 2020 06:00 PM Eastern Time (US and Canada)**

**Join Zoom Meeting**

**<https://zoom.us/j/95233843192?pwd=aHZ3RzB4Ry9yR2NJQTd0SFBIKy9qZz09>**

**Meeting ID: 952 3384 3192**

**Passcode: 832916**

**Protocols for the Meeting:**

- Users must have the designated app on their communication devices or can log on by laptop with the log in provided.
- Admittance into the meeting will be allowed only 15 minutes past the start time.
- Participants will be muted during the presentation.
- Presentation and Q&A. Meeting will be moderated by a BN staff member. All questions will be asked during the Q & A after the presentation.
- Participants can ask a question via the chat box or my “raise your hand” feature. The host organizer will announce who will be asking their question in que and will unmute the participant to do so.
- Contact information for BN Staff and meeting presenters will put at the end of the presentation.
- Participant draws will conclude the meetings.

# GENERATION PGM

November 2020 - UPDATE

## MARATHON PALLADIUM PROJECT



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## DISCLAIMER

GENERATION PGM

This presentation (in this projected form and as verbally presented) (Presentation) is provided on the basis that neither Generation Mining Limited (Gen Mining), nor its officers, shareholders, related bodies corporate, partners, affiliates, employees, representatives and advisors make any representation or warranty (express or implied) as to the origin, validity, accuracy, reliability, relevance, currency or completeness of the material contained in the Presentation and no responsibility is taken for any errors or omissions. Nothing contained in the Presentation is, or may be relied upon as, a promise, representation or warranty, whether as to the past or the future.

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The Presentation contains "forward-looking statements". Where the Presentation expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and is believed to have a reasonable basis. However, forward-looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward looking statements. Such risks include, but are not limited to, price volatility, currency fluctuations, increased production costs and variances in ore grade, recovery rates or other matters from those assumed in mining plans, as well as political and operational risks and governmental regulation and judicial outcomes. Gen Mining does not undertake any obligation to release publicly any revisions to any "forward-looking statement" to reflect events or circumstances after the date of the Presentation, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws. Statements relating to reserve and resource estimates are expressions of judgment, based on knowledge and experience and may require revision based on actual production experience.

Such estimates are necessarily imprecise and depend to some extent on statistical inferences and other assumptions, such as metal prices, cut-off grades and operating costs, which may prove to be inaccurate. Information provided relating to projected costs, capital expenditure, production profiles and timelines are expressions of judgment only and no assurances can be given that actual costs, production profiles or timelines will not differ materially from the estimates contained in this Presentation.

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This Presentation does not purport to contain all of the information that may be required to evaluate all of the factors that would be relevant in determining whether to deal in Gen Mining securities, including but not limited to any person's objectives, financial situation or needs. Each person must not rely on the information provided but should make, and will be taken to have made, its own investigation, assessment and analysis of the information in this Presentation and other matters that may be relevant to it in considering whether to deal in Gen Mining securities. Gen Mining owns the copyright in this Presentation.

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## AGENDA

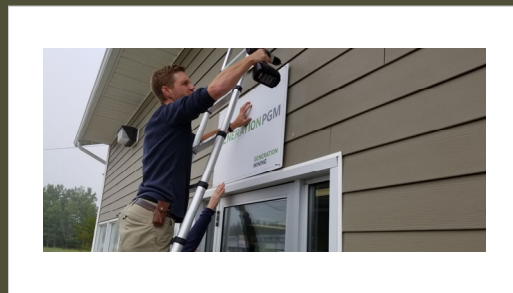
- Who is Generation PGM Inc.
- Need for the Project
- Project Description
- Schedule
- Environmental Assessment Through a Joint Review Panel
- Future Together



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## INTRODUCTION

- Generation PGM Inc. (GenPGM) is a subsidiary of Generation Mining Limited
- Experienced management team with backgrounds in building, development and operations
- With interests in platinum group metals (PGM), specifically the Marathon Palladium Project
- Most advanced palladium project in North America



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Palladium: Ontario's Supply Advantage

Palladium's market value has greatly appreciated due to its critical role in auto manufacturing and vehicle exhaust systems, where it helps transform poisonous gases into less toxic and harmful outputs

- I. Insufficient global palladium supply exists
- II. Canada's platinum-group metals (including palladium) are concentrated Northern Ontario
- III. Expanding palladium production could revitalize Northern Ontario's economy

Marathon Project represents a vital strategic asset for a competitive Ontario economy and instrumental in the transition towards renewable energy and green technologies

Copper: Essential to Vital Technology

*Copper is a key metal for many innovative technologies and a necessary component in the production of electric vehicles*



Electric Vehicles

A reliable supply of copper will be vital to the success of the recently announced upgrade to Ford's Oakville EV plant



Telecomm



Industrial Tech



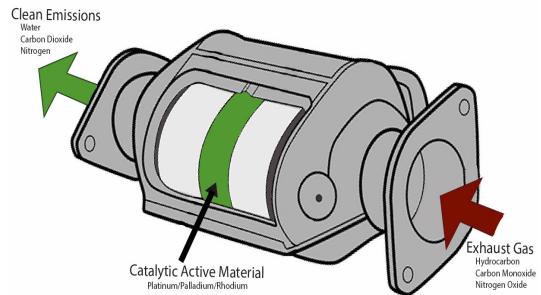
LED lightbulbs



Smart Grids

## PALLADIUM MARKET

- Palladium and Copper are considered "green metals"
- Palladium and Platinum are used in catalytic converters, which effectively clean exhaust gas into less hazardous substances such as carbon dioxide, water vapor, and nitrogen gas
- Copper used for plumbing, electrical wiring and significant use in batteries and continued electrification of the future
- Palladium, Platinum and Copper are also key components in computer hard drives, circuit boards and computer chips



## PROJECT OVERVIEW

GENERATION PGM



- The open pit ore will be processed (crushed, ground and concentrated) at an on-site processing facility.
- Final concentrates containing Palladium and Copper will be transported off-site via road and/or rail to a smelter and refinery for extraction and purification
- Site construction will take 18 to 24 months
- Construction workforce will require +900 workers with an average of approximately 450 to 500 people
- Production is estimated to begin late 2023
- Operating workforce estimated at +450 people
- The mine has been designed to ensure that the environment will be protected with specific attention to water and air

7

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## VALUE ADDED IMPROVEMENTS

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### Improved Water Management

- Process Plant, primary crusher, truck shop, offices and fuel farm moved out of Pic River watershed
- Site access road realigned to cross fewer streams
- Storm Water Pond (SWP) added for risk management and protection of Pic River watershed
- SWP used to collect stormwater runoff and improve management of site water

### Reduce Greenhouse Gas and Understand the Carbon Footprint

- Mine Operation design to minimize fuel usage with the location of the primary crusher
- Evaluating Trolley Assist (electrical assistance for haul trucks) for key haulage segments
- Power efficient equipment included in the Processing Plant design
- Evaluating CO<sub>2</sub> capture in construction concrete and possibly processed solids

### Mine Rock Storage Area (MRSA)

- Includes storage of mine rock into pit(s)
- Similar footprint to past designs, less impact to sub-watersheds
- 85-90% of Mine Rock is Type 1 (not acid generating)
- Good quality waste rock can be used for aggregate – business opportunity

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**Process Solids Management Facility (PSMF)**

- We heard from communities → *limited* desire to have final discharge from PSMF to: Pic River, Bamooos Lake, Lake Superior and Angler Creek/Stream 6 as such... these have been **excluded**
- Hare Lake was selected as the preferred discharge location, based on feedback from communities
- Improved water management onsite and in PSMF
- +90% of water will be recycled in the process plant
- Excess water will be treated as required and discharged
- Discharge effluent will achieve required water quality objectives at end of pipe
- Discharge will be protective of fish and fish habitat

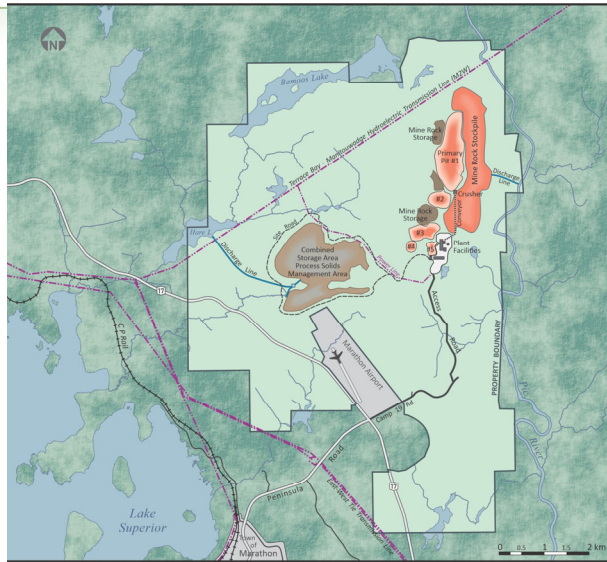
**OVERVIEW OF KEY DESIGN UPDATES**



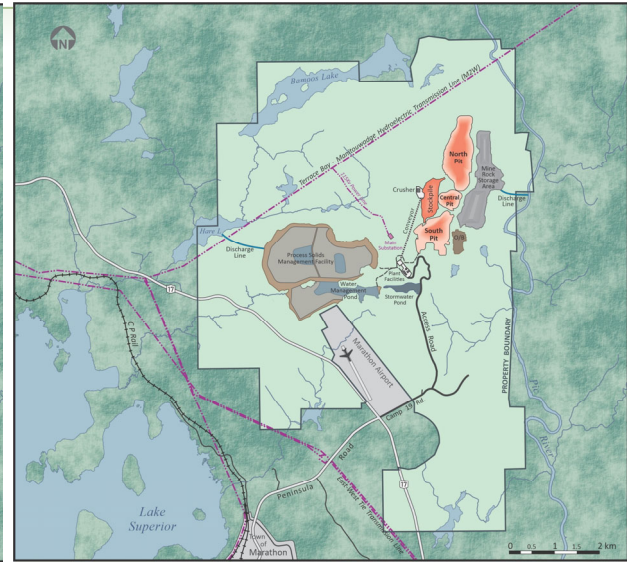
Topic	2014	2020
Average Process Rate	22,000 tonnes per day	~25,200 tonnes per day
Open Pit	One primary and four satellite pits	Three Pits: North, Central and South
Mine Life	11.5 years	~12.6 years
Process Solids Management Facility (PSMF)	Located west of open pits, final elevation to 375 m above sea level (asl)	Similar footprint west of pits, elevation 380 m asl
Mine Rock Storage Area (MRSA)	East of open pits	Slightly smaller footprint, using mined-out pits for storage of mine rock
Process Plant and Primary Crusher	Southeast of open pits	West of open pits, now centrally located away from Pic River

## 2014 PROJECT VERSUS 2020 OPTIMIZED DESIGN

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2014 Project Design



2020 Project Design

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## PROJECT STATUS

- In September 2019, confirmed the Project would continue Environmental Assessment under Canadian Environmental Assessment Act (CEA Act 2012)
- A Preliminary Economic Assessment (PEA) was completed in January 2020 – the Project is Feasible.
- The Environmental Assessment (EA) for the Project was restarted in July 2020, picking up from the point at which it was paused in 2014
- Field studies conducted end of May to August: result of new regulatory requirements and to build on previous baseline studies
- Some studies carried on continuously since 2014: terrestrial, water quality and flows.
- The Joint Review Panel is being facilitated through the Harmonization Order, integrating both provincial and federal EA requirements.
- Submission of updated EA documents will be completed in a staggered submission before the Panel is appoint to give public and communities time to complete their review.



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## MARATHON PALLADIUM PROJECT TIMELINE

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	2019	2020	2021	2022	2023
Asset Acquisition	█				
Update Resource	█				
PEA Study	█	█			
Feasibility Study		█	█		
EA / Permitting / Social Approvals		█	█	█	
Construction				█	█
Production					█

\* Important note: Construction and production are subject to favorable results in the feasibility study, permitting and financing of the project.

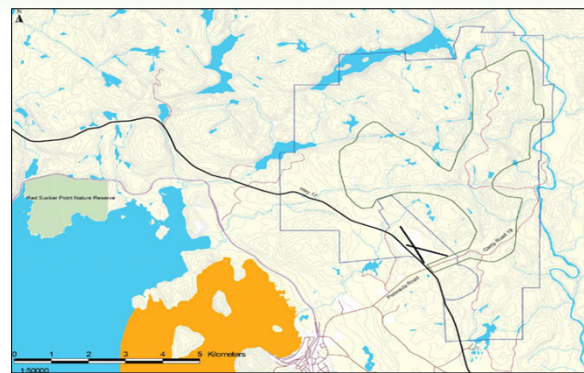
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## ENVIRONMENTAL ASSESSMENT

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- The importance of this process is to consider the effects on ecosystem, and mitigate and/or eliminate any negative effects on the environment and communities
- Gen PGM is dedicated to protecting the Valued Ecosystem Components (VECs)
- Key elements include: management of water, protecting wildlife, vegetation, species at risk, and Indigenous and Community considerations
- Surveys conducted within the Project footprint to analyze possible effects
  - Birds, mammals, insects, plants
  - Groundwater and surface water
  - Air quality monitoring
  - Aquatic life



- - Project boundary
- - Project study area
- - Provincial Park
- - International Joint Commission Area of Concern (Peninsula Harbour)

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## FUTURE TOGETHER

GENERATION PGM



- Gen PGM will continue to play an active role in supporting local community initiatives and services.
- The Project will bring economic benefits to local and regional communities and Indigenous communities along the north shore of Lake Superior, including:
  - Increased economic and business opportunities
  - Increased direct and indirect and induced employment during all phase of the Project
  - Increase labour incomes in local communities
  - Increased government revenues for all levels of government

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## TRANSFORMING COMMUNITIES, TRANSFORMING MARKETS

GENERATION PGM

### Local Jobs and Youth Retention

- 350 – 400** Full time, permanent jobs generated, with most of these roles held by residents and community partners 
- 3.75** Estimated employment multiplier.\* Every mining job created spurs nearly four downstream jobs in nearby industries 
- +** Significant financial benefits, business and employment opportunities for Indigenous communities through agreements 
- 12+** Years in expected life of the palladium mine, sustaining jobs, retaining local youth, and spurring residual economic activity

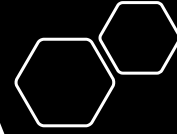
*The Marathon palladium mine will be a vital investment in the recovery of the Northern Ontario economy following the COVID-19 economic crisis.*

*This project will create good-paying jobs, while stimulating local industries and promoting the retention of local youth and talent.*

\*University of Toronto. ("Ontario Mining: A partner in prosperity building")

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# GENERATIONPGM



More Information on the Project can be found at  
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and the Impact Assessment Registry at  
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**If you have additional questions,  
please email us at [comments@genpgm.com](mailto:comments@genpgm.com)**

# **Ontario Coalition Indigenous Peoples Community Consultation – November 17, 2020**

Generation Mining – Marathon PGM Project Update

**Participants:** OCIP (2), IAAC Agency (4), ENDM (2), MECP (1)

**Moderators:**

**Presenters:** Tabatha Leblanc (GenPGM), Jason Boisvert and Jo Ronzio (IAAC)

**Meeting Notes & Covered Topics:**

## **GenPGM**

-Tabatha covered the General Project Update presentation (see previous notes from BN consultation in October)

## **IAAC**

-J. Boisvert spoke about the panel appointment and discussed the difference in departments (IAAC deals with consultation and will not interact with the JRP much)

-Since project started under CEAA 2012, the project will move forward under that legislation

-The timeline for JRP begins once the last IR from the previous EA is addressed

-Coordinating with federal and provincial level (ENDM and MECP on call and have their own provincial legislation)

-Potential for Indigenous Funding Program for participation in process

-5 Phase consultation activity tier for JRP process (begins in initial engagement and transitions to hearings and further regulatory permitting)

-They have a methodology that assesses the severity of impacts on rights (ex: rights to fishing – resource: what type of fish/habitat, access: is your access to the lake compromised, experience: does it impact time spent with family/youth in the community)

-J. Ronzio is representative of the panel review division, creating distance between the review panel and community consultations to keep information on-the-record from the source itself (keeps information separate and creates independence for review panel)

-The timeline consists of 181days plus the 90day extension (271 days in total)

-Panel will give minimum 45days notice for start of public hearing

-The Minister will decide if the project will result in adverse environmental effects, if yes, the Minister will refer to federal cabinet for further conditions

-All information that the panel uses for consideration is listed on the IAAC registry

## **ENDM**

MECP and ENDM did not have any presenting materials

-ENDM will follow up closer to when closure plans are to be finalized



**Comments by Jon (OCIP):**

-OCIP requested the presentation and contact information for all participants

-Ring of Fire as an example has a bigger footprint on Jackfish Metis in comparison to the Marathon Pd Project but they still want physical and spiritual in deep consideration as thing move forward

-The old Stillwater Mine Project impressed the community on their closure plan -> hoping that a similar closure policy that maybe will even make the land more readily accessible than before (hard terrain maybe will become easier after site is remediated)

# GENERATION PGM

November 2020 - UPDATE

## MARATHON PALLADIUM PROJECT



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# AGENDA

- Who is Generation PGM Inc.
- Need for the Project
- Project Description
- Schedule
- Environmental Assessment Through a Joint Review Panel
- Future Together



# INTRODUCTION

- Generation PGM Inc. (GenPGM) is a subsidiary of Generation Mining Limited, TSX:GENM
- Experienced management team with backgrounds in building, development and operations
- With interests in platinum group metals (PGM), specifically the Marathon Palladium Project
- Most advanced palladium project in North America



## Palladium: Ontario's Supply Advantage

Palladium's market value has greatly appreciated due to its critical role in auto manufacturing and vehicle exhaust systems, where it helps transform poisonous gases into less toxic and harmful outputs

- I. Insufficient global palladium supply exists
- II. Canada's platinum-group metals (including palladium) are concentrated Northern Ontario
- III. Expanding palladium production could revitalize Northern Ontario's economy

Marathon Project represents a vital strategic asset for a competitive Ontario economy and instrumental in the transition towards renewable energy and green technologies

## Copper: Essential to Vital Technology

*Copper is a key metal for many innovative technologies and a necessary component in the production of electric vehicles*



**Electric Vehicles**

A reliable supply of copper will be vital to the success of the recently announced upgrade to Ford's Oakville EV plant



**Telecomm**



**Industrial Tech**



**LED lightbulbs**



**Smart Grids**



- The open pit ore will be processed (crushed, ground and concentrated) at an on-site processing facility.
- Final concentrates containing Palladium and Copper will be transported off-site via road and/or rail to a smelter and refinery for extraction and purification
- Site construction will take 18 to 24 months
- Construction workforce will require +900 workers with an average of approximately 450 to 500 people
- Production is estimated to begin late 2023
- Operating workforce estimated at +450 people
- The mine has been designed to ensure that the environment will be protected with specific attention to water and air

## Improved Water Management

- Process Plant, primary crusher, truck shop, offices and fuel farm moved out of Pic River watershed
- Site access road realigned to cross fewer streams
- Storm Water Pond (SWP) added for risk management and protection of Pic River watershed
- SWP used to collect stormwater runoff and improve management of site water

## Reduce Greenhouse Gas and Understand the Carbon Footprint

- Mine Operation design to minimize fuel usage with the location of the primary crusher
- Evaluating Trolley Assist (electrical assistance for haul trucks) for key haulage segments
- Power efficient equipment included in the Processing Plant design
- Evaluating CO<sub>2</sub> capture in construction concrete and possibly processed solids

## Mine Rock Storage Area (MRSA)

- Includes storage of mine rock into pit(s)
- Similar footprint to past designs, less impact to sub-watersheds
- 85-90% of Mine Rock is Type 1 (not acid generating)
- Good quality waste rock can be used for aggregate – business opportunity



## Process Solids Management Facility (PSMF)

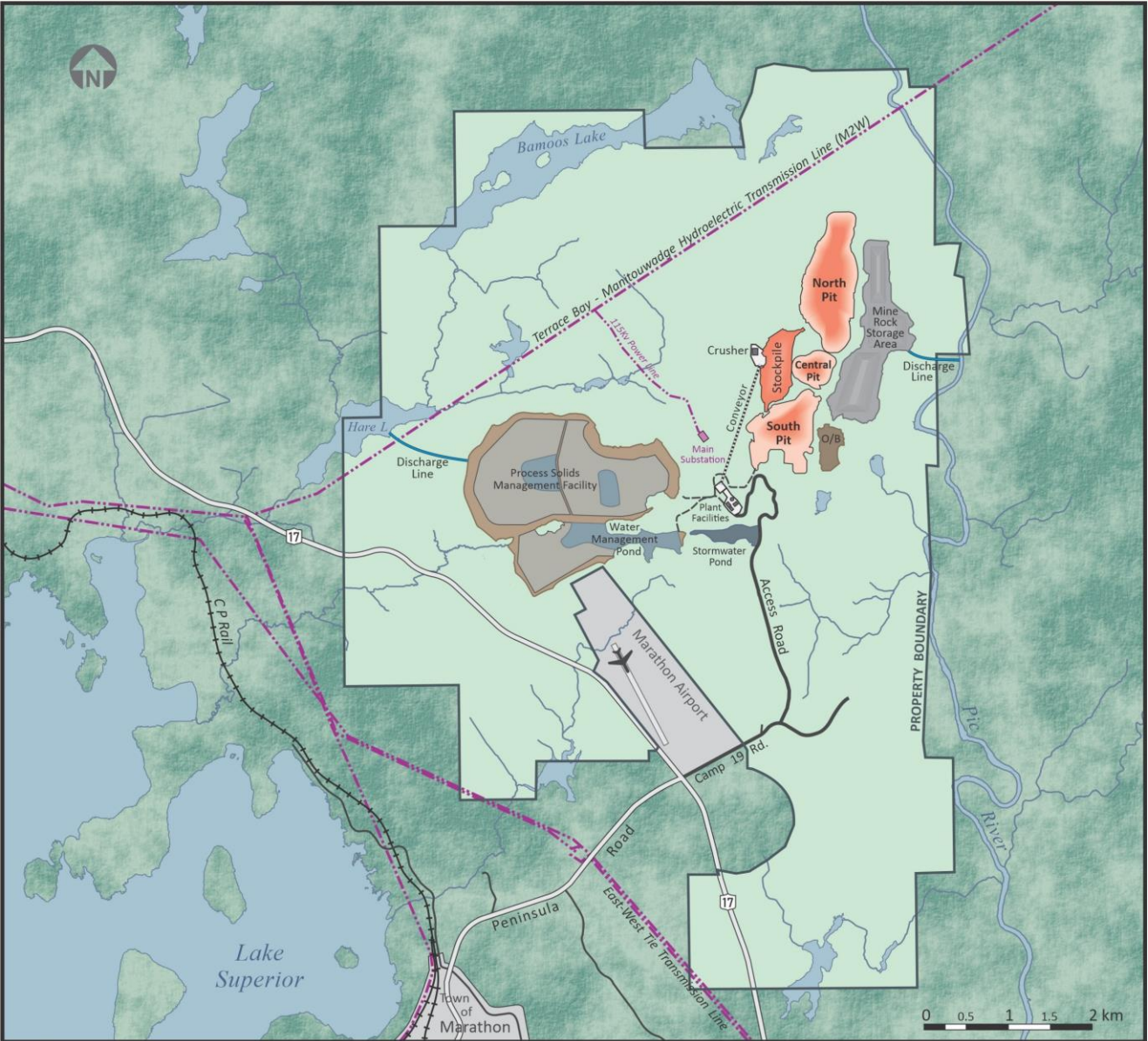
- We heard from communities → *limited* desire to have final discharge from PSMF to: Pic River, Bamooos Lake, Lake Superior and Angler Creek/Stream 6 as such... these have been **excluded**
- Hare Lake was selected as the preferred discharge location, based on feedback from communities
- Improved water management onsite and in PSMF
- +90% of water will be recycled in the process plant
- Excess water will be treated as required and discharged
- Discharge effluent will achieve required water quality objectives
- Discharge will be protective of fish and fish habitat

# OVERVIEW OF KEY DESIGN UPDATES

GENERATION PGM

Topic	2014	2020
Average Process Rate	22,000 tonnes per day	~25,200 tonnes per day
Open Pit	One primary and four satellite pits	Three Pits: North, Central and South
Mine Life	11.5 years	~12.6 years
Process Solids Management Facility (PSMF)	Located west of open pits, final elevation to 375 m above sea level (asl)	Similar footprint west of pits, elevation 380 m asl
Mine Rock Storage Area (MRSA)	East of open pits	Slightly smaller footprint, using mined-out pits for storage of mine rock
Process Plant and Primary Crusher	Southeast of open pits	West of open pits, now centrally located away from Pic River

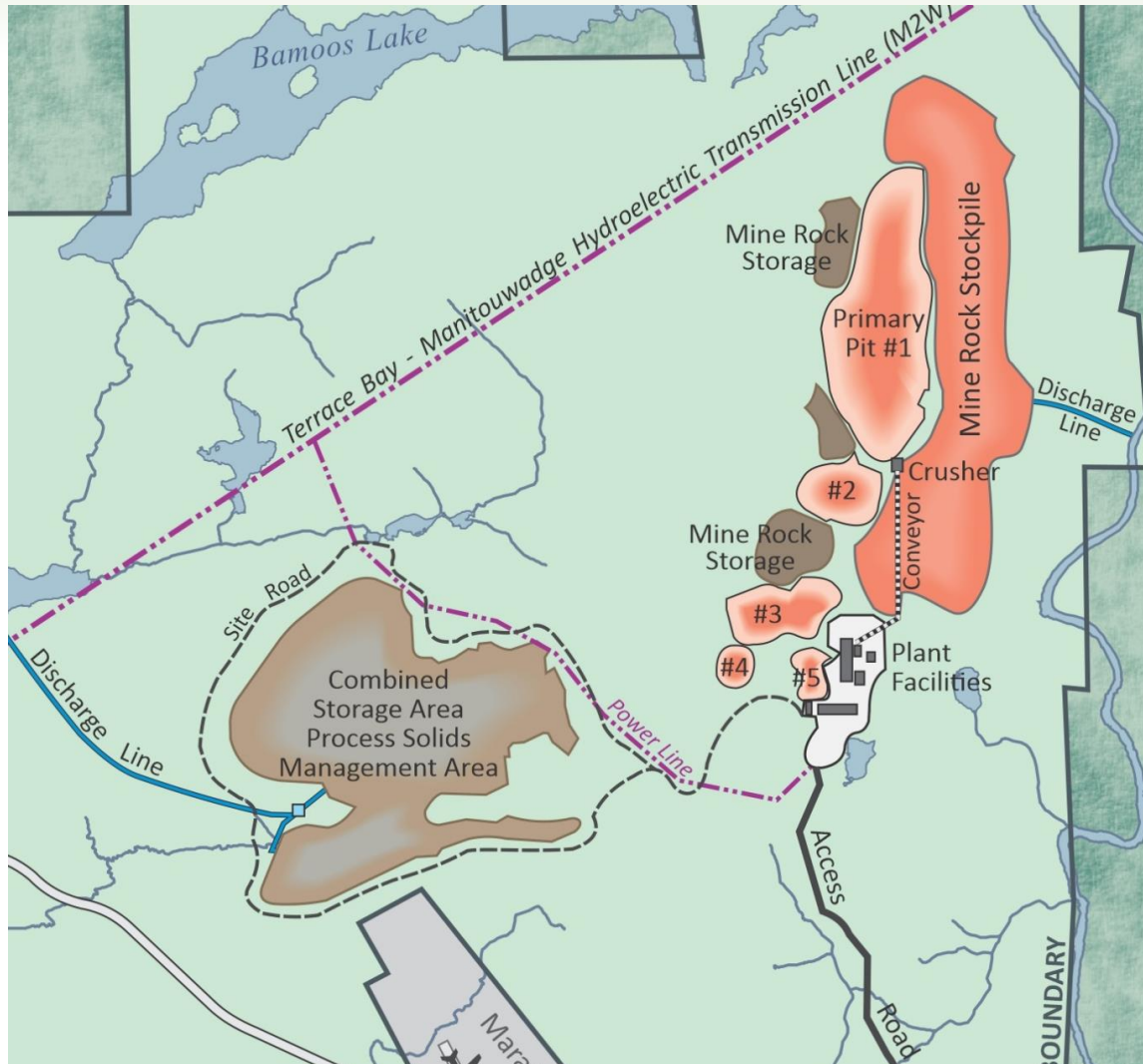




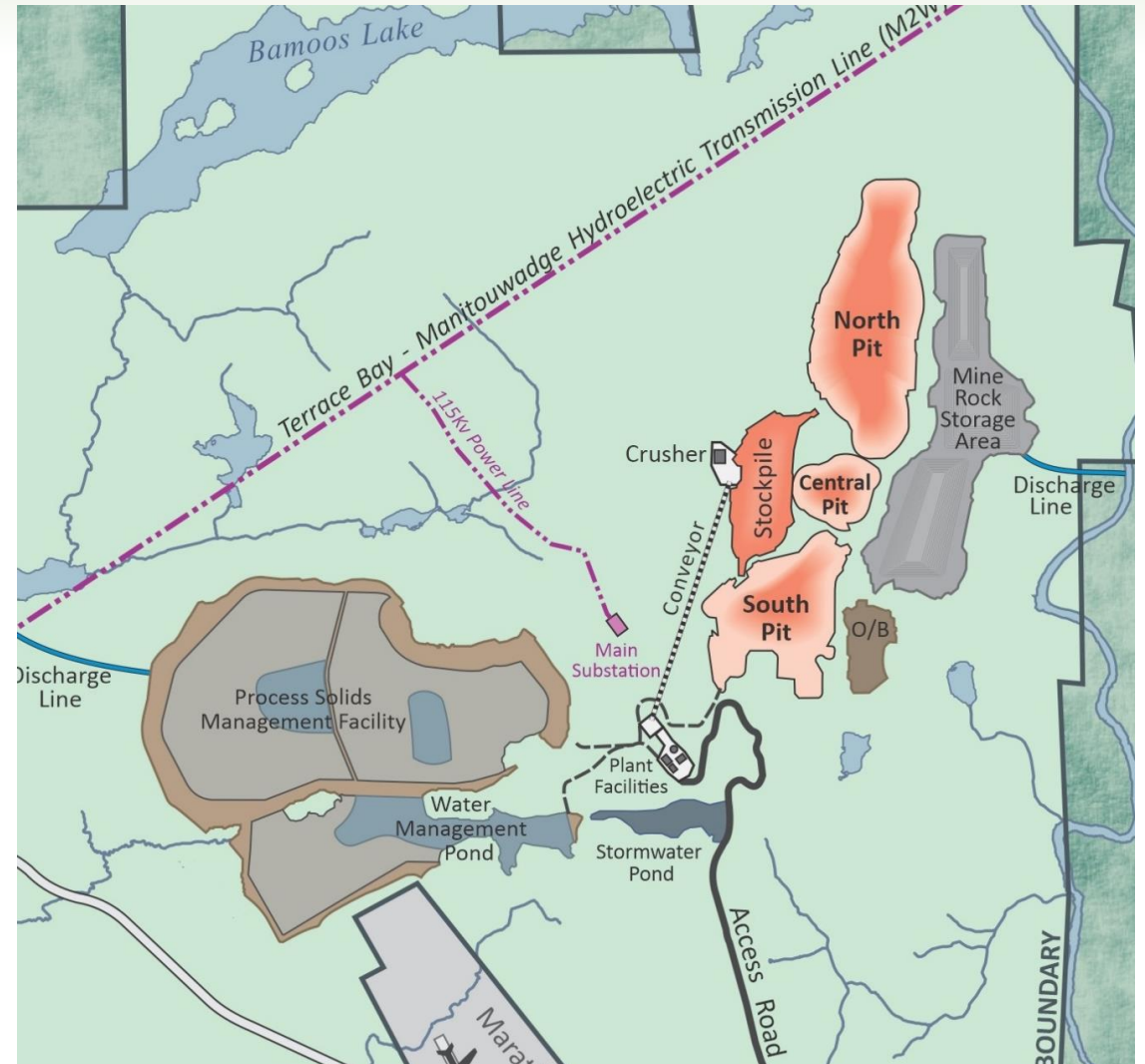
2020 Project Design

# 2014 PROJECT VERSUS 2020 OPTIMIZED DESIGN

GENERATION PGM



2014 Project Design



2020 Project Design

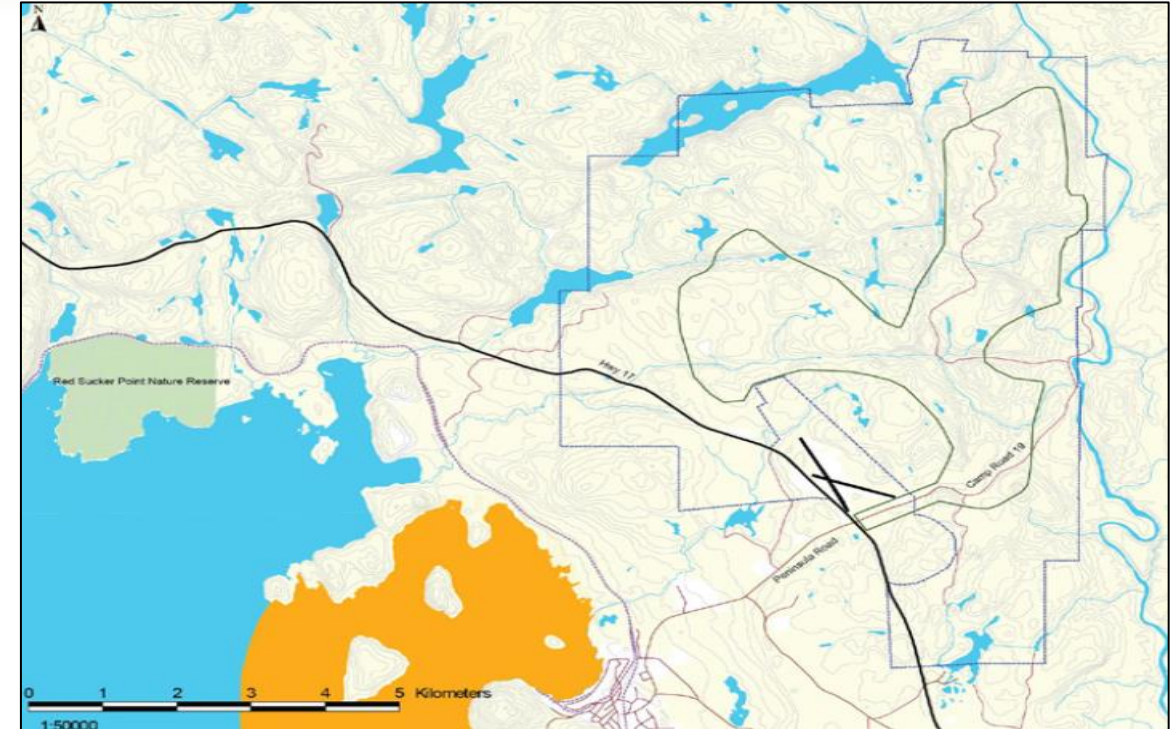
# MARATHON PALLADIUM PROJECT TIMELINE

GENERATION PGM

	2019	2020	2021	2022	2023
Asset Acquisition	Active				
Update Resource	Active				
PEA Study	Active	Active			
Feasibility Study		Active	Active		
EA / Permitting / Social Approvals		Active	Active	Active	
Construction				Active	Active
Production					Active

\* Important note: Construction and production are subject to favorable results in the feasibility study, permitting and financing of the project.

- The importance of this process is to consider the effects on ecosystem, and mitigate and/or eliminate any negative effects on the environment and communities
- Gen PGM is dedicated to protecting the Valued Ecosystem Components (VECs)
- Key elements include: management of water, protecting wildlife, vegetation, species at risk, and Indigenous and Community considerations
- Surveys conducted within the Project footprint to analyze possible effects
  - Birds, mammals, insects, plants
  - Groundwater and surface water
  - Air quality monitoring
  - Aquatic life



- - Project boundary
- - Project study area
- - Provincial Park
- - International Joint Commission Area of Concern (Peninsula Harbour)

Local Jobs and Youth Retention

350 – 400

Full time, permanent jobs generated, with most of these roles held by residents and community partners



3.75

Estimated employment multiplier.\* Every mining job created spurs nearly four downstream jobs in nearby industries



+

Significant financial benefits, business and employment opportunities for Indigenous communities through agreements



12+

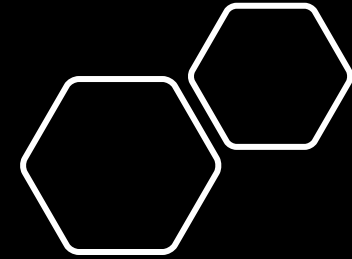
Years in expected life of the palladium mine, sustaining jobs, retaining local youth, and spurring residual economic activity

***The Marathon palladium mine will be a vital investment in the recovery of the Northern Ontario economy following the COVID-19 economic crisis.***

***This project will create good-paying jobs, while stimulating local industries and promoting the retention of local youth and talent.***

\*University of Toronto. ("Ontario Mining: A partner in prosperity building")

# GENERATIONPGM



More Information on the Project can be found at

[www.genmining.com](http://www.genmining.com)

and the Impact Assessment Registry at

<https://iaac-aeic.gc.ca/050/evaluations/proj/54755?culture=en-CA>

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**Red Sky Metis Independent Nation**  
**Project Update and Joint Review Panel Process**  
**November 23, 2020**

Generation PGM Inc. – Marathon Project

**Participants**

**Red Sky Metis Independent Nation:** Donelda DeLaRonde, Colleen Kurcinka

**Generation PGM:** Tabatha LeBlanc (presenter), Jamie Levy, Chanelle Boucher

**Generation PGM Consultants:** Ruben Wallin and Cathryn Moffett

**Impact Assessment Agency of Canada:** Jason Boisvert (presenter), Stephanie O’Connell, Genevieve Poitras and Joe Ronzio (presenter)

**Ministry of Environment Conservation and Parks:** Carolyn Lee, Joseph Tyance

**Ministry of Energy, Northern Development and Mines:** Colin Hovi

A tri-partite meeting to provide an update on the Marathon Project and the Joint Panel Review process required for its approval. PGM and IAAC both provided presentations (attached).

1. Project Update (Tabatha)
  - Optimized 2020 project design from proposed 2014 project
  - Modified discharge location to avoid important waterways
  - Extended mine life by approximately 1 year
  - Planned backfill of pits with mine rock to reduce footprint
2. Project Schedule (Tabatha)
  - Feasibility of project was confirmed, project re-started in spring 2020
  - Baseline studies updated as required, posted on public registry November 2020
  - Submission of Environmental Impact Study to take a staggered approach, complete in early 2021
3. Local Economic Benefits (Tabatha)
  - 900 person construction work force
  - 450 long term jobs, anticipate 3x (450) indirect jobs in local region

Q- Was any new work conducted or is this just an update on the 2014 report?

A – Some new baseline work was conducted and some updates to the assessment were undertaken based on changing regulations and an optimized project design

Q- Hare Lake and Bamooos Lake are important for fishing. Will these lakes be impacted? Will our access to these lakes be reduced?

A – PGM is committed to water treatment prior to discharge into Hare Lake. Our studies show that we will be able to meet strict water quality limits that are protective of fisheries. We understand that access to these areas is important and are considering ways to improve long term access as part of our closure plan.

**4. Crown Consultation Process (Jason)**

- Process Results in a consultation report, co-authored by agency and communities
- Should include discussion of specific community rights, how they might be impacted
- Participant funding is available
- Future meetings and discussions are anticipated

**5. Joint Review Panel Process (Joe)**

- Guided by CEAA 2012, including defined timeline of 271 days
- Panel appointed last week
- Panel must first deem EIS documentation complete
- Hearing will be scheduled with 45 day notice
- Result of hearing will be report with recommendation to Ministers
- Minister decision will be issued with conditions as needed
- All information is available online throughout the process

Q – Will Joint Review Panel be open to attend virtually?

A – Yes, although they are normally held in the community where the project is planned to take place, public health measures allow virtual hearing. There is currently an active virtual hearing around a proposed coal mine in Alberta.

Q – Who do we submit our questions to? When will a pause in the timeline take place?

A – Written questions are submitted during the defined 60-day comment period. A pause in the timeline can be triggered if sufficient information is not provided within the timeline.

Q- Can you clarify the key opportunities for community involvement?

A – Communities are invited to provide written comments during the comment period and to share oral comments during the scheduled hearing. They are also invited to actively communicate with the agency and proponent throughout the process.

# Marathon Palladium Project

REVIEW PANEL AND CONSULTATION PROCESSES



Impact Assessment  
Agency of Canada

Agence d'évaluation  
d'impact du Canada

Canada

# Impact Assessment Agency of Canada

- Formerly the Canadian Environmental Assessment Agency (CEAA)
- Delivers federal EAs and IAs pursuant to the Impact Assessment Act (IAA), which came into force on August 28, 2019, replacing the *Canadian Environmental Assessment Act, 2012* (CEAA, 2012)
- The Impact Assessment Agency (the Agency) is leading the joint assessment with the province of Ontario
- The Marathon Palladium Project (the Project) will continue to be assessed under CEAA 2012. The IAA's transition provisions allow projects undergoing an environmental assessments by review panel to continue under the former act.
  - As per the transition provision described in subsection 183 of the IAA: *“Any environmental assessment of a designated project referred to a review panel under section 38 of the 2012 Act before the day on which this Act comes into force is continued under the 2012 Act as if that Act had not been repealed.”*

# History/Background

- October 2010: Project was referred to review panel due to the potential for the Project to cause significant adverse environmental effects
- August 9, 2011: The Joint Review Panel (the Panel) was established with Ontario
- July 2012: The Environmental Impact Statement (EIS) was submitted to the Panel. The Panel conducted its review of the EIS from July 2012 to December 2013, at which time the Panel determined it had sufficient information to proceed to a public hearing
- December 17, 2013: Public hearing was announced
- January 30, 2014: Proponent requested suspension of EA
- January 31, 2014: The Panel requested additional information from the Proponent and the regulatory clock was paused
- October 31, 2014: Joint Review Panel was disbanded and the EA was placed on hold
- October 9-23, 2020: Comment period on amended agreement to reestablish a Joint Review Panel for the Marathon Palladium Project
- November 16, 2020: Establishment of Joint Review Panel



# Resuming the EA

- On July 13, 2020, the Proponent advised the Agency that it plans on submitting updated studies as early as December 2020
- Response to the previous Panel's Information Request (IR) is anticipated in the 1st quarter of 2021
- On November 16, 2020 the federal and provincial Ministers announced a new Joint Review Panel. The early appointment of the Panel will allow the necessary time to review the current material on the public registry (over 900 documents).
- The mandate and timelines of the Joint Review Panel is set out in the Terms of Reference. This document is in the process of being amended, a draft version is available on the Registry.
- The regulatory clock currently remains paused. The federal Minister of the Environment has already extended the 181 timeline by 90 days to 271 days for Joint Review Panel to complete its mandate
- The remaining steps of the environmental assessment for the Panel include:
  - Reviewing the amended EIS and updated studies;
  - Reviewing the response to the former Panel's IR;
  - Conducting a public comment period;
  - Conducting a hearing; and
  - Write its report.



# Next Steps: Review of Updated Studies

- The updated studies and EIS addendum will be made available for public comment. Indigenous groups, the public, governments and other interested parties will be invited to provide comments on the sufficiency of the information (min. 60 days)
  - (what is required by the EIS Guidelines and on the technical merit of the information).
- After reviewing the information and any comments, the Joint Review Panel will determine if the EIS contains sufficient information to proceed to a public hearing (max. 30 days).
- If the Review Panel decides it does not have sufficient information it will request that from the proponent, and make any responses available for comment.
- If the Review Panel decides it has sufficient information, it will schedule the public hearing.



# Next Steps: Public Hearing

- Notice of Public Hearing
  - A minimum of 45 days notice shall be provided prior to the start of the public hearing
  - The hearing is usually held in communities most affected by Project, but possibility for virtual hearings, based on public health advice at the time
- The former Joint Review Panel developed procedures for the conduct of the public hearing, which are on the public registry. The new Joint Review Panel may choose to amend these procedures
- Best efforts to complete the hearing within 30 days





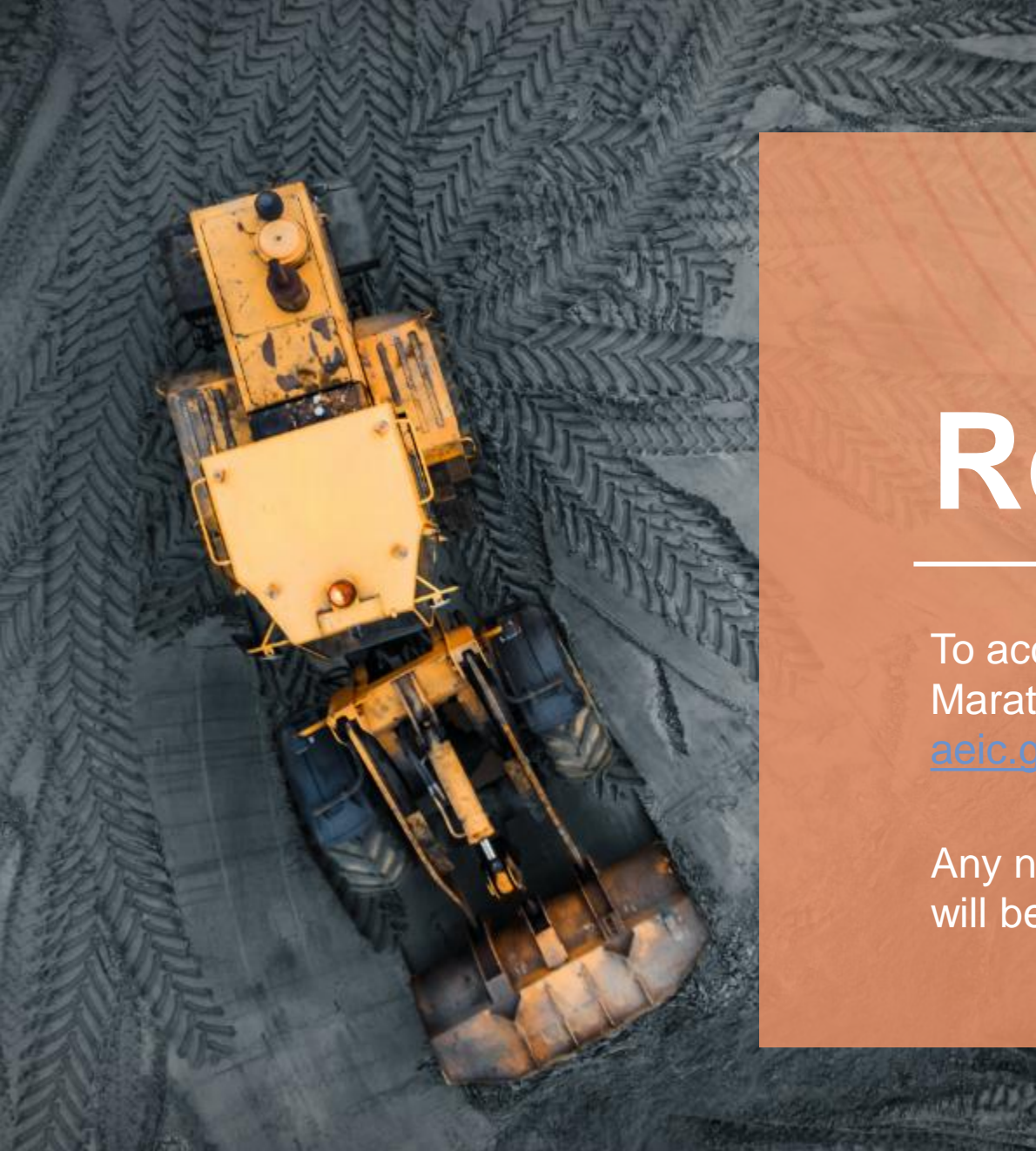
# Next Steps: Panel Report

- The newly appointed Joint Review Panel will prepare and submit a report to the Minister of Environment and Climate Change and the provincial Minister of the Environment including:
  - Description of the joint review panel process
  - The rationale, conclusions and recommendations of the Panel
  - Any mitigation measures and follow-up programs required
  - Summary of the views of interveners and Indigenous groups
  - The Review Panel will submit its report to the federal and provincial Ministers at the earliest possible date, and within the overall time limit established under CEAA 2012.
- The Agency shall have the executive summary translated into Indigenous languages, upon request.



# Next Steps: Federal Government Decision

- The federal Minister decides whether adverse environmental effects are likely to be significant
- If the Minister's decision is that the project is likely to cause significant adverse environmental effects, the matter is referred to the Governor in Council (Cabinet) who will decide if the likely significant adverse environmental effects are justified in the circumstances
- The federal Minister issues the environmental assessment decision statement with enforceable conditions, coordinated with the provincial decision statement, as required.



# Registry

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To access all documents on the public record for the Marathon Palladium Project, please visit: <https://iaac-aeic.gc.ca/050/evaluations/exploration?projDocs=54755>

Any new information submitted to the new Review Panel will be made available at the same link.



# Role of the Crown Consultation Coordinator

The Role of the Impact Assessment Agency of Canada's Crown Consultation Coordinator includes but is not limited to:

- Consults Indigenous groups throughout the assessment process
- Collaborates with Indigenous groups on the assessment of impacts on rights
- Co-author the Crown Consultation and Accommodation Report to be presented to the Minister to inform decision making
- Coordinates federal departments involvement in consultation activities
- Coordinates with province in consultation activities
- Administers the Indigenous Funding Program
- Represents the Crown in its legal duty to consult, NOT part of the JRP Secretariat
- Upon request from the Joint Review Panel, provides information on the record to inform their analysis and recommendations



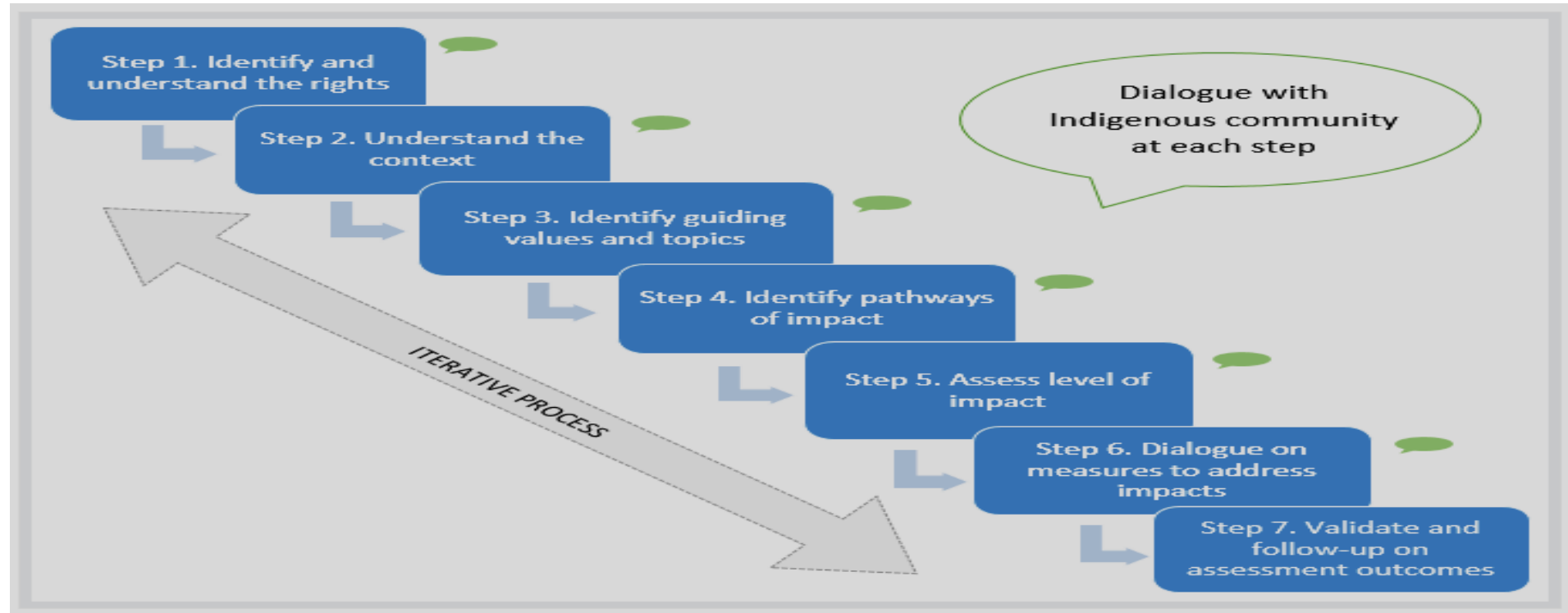
# Updated Consultation Activities

	Consultation activities in the Joint Review Panel Process
Phase I	Initial engagement and consultation on the updated draft Joint Review Panel Agreement including Terms of Reference
Phase II	Review of proponent's updated technical studies, prepare for Joint Review Panel process leading to hearings
Phase III	Hearings and preliminary assessment of impacts on rights
Phase IV	Consultation on the Joint Review Panel EA Report, draft EA conditions for a federal Decision Statement, and finalization of Crown Consultation and Accommodation Report.
Phase V	Federal and provincial regulatory permitting

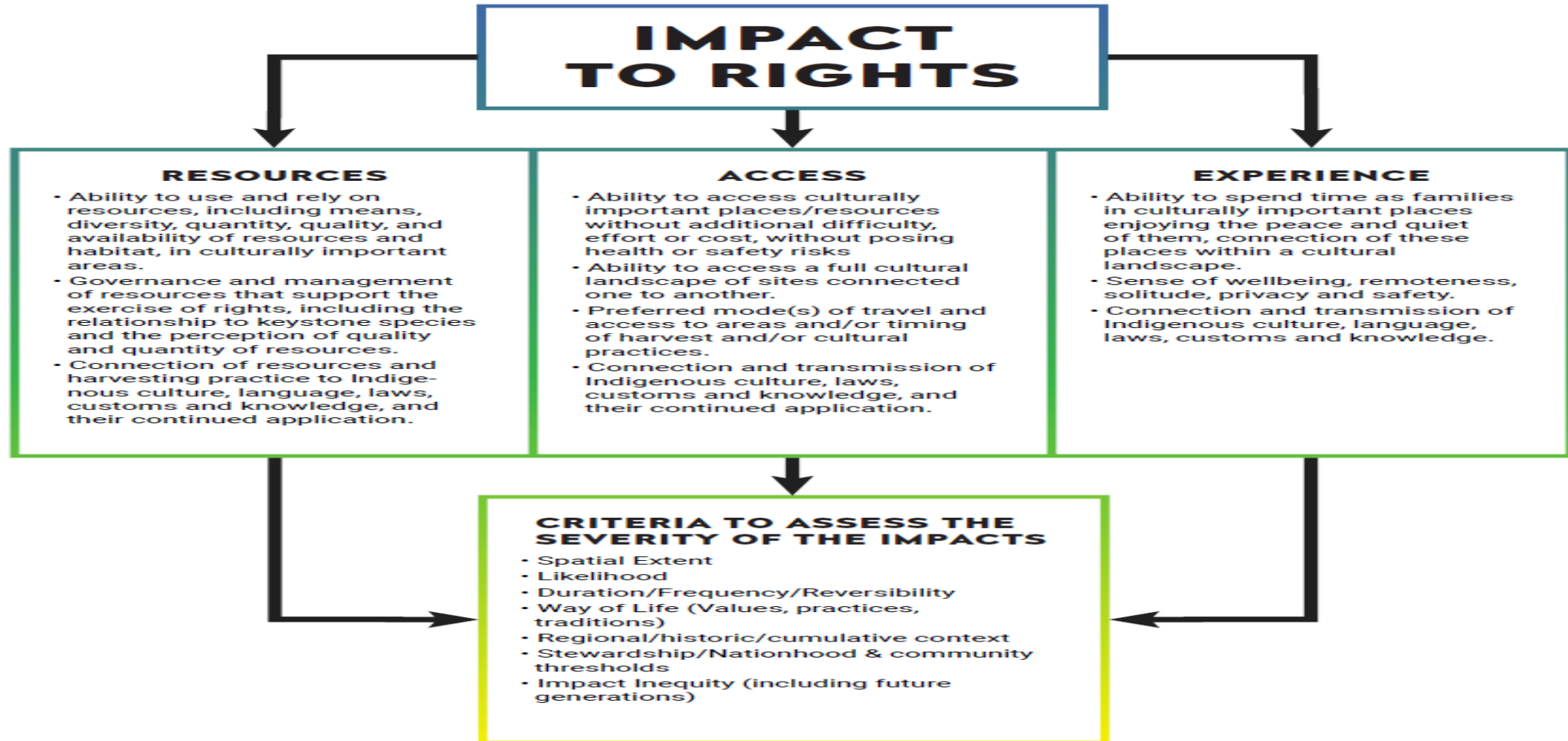


# Agency Guidance – Assessment of Impacts on Rights

The Assessment of Impact on the rights of Indigenous peoples can be broken down into seven steps.



# Methodology to Assess Severity of Impacts on Rights



# Consultation – Next Steps

- Virtual meetings continue
- Possibility of face-to-face meetings with Indigenous groups in the Fall/Winter
- Consult Indigenous groups on updated Joint Review Panel Terms of Reference, Harmonization Agreement, updated technical studies as these become public documents
- Share and present *Interim Guidance: Assessment of Potential Impacts on the Rights of Indigenous Peoples* and other guiding documents with Indigenous groups to begin discussions
- Prepare information packages to assist Indigenous groups participation in resumption of assessment process
- Collaborate on assessment of impacts on rights







# Agency Contacts

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Marathon Palladium Project  
Joint Review Panel

Email: [iaac.marathonminereview-examenminemarathon.aeic@canada.ca](mailto:iaac.marathonminereview-examenminemarathon.aeic@canada.ca)

Crown Consultation Coordinator  
Jason Boisvert

<contact information removed>



# GENERATION PGM

November 2020 - UPDATE

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- Good quality waste rock can be used for aggregate – business opportunity



## Process Solids Management Facility (PSMF)

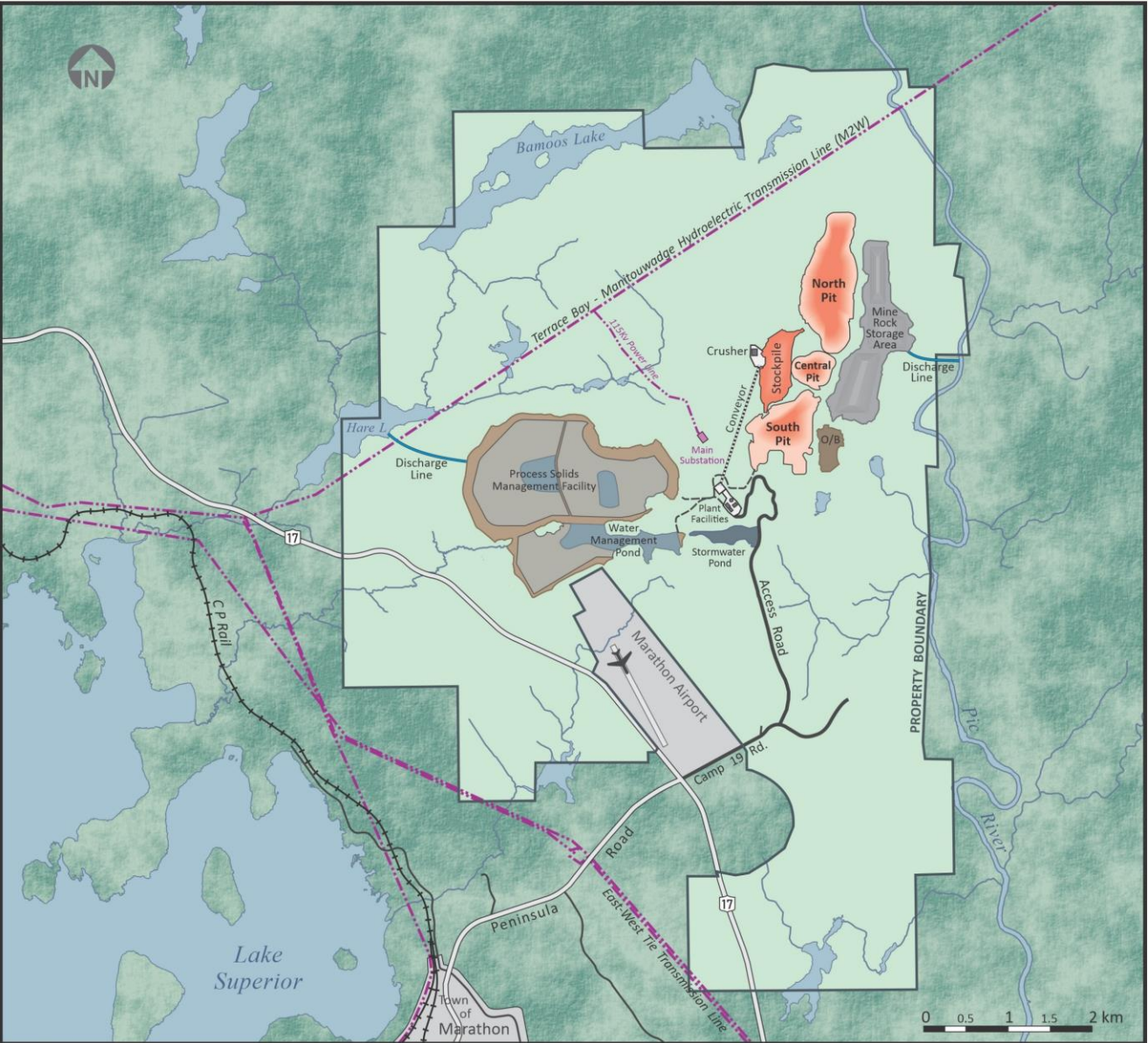
- We heard from communities → *limited* desire to have final discharge from PSMF to: Pic River, Bamooos Lake, Lake Superior and Angler Creek/Stream 6 as such... these have been **excluded**
- Hare Lake was selected as the preferred discharge location, based on feedback from communities
- Improved water management onsite and in PSMF
- +90% of water will be recycled in the process plant
- Excess water will be treated as required and discharged
- Discharge effluent will achieve required water quality objectives at end of pipe
- Discharge will be protective of fish and fish habitat

# OVERVIEW OF KEY DESIGN UPDATES

GENERATION PGM

Topic	2014	2020
Average Process Rate	22,000 tonnes per day	~25,200 tonnes per day
Open Pit	One primary and four satellite pits	Three Pits: North, Central and South
Mine Life	11.5 years	~12.6 years
Process Solids Management Facility (PSMF)	Located west of open pits, final elevation to 375 m above sea level (asl)	Similar footprint west of pits, elevation 380 m asl
Mine Rock Storage Area (MRSA)	East of open pits	Slightly smaller footprint, using mined-out pits for storage of mine rock
Process Plant and Primary Crusher	Southeast of open pits	West of open pits, now centrally located away from Pic River

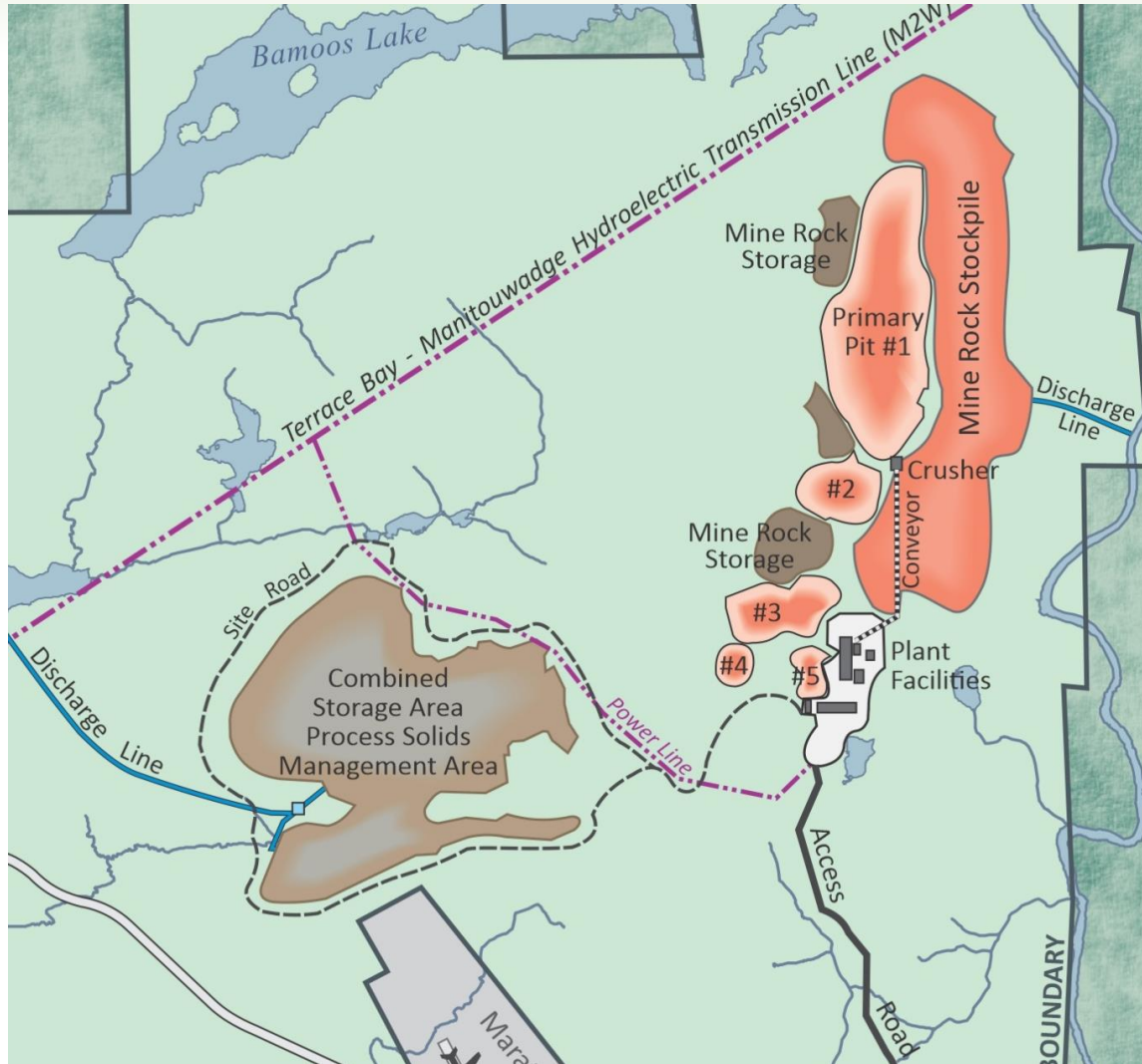




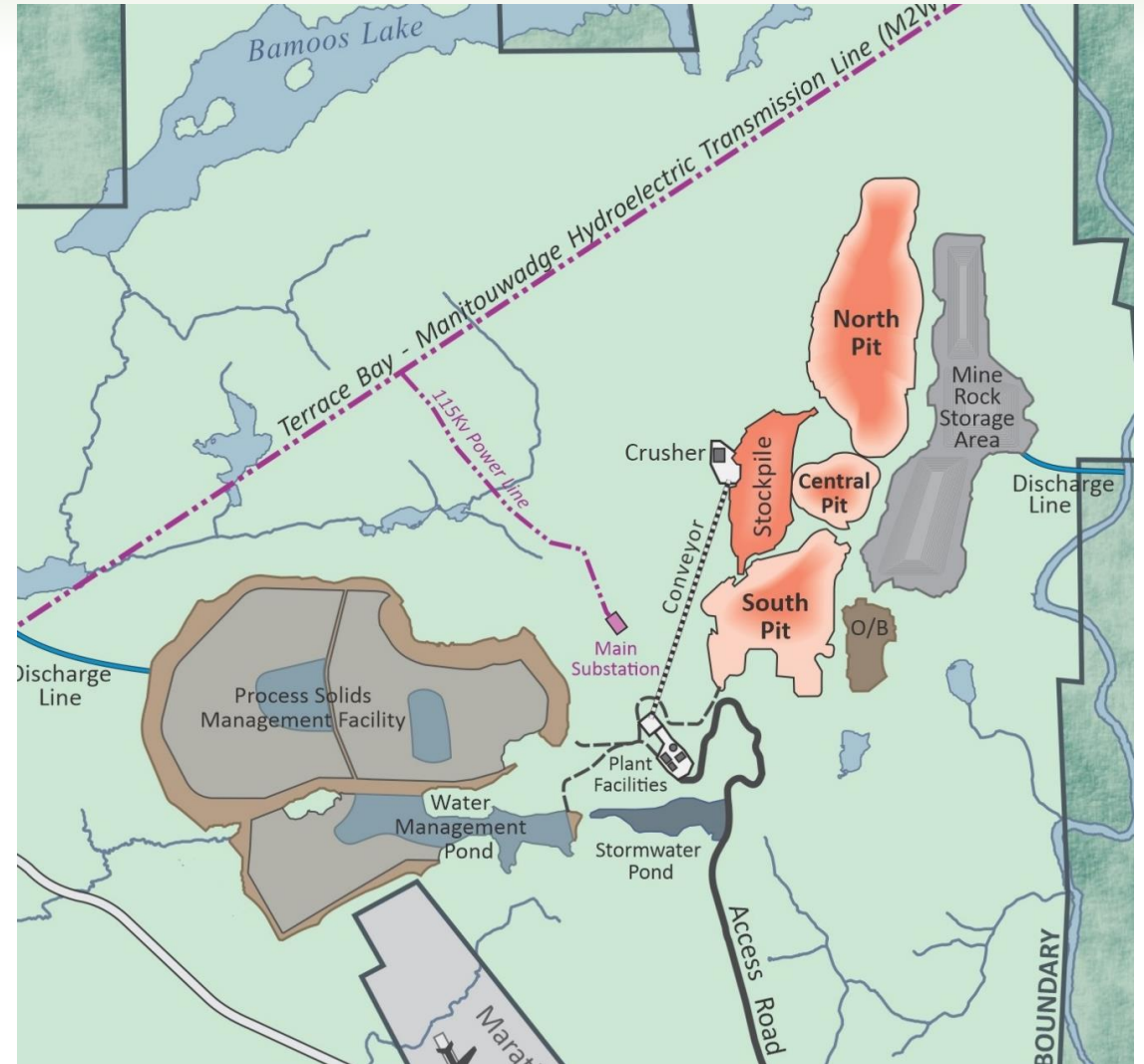
2020 Project Design

# 2014 PROJECT VERSUS 2020 OPTIMIZED DESIGN

GENERATION PGM



2014 Project Design



2020 Project Design

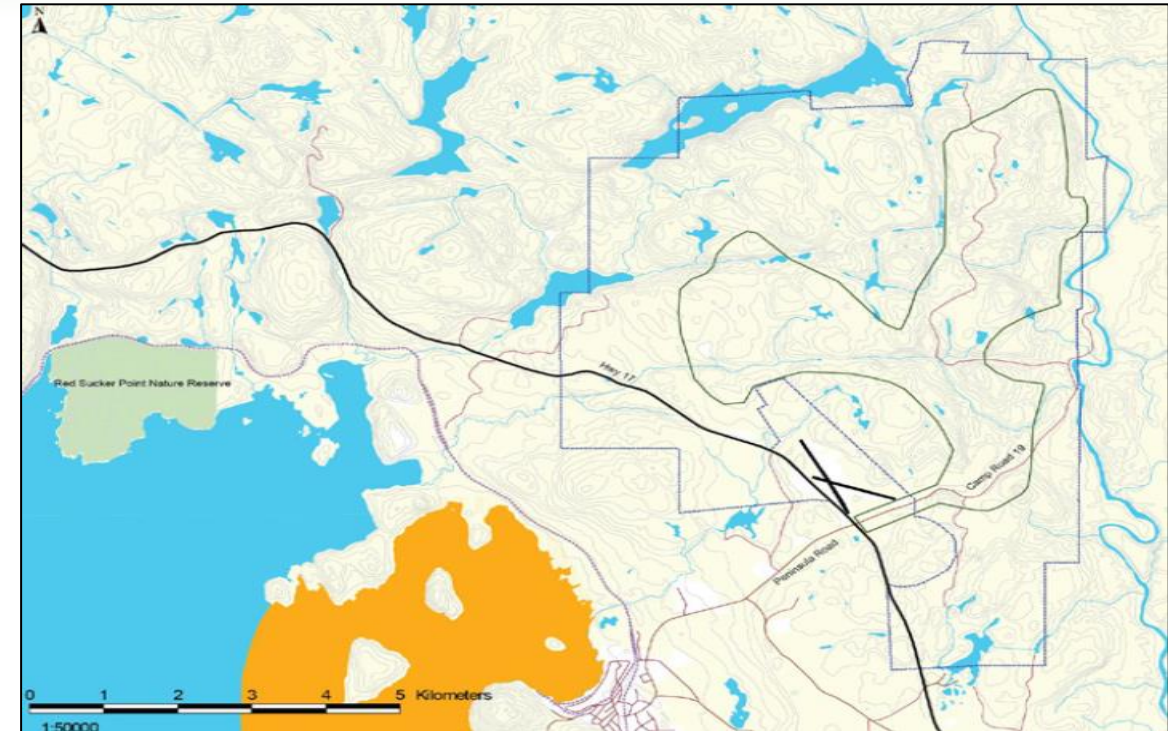
# MARATHON PALLADIUM PROJECT TIMELINE

GENERATION PGM

	2019	2020	2021	2022	2023
Asset Acquisition	Active				
Update Resource	Active				
PEA Study	Active	Active			
Feasibility Study		Active	Active		
EA / Permitting / Social Approvals		Active	Active	Active	
Construction				Active	Active
Production					Active

\* Important note: Construction and production are subject to favorable results in the feasibility study, permitting and financing of the project.

- The importance of this process is to consider the effects on ecosystem, and mitigate and/or eliminate any negative effects on the environment and communities
- Gen PGM is dedicated to protecting the Valued Ecosystem Components (VECs)
- Key elements include: management of water, protecting wildlife, vegetation, species at risk, and Indigenous and Community considerations
- Surveys conducted within the Project footprint to analyze possible effects
  - Birds, mammals, insects, plants
  - Groundwater and surface water
  - Air quality monitoring
  - Aquatic life



- - Project boundary
- - Project study area
- - Provincial Park
- - International Joint Commission Area of Concern (Peninsula Harbour)

Local Jobs and Youth Retention

350 – 400

Full time, permanent jobs generated, with most of these roles held by residents and community partners



3.75

Estimated employment multiplier.\* Every mining job created spurs nearly four downstream jobs in nearby industries



+

Significant financial benefits, business and employment opportunities for Indigenous communities through agreements



12+

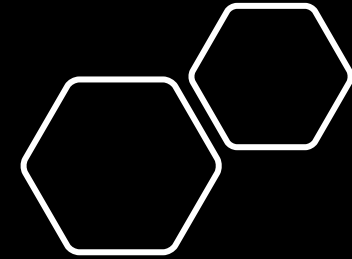
Years in expected life of the palladium mine, sustaining jobs, retaining local youth, and spurring residual economic activity

***The Marathon palladium mine will be a vital investment in the recovery of the Northern Ontario economy following the COVID-19 economic crisis.***

***This project will create good-paying jobs, while stimulating local industries and promoting the retention of local youth and talent.***

\*University of Toronto. ("Ontario Mining: A partner in prosperity building")

# GENERATIONPGM



More Information on the Project can be found at

[www.genmining.com](http://www.genmining.com)

and the Impact Assessment Registry at

<https://iaac-aeic.gc.ca/050/evaluations/proj/54755?culture=en-CA>

**If you have additional questions,  
please email us at [comments@genpgm.com](mailto:comments@genpgm.com)**



## Biigtigong Virtual Community Consultation – November 26, 2020

### Generation Mining – Marathon PGM Project Update

Biigtigong (22)	Juanita Starr (moderator), Florinda, Lorinda Starr, Brittany Moses, Riley, Allie (SVS), Bons Leask, Alain Bartleman, Anthony Carfagani, Cassandra Creaa, Debbie Crosson, Dyana Crosson, Elizabeth Janes, Flo Pittel, Harvey Sands, Jason Michano, Stan Nabigon, James, Russell
Generation PGM (8)	Tabatha LeBlanc (presenter), Jamie Levy, Drew Anwyll and Chanelle Boucher
Generation PGM Consultants	Brian Fraser, Rob Foster, Ruben Wallin, Kevin Sherlock and Cathryn Moffett
Impact Assessment Agency of Canada	Jason Boisvert (presenter) and Dominic McRae
Ministry of Environment Conservation and Parks	Joseph Tyance and Carolyn Lee
Ministry of Energy, Northern Development and Mines	Colin Hovi

### Meeting Summary

A tri-partite meeting to provide an update on the Marathon Project Baseline Reports and the Joint Panel Review process. PGM and IAAC both provided presentations (attached). Questions were reserved for the end of all scheduled presentations and focused on consultation process as well as dust, water quality and project design.

#### 1. Project Overview and Baseline Updates (Tabatha)

- Project overview with mine plan
- Baseline reports posted online November 13, 2020
- Socioeconomics
  - 100km radius from the Project site roughly 15% work in mining
- Cultural Heritage studies
  - no built cultural heritage features were identified within the area
- Transportation studies
  - included traffic counts at Highway and Camp 19 Road
- Atmosphere Environment

- Updated to consider climate change scenarios and includes data gathered from Marathon, Thunder Bay, and Pukaskwa stations
- Acoustic studies
  - confirmed noise receptors were still relevant
- Hydrogeology
  - water flow is dominantly controlled by topography
  - The groundwater meets water quality objectives
- Hydrology
  - focussed on major outflows from the site
  - streamflow analyses were conducted in the spring/summer and the fall.

## **2. Aquatic Baseline Updates (B. Fraser)**

- Ongoing water quality sampling and analysis at 58 stations between 2008-2012
- Approximately 80,000 field records between 2015-2020
- Water quality has remained unchanged
- Many of the waterbodies are non fish-bearing (there are many barriers that prevent common migration of fish and thus key habitats do not really exist in Project footprint).
- The updated report includes valued fishery statements provided by local communities.
- Geochemistry models are currently being updated

## **3. Terrestrial Baseline Updates (Rob Foster)**

- 2020 study included acoustic recorders and trail cameras
- Bird counts were undertaken in the spring
- Vegetation cover was reviewed and no recorded disturbances have occurred
- Species At Risk have changed
  - Yellow banded bumble bees
  - Monarch butterflies
  - Canadian Warblers
  - Two species of bats
  - Caribou are not present, but the area is recognized as caribou habitat
- Plants, animals and fungi of importance to indigenous communities are present in the baseline report in tables that break down distribution of various species throughout the SSA.

## **4. Government Consultation Process (Jason)**

- Who is IAAC
- Marathon Project regulatory history
- Crown consultation report
- Phased approach to consultation

## 5. Joint Review Panel Process (Dominic)

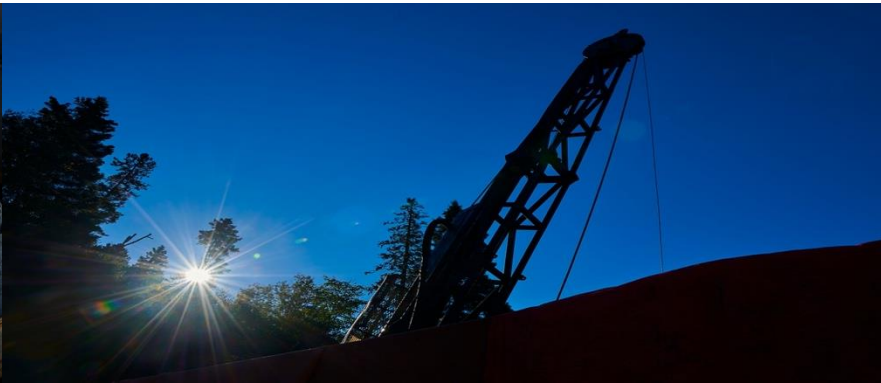
- EA timeline and phases
- JRP hearing and report
- Government decision making

## Questions and Answers

- Q Although there is no “built” heritage in the study area, our people used natural and moveable structures.
- A Yes, TLU studies were undertaken and considered, but are not included in the report because of their confidential nature
  
- Q Virtual hearings unfairly limits participation for elders.
- A When regional health restrictions prevent in person meetings the panel is required to adapt and accommodate, which includes virtual meetings.
  
- Q The presence of Species at Risk is a concern
- A Species at Risk are also important to GenPGM which is why we have a mitigation plan
  
- Q Have you run the numbers for an underground mine, rather than an open pit mine?
- A The Project does not have underground mining potential as it is not economically viable.
  
- Q Has water sampling been conducted more regionally for example Pic River?  
A Yes water quality monitoring was undertaken in Pic River both upstream and downstream of the Project site
  
- Q Has the wind strength/direction coming from the project been considered? Could it impact dust?
- A Yes, meteorological data and dust have been considered in the air quality and human health risk assessment.
  
- Q How safe is the discharge into the Pic River from the Mine Rock piles? Would it have an impact on Biigtigong’s drinking water supply?
- A The Project includes a water treatment plant that will allow the discharge to meet PWQO at the end of pipe
  
- Q Will water be tested after it is discharged to ensure it meets standards?
- A Yes water monitoring will occur before discharge and in the environment downstream.

**Follow Up:** GenPGM to provide package with more info on the predicted water quality of the planned discharge and open pit vs underground

# GENERATION PGM



# Marathon Palladium Project

Updated Baseline Reports - 2020

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# AGENDA

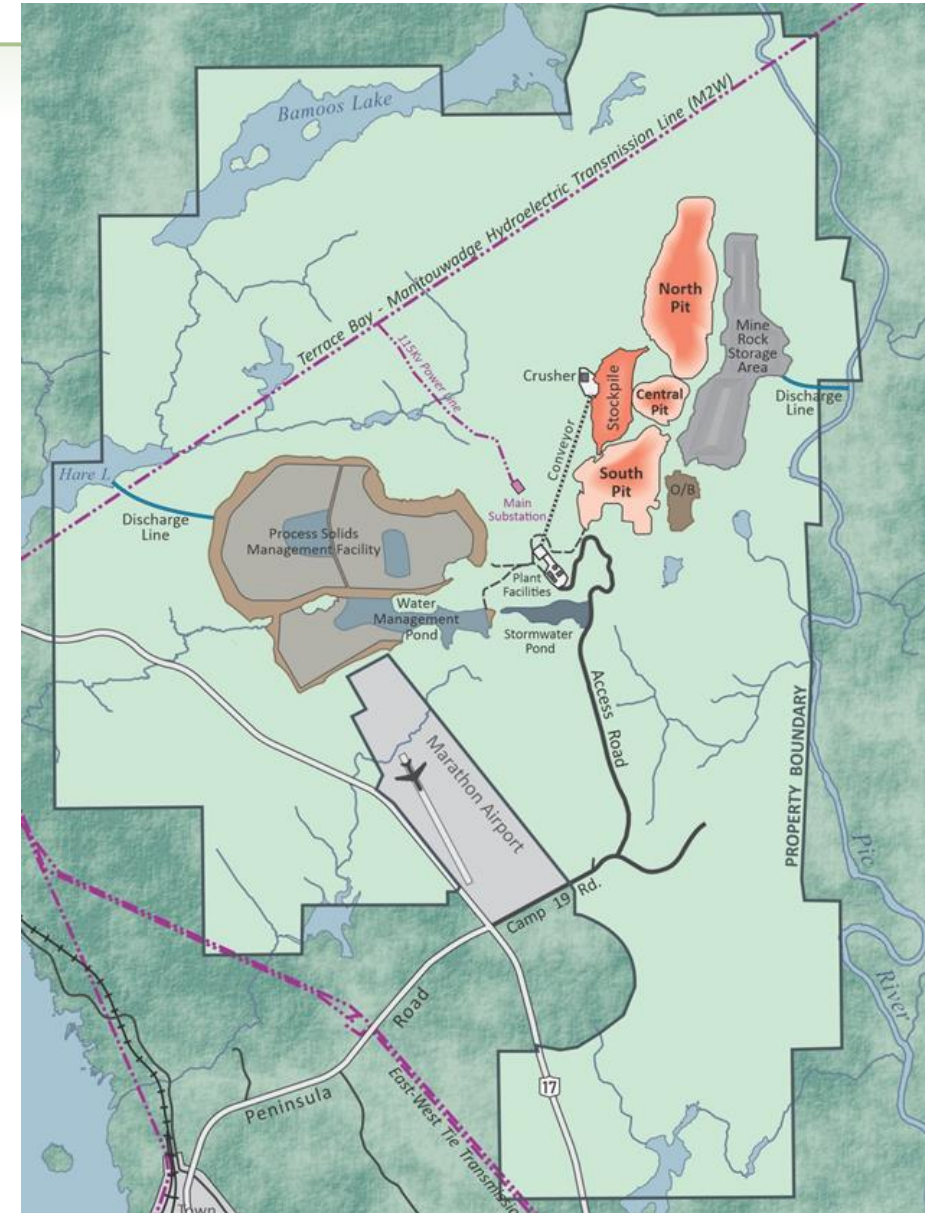
- Project Overview
- Atmospheric Baseline
- Socio-Economics, Transportation & Cultural Heritage
- Hydrology & Hydrogeology
- Water Quality & Fisheries
- Soils & Geology
- Terrestrial Studies



# PROJECT OVERVIEW

- Open pit mining and milling operation for copper (Cu) and platinum-group metals (PGMs)
- Ore will be mined from the pits and processed (crushed, ground, concentrate) at on-site processing facility
- Final concentrates containing Cu and PGMs will be transported off-site
- The Project is located 10km north of the Town of Marathon, with access provided by Camp 19 Road
- Ultimate goal of mine decommissioning will be to reclaim land within the Project footprint to permit future use

# GENERATION PGM



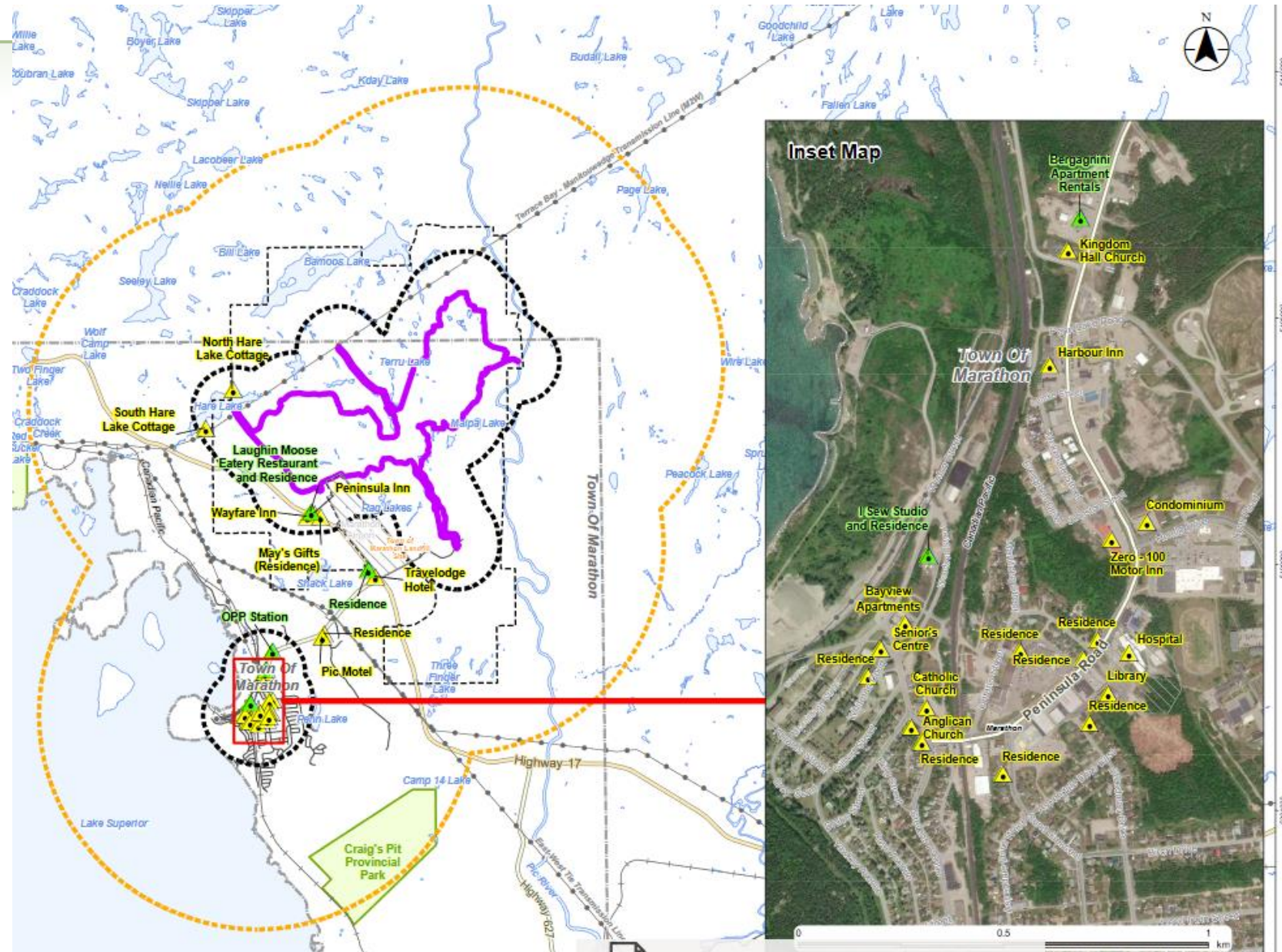
- Climate and meteorology typical of northwestern Ontario; cooler summers and warmer winters due to proximity to Lake Superior
- Baseline concentrations of PM10, dustfall, metals, and nutrients were previously measured at up to five locations on and around the Project site (Pic River, Mays, Hare Lake, Airport, Field Office)
- Air Quality levels at the Project site indicate low background contaminant levels, relatively undeveloped area
- Updated climate data gathered from Marathon, Thunder Bay and Pukaskwa stations
- Conservative approach to establish background air quality concentrations for the Project;
  - using the highest 90th percentile concentration of each contaminant of concern from a collection of data including long-term National Air Pollution Surveillance (NAPS) ambient air data gathered from N. Ontario and Manitoba, as well as the baseline ambient monitoring conducted previously on site.
- Parameters assessed in the Project footprint satisfy Ontario Criteria for air quality, including new regulatory changes for contaminants of potential concern (CoPCs) and greenhouse gases (GHGs)



# ACOUSTICS

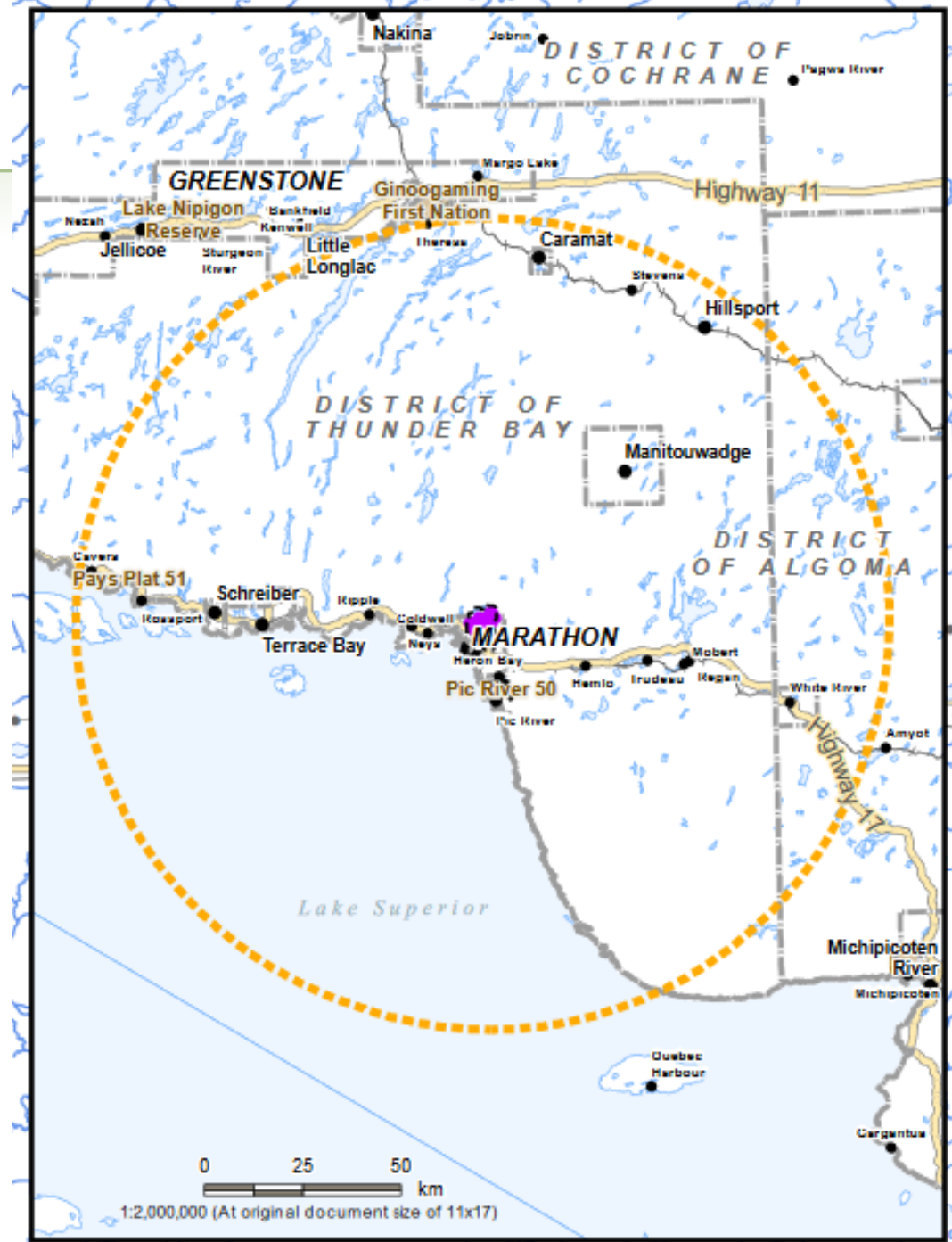
- Noise sensitive receptors are identified within the Town of Marathon (19) and locations outside the existing project (6) boundary
  - These are locations identified as being potentially sensitive to noise and vibration
- Baseline noise was previously measured at 5 locations (2009, 2013)
- No significant changes within the Local Study Area/Regional Study Area that would change the ambient noise in the area

# GENERATION PGM



# SOCIO-ECONOMICS

- Socio-economic data are dynamic and change rapidly, reviewed original EA documentation to determine if more current information existed
- Examples of sources: Statistics Canada, municipal websites, provincial agencies, school and health board websites, regional tourism development websites.....
- Conversations were held with administrative staff BN and Marathon and with other local authorities to update existing conditions
- 4,705 workers regionally
- Mining remains an important industry regionally, greatest representative workforce, employing 690 persons (14.8% of labour force)



- Baseline conditions for physical and cultural heritage resources were established through the completion of two archaeological studies, including interviews and review of available TEK/TLU studies completed by communities
- These studies had identified Hare Lake and Bamooos Lake as having potential for archaeological resources; however through follow up, no structures or built heritage features were identified
- Ministry of Heritage, Tourism, Sport, and Culture Industries (MHSTCI) have a framework for identification of built heritage resources to ensure there were no cultural heritage components of importance within the Project footprint
- Review determined findings are consistent with the previous assessment; no change to the previous conclusions; low potential for built heritage resources to be identified within the SSA.





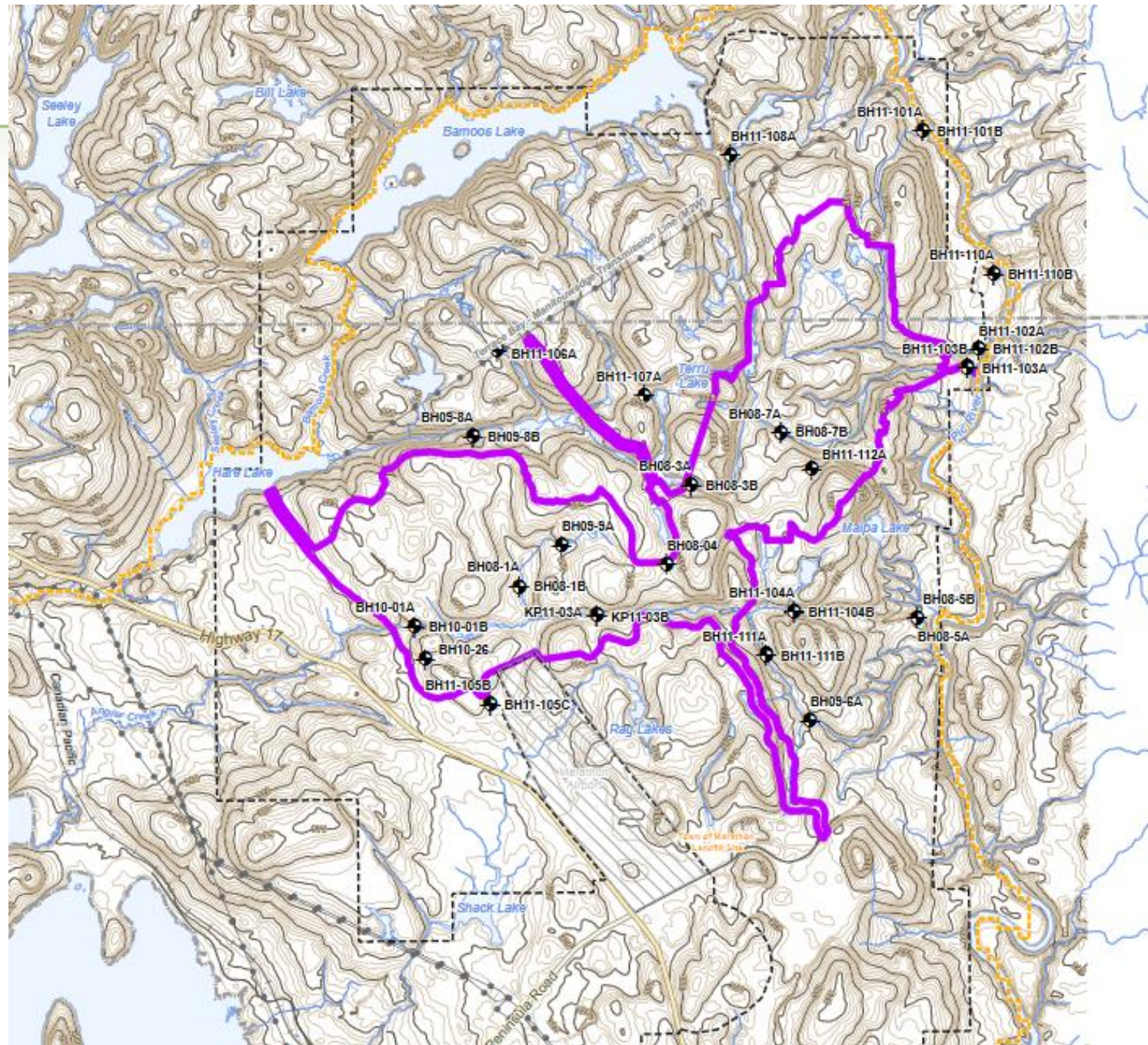
- Traffic volumes utilized in the original Traffic Impact Study (TIS) incorporated site-recorded intersection traffic counts as well as information provided by the Ministry of Transportation Ontario (MTO)
- Modelled to analyze the intersection operations in 2015 and 2025, with a growth of 0.5% per year as recommended by MTO – upgrades to the intersection were recommended
- Since TIS was completed, many upgrades occurred at Camp 19 road and Hwy 17 intersection; however an 85 m taper should be included to meet an MTO CSAS-23 (Truck Access) standard



- Hydrogeological characterization is conducted by analyzing groundwater samples from 36 monitoring wells installed throughout the property
  - Bedrock and Overburden wells installed
- Produced a modelled groundwater flow map for the property
  - Flow heavily controlled by topography
- Overburden and bedrock water quality is typical of groundwater in Ontario (parameters are reflective of the natural mineralization in the area; human health related Ontario Drinking Water Quality Standards levels were met)

# HYDROGEOLOGY

- Numerous wells exist within the Site Study Area (SSA), monthly to seasonal sampling at up to 36 monitoring wells to assess groundwater quality (2008, 2011-2013, 2020)
- Manual groundwater level monitoring at 36 monitoring wells to assess groundwater flow patterns and seasonal variations in water levels
- Monitoring wells placed along outer margins of Project boundary near Pic River for groundwater monitoring

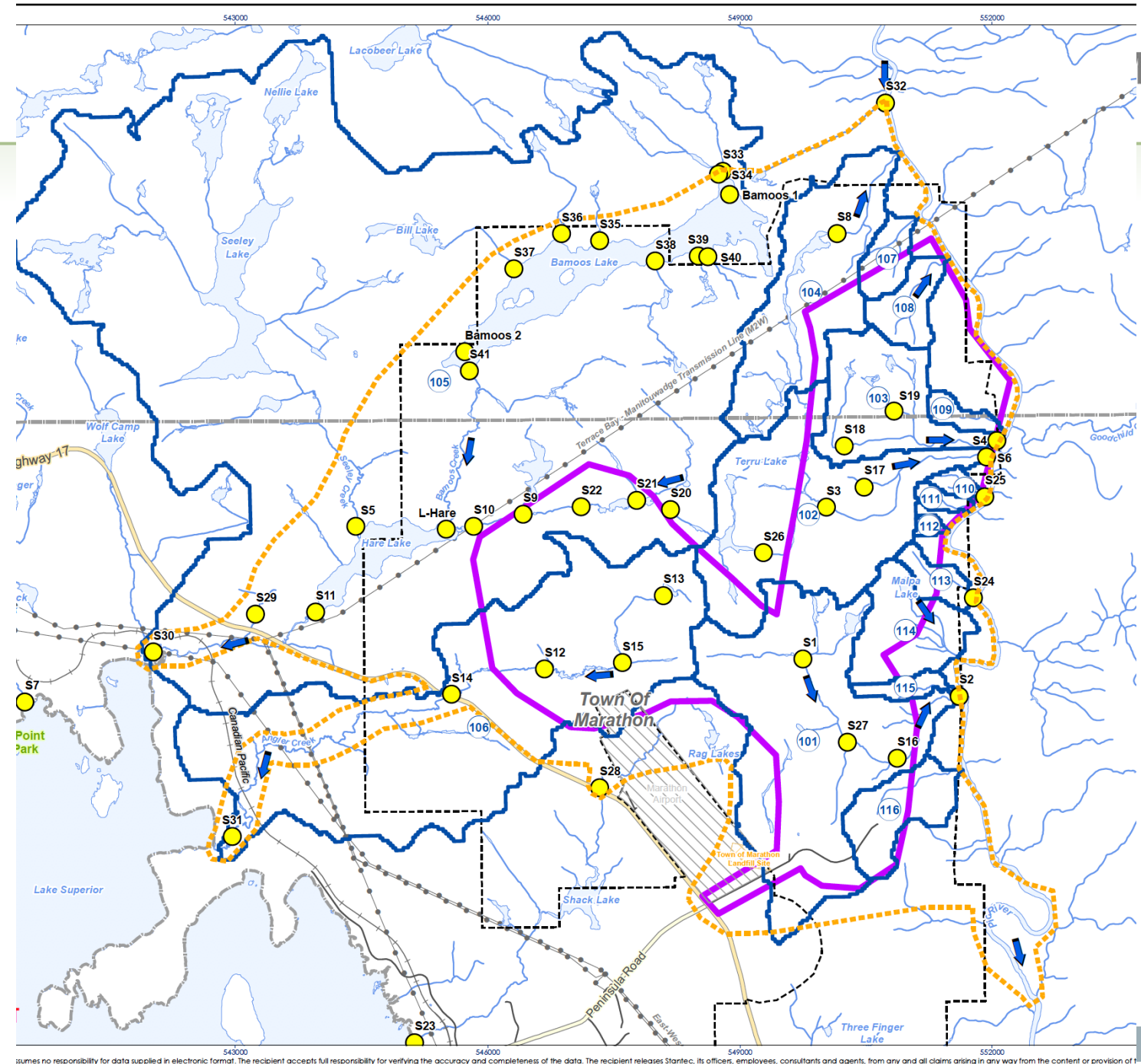




- Streamflow monitoring program characterized annual and seasonal variations in surface water hydrology (discharge calculated from velocity measurements from stream)
- The mean monthly precipitation and temperature varies within the Project area
  - Precipitation ranges from 50mm a month to 94.4mm in peak rain season
  - Temperature ranges from -13.4°C in winter to 15°C in summer
- Climate change considerations to total precipitation and temperature change have been noted within the studies
- There is good correlation between the values of surface water flow and the catchment area (for all months including peak flow periods)
  - Groundwater discharge does not affect streamflow and recharge

# HYDROLOGY

- Surface water sampling conducted throughout the Site Study Area thoroughly as well as Locally and Regionally
- Drainage patterns indicated by blue arrows



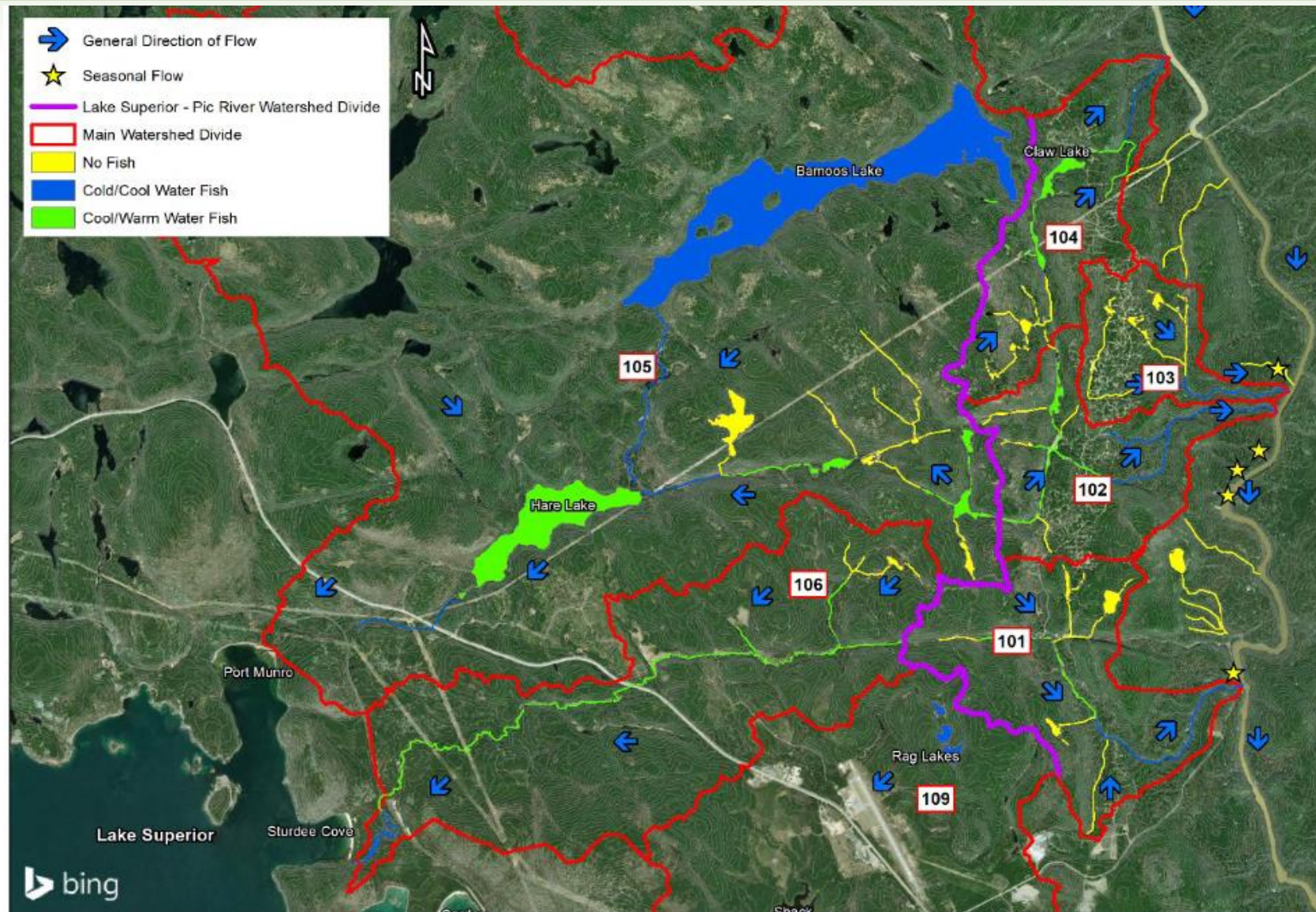


- Original baseline surface water quality characterization was extensive:
  - Sampling network comprising 58 sampling stations
  - Monthly sampling between 2008 and 2012 during ice-free season
  - Included a wide-suite of constituents (physical parameters, nutrients and carbon, anions, metals, organics, radionuclides)
  - Routine data supplemented by sampling events in winter (under ice) and spot measurements back to the early 2000s
- Water quality sampling was continued from 2015 to present, three-times annually at a reduced number of sampling stations which are representative of watersheds within the study area.
- Water quality data were collected through these periods for general chemistry, anions and metals
- Water quality unchanged over the last 10-plus years
- All water quality monitoring data are housed in database format, containing more than 80,000 records, includes spot measurements of water quality collected coincident with other sampling events dating back to 2001

- Aquatic environment characterization included multi-year, multi-season surveys of aquatic habitats and communities
- Studies on numerous subwatersheds on the property include the characterization of:
  - Water and sediment quality
  - Benthic communities
  - Plankton communities
  - Fish communities
  - Fish habitat
- Much of the interior of the project is fishless with limited upstream dispersal potential due to steep topography and other natural barriers.

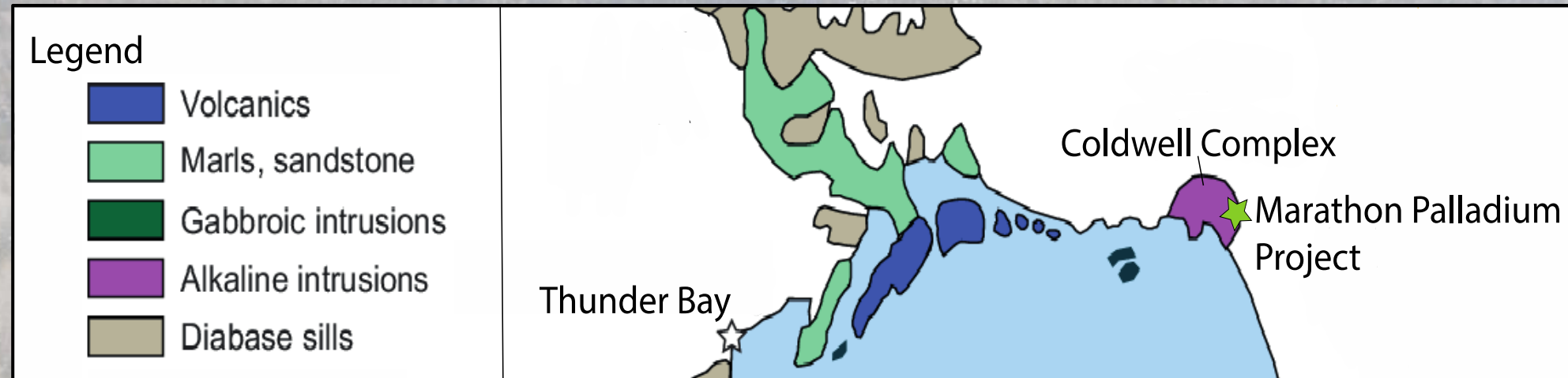


- Original baseline program provided a comprehensive understanding of aquatic habitats and distribution of fish and other aquatic plants and animals in the study area
- Able to define, with a degree of certainty:
  - Fish-bearing and non fish-bearing waters
  - The distribution of key habitat types, as they support different fish life history stages (spawning, rearing, feeding)
  - Distribution of fish species and community types (warm-cool water, cold water, migratory)



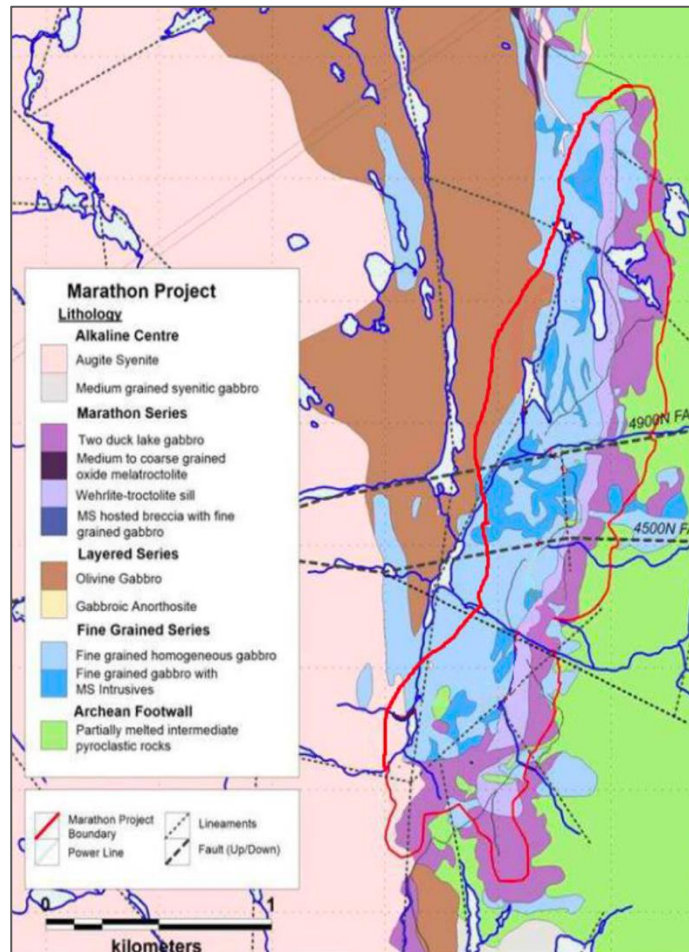
Update to the aquatic environment baseline program:

- Current site conditions have been evaluated and there have been no changes to the site that would affect our understanding of aquatic environments
- Additional fisheries surveys conducted in water bodies/water courses on the west side of the pit to confirm the understanding of fish distribution
- Using specific Valued Ecosystem Components provided by communities, fish species identified as having importance by Indigenous peoples were included in the baseline report
- The table also identifies if the species have been found in the SSA and/or LSA and provides general information about the nature of the habitats utilized by the species.



- The Marathon Palladium Project is located within the Coldwell Complex – a 25 km wide sub-circular complex formed approximately 1.1 billion years ago
- It is surrounded by a Canadian Shield greenstone belt (2.7 billion years old)
- The commodities of interest in the deposit include copper, palladium and platinum

- The Two Duck Intrusion (TDI), also named the Two Duck Lake Gabbro, hosts Copper and PGM mineralization
- Different intrusions of the host rock have enriched PGMs with respect to copper and other areas are enriched in copper with very little PGMs
- The W-Horizon (enriched PGMs) can contain between 25 and 50 g/t palladium (high grade material) with very low concentrations of copper



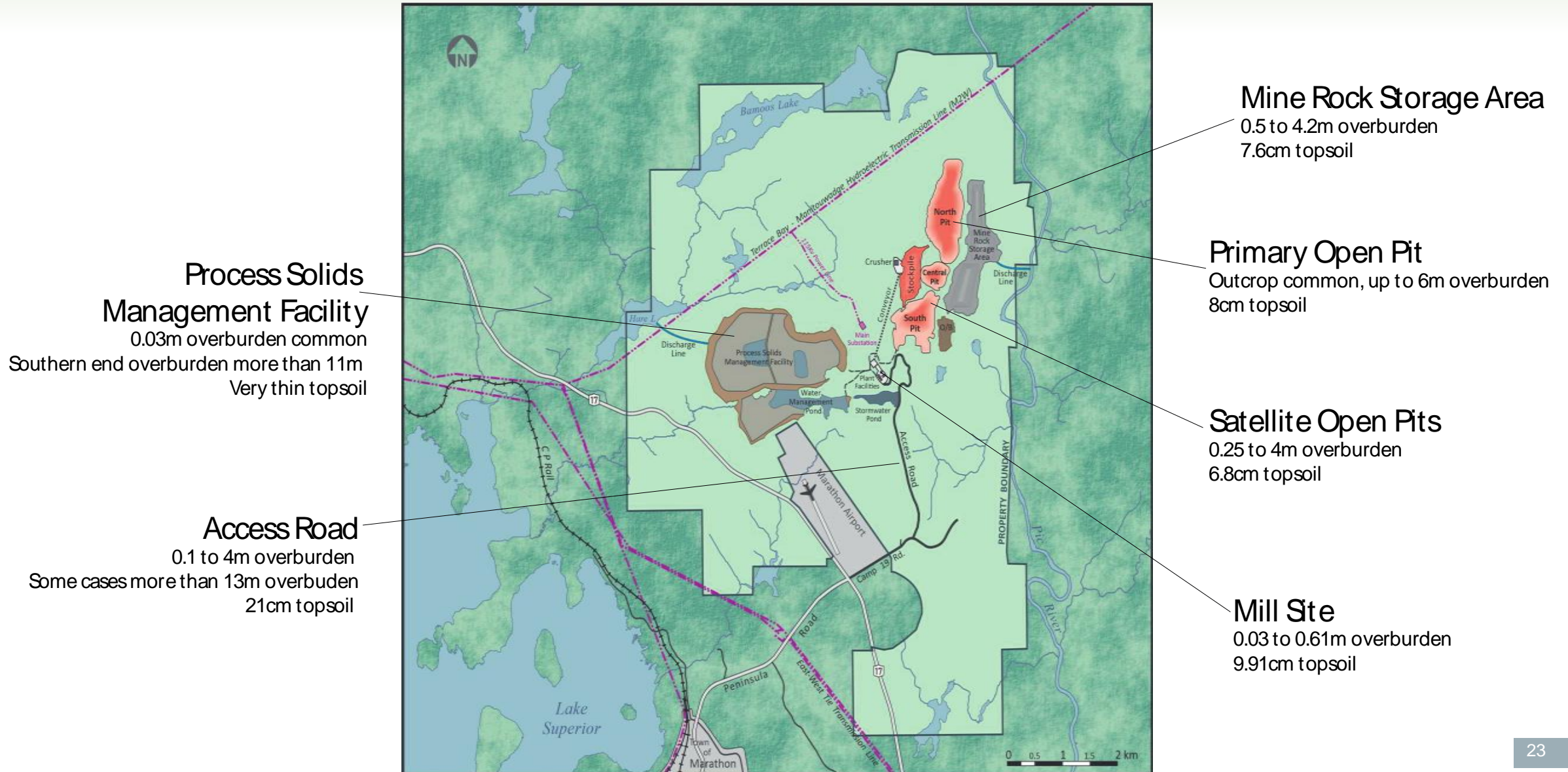
- By-products of mining (process solids, mine rock) interact with the environment and it is important to understand how
- Test representative materials through static (short-term), kinetic (long-term) and mineralogy testing using appropriate, industry-standard methods
- Use the testing results develop predictions (water quality) so that we can make informed decisions on how best to manage the materials
- Comprehensive testing program completed as part of original EA program
- There have been minor changes to the mine plan, but the materials (process solids, mine rock) that will be generated are expected to be very similar
- Additional confirmatory geochemical testing is underway; predictive models will be updated and the materials management plans confirmed at that time



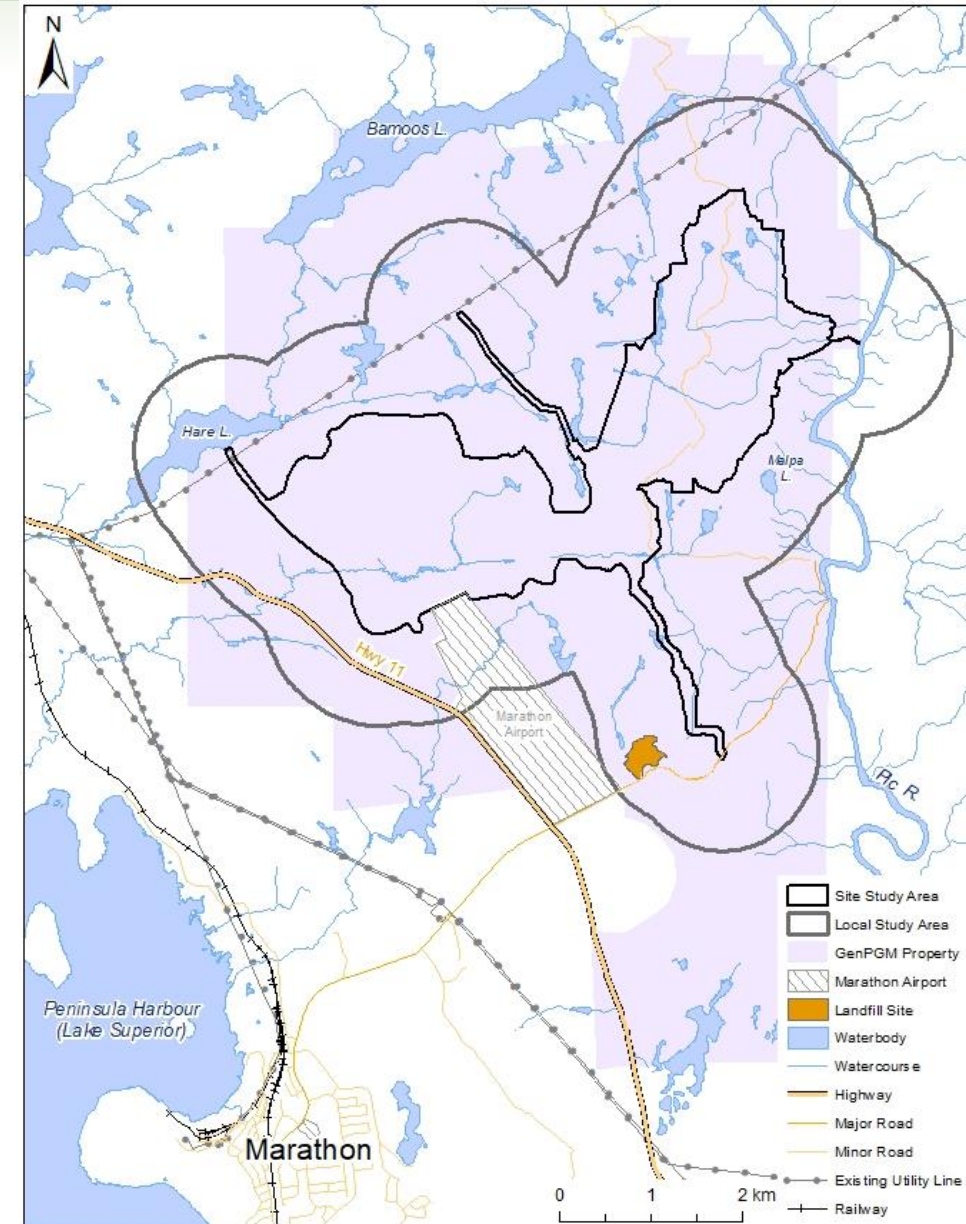
- On a regional scale, overburden consists of thin till (deposit created by glacial erosion) comprised of silts and clays
- At the Project site scale, there are also extensive bedrock outcrops, some pockets of deeper organics (valley bottoms) and thick layers of sand (Pic River flood plain)
- Soil sampling has been conducted across the Project site and at areas that could be used as longer-term monitoring locations
- Some additional sampling will be done in 2021 in specific areas where the mine plan has changed (e.g., new access road)



# SOIL PROFILE – PROJECT SITE



- Assessment of vegetation and wildlife baseline conditions (including species at risk)
- Ontario's Endangered Species Act (ESA) protects species listed as Threatened or Endangered on the Species at Risk Ontario (SARO) list
- Site Study Area encompasses the direct footprint of the Project, and the Local Study Area comprises area in which the indirect effects are most likely to occur



- Additional fieldwork conducted in June-August, 2020 to update baseline information
- Study took into consideration vegetation communities, flora, insects, reptiles and amphibians, birds, and mammals
- Visual surveys, trail cameras, acoustic recorders
- Confirmed continuing use of the LSA and RSA by moose, black bear, grey wolf, marten, and other spp.
- Detected presence of white-tailed deer
- No significant changes in fauna from 2014



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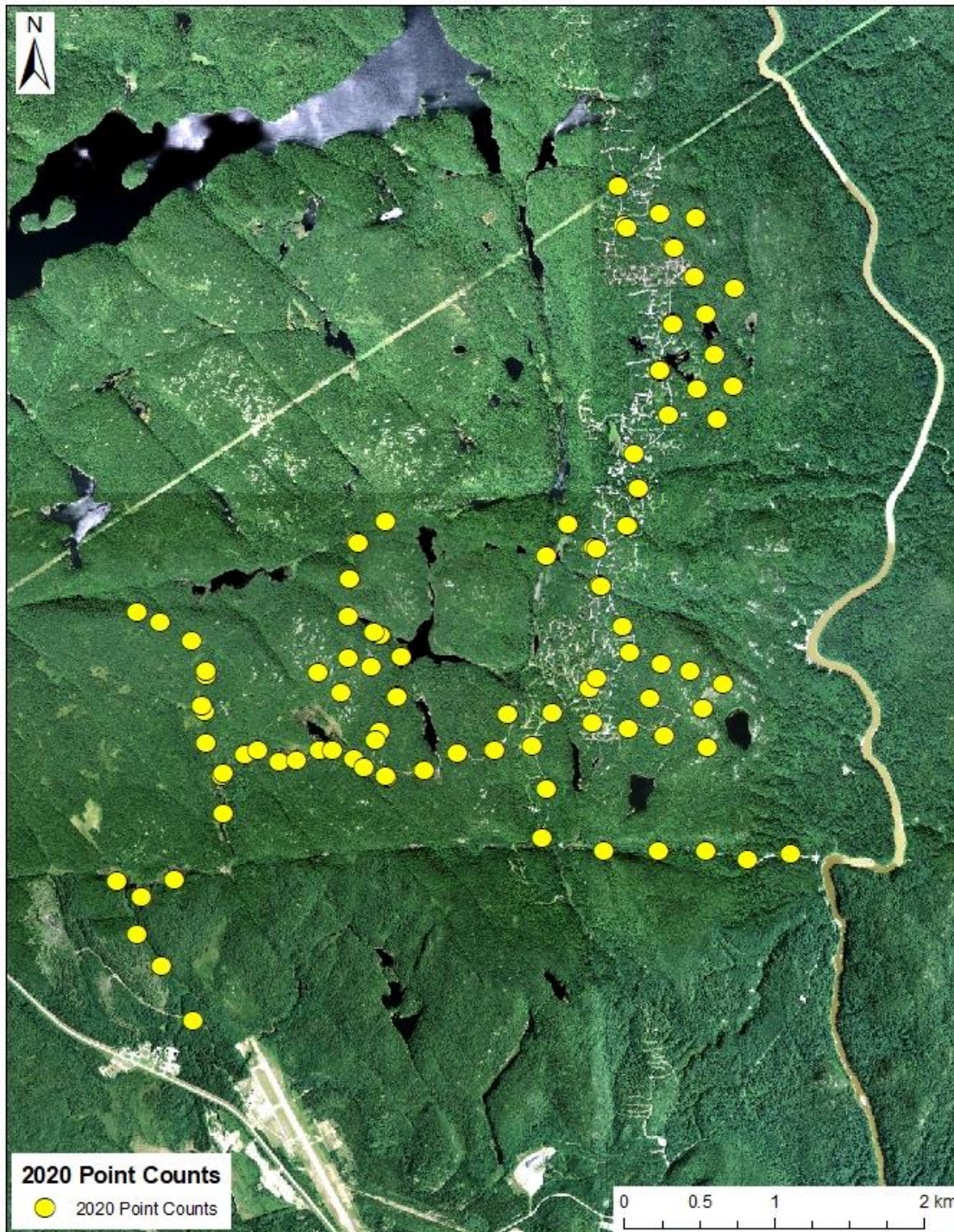


HC500 HYPERFIRE



## WILDLIFE - BIRDS

- Additional fieldwork conducted in June-August, 2020 to update baseline information
- Conducted 100+ morning point counts
- Evening point counts at selected waterbodies
- Visual surveys (e.g., raptors, waterfowl)
- Acoustic recorders used at other locations
- Nocturnal point counts along access road





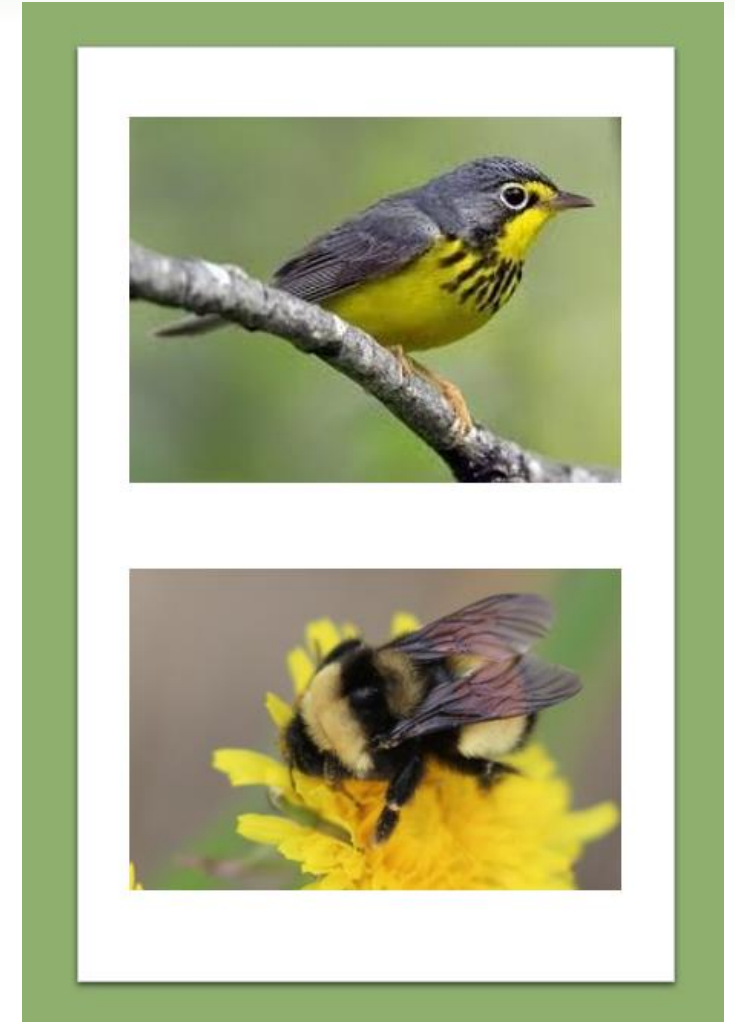
## VEGETATION

- Primarily mixedwood forest, with limited rock barrens and wetlands
- No major disturbances (i.e., fire, windstorm, insect outbreak) since 2014
- New forest resource inventory (FRI) available with ecosites
- Facilitates refined modelling of vegetation and wildlife habitat
- No significant changes in flora from 2014

# SPECIES AT RISK CONSIDERATIONS

GENERATION PGM

- Terrestrial studies and the impact on Species at Risk (SAR) are explored on a project and local scale
- Yellow-banded bumblebee and monarch butterfly present (but no milkweed for caterpillars)
- Canada Warblers (SC) relatively abundant, other bird SAR with limited or no use of Project site
- Little Brown Myotis and possibly Northern Myotis (endangered bats) use the site – no roosts observed and no hibernacula present
- No evidence of use (acoustic surveys) by eastern whip-poor-will or common nighthawk
- No black ash observed (only federally or provincially assessed SAR plant that may occur in the Project footprint)



- No caribou or evidence (e.g., tracks, pellets, bones) of caribou use of the Project site has been documented during baseline studies
- Only 1 caribou seen in mainland coastal range during 4 aerial surveys since 2013, although several groups of tracks were observed
- MNRF estimated at least 10 caribou, more likely 55 (range 13-227 individuals) on mainland
- Since 2013, # of caribou within the coastal range has declined from 500-600 to 25-40 animals





- Plants, animals, and fungi of importance to First Nations and Métis communities are found within the Project LSA
- Updated tables in the baseline report identify which species have been found in the SSA and/or LSA, and provide general information about the distribution, abundance, and habitats where the species is found at the Project.



# GENERATIONPGM



More Information on the Project can be found at

[www.genmining.com](http://www.genmining.com)

and the Impact Assessment Registry at

<https://iaac-aeic.gc.ca/050/evaluations/proj/54755?culture=en-CA>

**If you have additional questions,**

**please email us at [comments@genpgm.com](mailto:comments@genpgm.com)**

# Marathon Palladium Project

REVIEW PANEL AND CONSULTATION PROCESSES



Impact Assessment  
Agency of Canada

Agence d'évaluation  
d'impact du Canada

Canada

# Impact Assessment Agency of Canada

- Formerly the Canadian Environmental Assessment Agency (CEAA)
- Delivers federal EAs and IAs pursuant to the Impact Assessment Act (IAA), which came into force on August 28, 2019, replacing the *Canadian Environmental Assessment Act, 2012* (CEAA, 2012)
- The Impact Assessment Agency (the Agency) is leading the joint assessment with the province of Ontario
- The Marathon Palladium Project (the Project) will continue to be assessed under CEAA 2012. The IAA's transition provisions allow projects undergoing an environmental assessments by review panel to continue under the former act.
  - As per the transition provision described in subsection 183 of the IAA: *“Any environmental assessment of a designated project referred to a review panel under section 38 of the 2012 Act before the day on which this Act comes into force is continued under the 2012 Act as if that Act had not been repealed.”*

# History/Background

- October 2010: Project was referred to review panel due to the potential for the Project to cause significant adverse environmental effects
- August 9, 2011: The Joint Review Panel (the Panel) was established with Ontario
- July 2012: The Environmental Impact Statement (EIS) was submitted to the Panel. The Panel conducted its review of the EIS from July 2012 to December 2013, at which time the Panel determined it had sufficient information to proceed to a public hearing
- December 17, 2013: Public hearing was announced
- January 30, 2014: Proponent requested suspension of EA
- January 31, 2014: The Panel requested additional information from the Proponent and the regulatory clock was paused
- October 31, 2014: Joint Review Panel was disbanded and the EA was placed on hold
- October 9-23, 2020: Comment period on amended agreement to reestablish a Joint Review Panel for the Marathon Palladium Project
- November 16, 2020: Establishment of Joint Review Panel



# Resuming the EA

- On July 13, 2020, the Proponent advised the Agency that it plans on submitting updated studies as early as December 2020
- Response to the previous Panel's Information Request (IR) is anticipated in the 1st quarter of 2021
- On November 16, 2020 the federal and provincial Ministers announced a new Joint Review Panel. The early appointment of the Panel will allow the necessary time to review the current material on the public registry (over 900 documents).
- The mandate and timelines of the Joint Review Panel is set out in the Terms of Reference. This document is in the process of being amended, a draft version is available on the Registry.
- The regulatory clock currently remains paused. The federal Minister of the Environment has already extended the 181 timeline by 90 days to 271 days for Joint Review Panel to complete its mandate
- The remaining steps of the environmental assessment for the Panel include:
  - Reviewing the amended EIS and updated studies;
  - Reviewing the response to the former Panel's IR;
  - Conducting a public comment period;
  - Conducting a hearing; and
  - Write its report.



# Next Steps: Review of Updated Studies

- The updated studies and EIS addendum will be made available for public comment. Indigenous groups, the public, governments and other interested parties will be invited to provide comments on the sufficiency of the information (min. 60 days)
  - (what is required by the EIS Guidelines and on the technical merit of the information).
- After reviewing the information and any comments, the Joint Review Panel will determine if the EIS contains sufficient information to proceed to a public hearing (max. 30 days).
- If the Review Panel decides it does not have sufficient information it will request that from the proponent, and make any responses available for comment.
- If the Review Panel decides it has sufficient information, it will schedule the public hearing.



# Next Steps: Public Hearing

- Notice of Public Hearing
  - A minimum of 45 days notice shall be provided prior to the start of the public hearing
  - The hearing is usually held in communities most affected by Project, but possibility for virtual hearings, based on public health advice at the time
  - The former Joint Review Panel developed procedures for the conduct of the public hearing, which are on the public registry. The new Joint Review Panel may choose to amend these procedures
- Best efforts to complete the hearing within 30 days



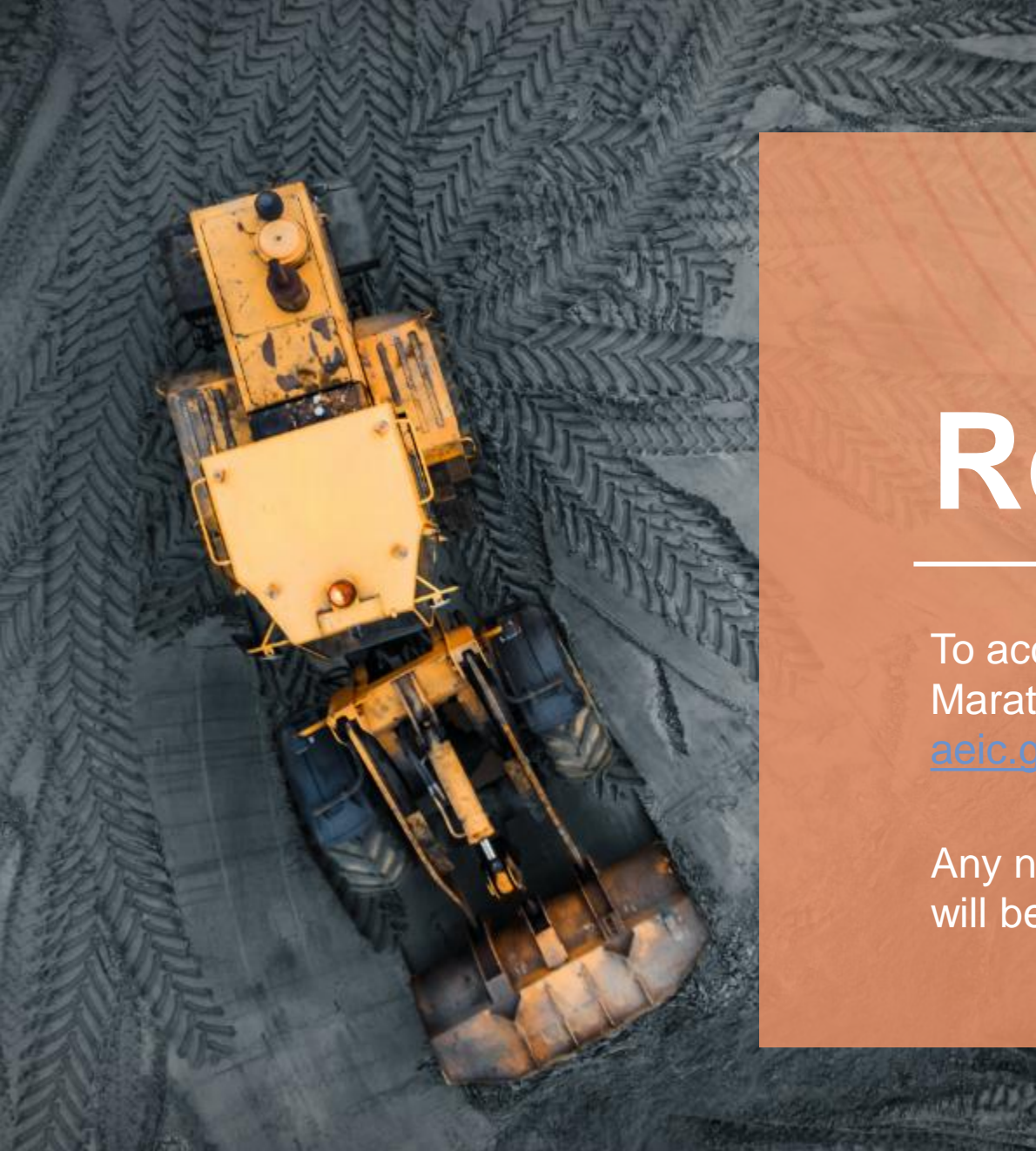
# Next Steps: Panel Report

- The newly appointed Joint Review Panel will prepare and submit a report to the Minister of Environment and Climate Change and the provincial Minister of the Environment including:
  - Description of the joint review panel process
  - The rationale, conclusions and recommendations of the Panel
  - Any mitigation measures and follow-up programs required
  - Summary of the views of interveners and Indigenous groups
  - The Review Panel will submit its report to the federal and provincial Ministers at the earliest possible date, and within the overall time limit established under CEAA 2012.
- The Agency shall have the executive summary translated into Indigenous languages, upon request.



# Next Steps: Federal Government Decision

- The federal Minister decides whether adverse environmental effects are likely to be significant
- If the Minister's decision is that the project is likely to cause significant adverse environmental effects, the matter is referred to the Governor in Council (Cabinet) who will decide if the likely significant adverse environmental effects are justified in the circumstances
- The federal Minister issues the environmental assessment decision statement with enforceable conditions, coordinated with the provincial decision statement, as required.



# Registry

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To access all documents on the public record for the Marathon Palladium Project, please visit: <https://iaac-aeic.gc.ca/050/evaluations/exploration?projDocs=54755>

Any new information submitted to the new Review Panel will be made available at the same link.



# Role of the Crown Consultation Coordinator

The Role of the Impact Assessment Agency of Canada's Crown Consultation Coordinator includes but is not limited to:

- Consults Indigenous groups throughout the assessment process
- Collaborates with Indigenous groups on the assessment of impacts on rights
- Co-author the Crown Consultation and Accommodation Report to be presented to the Minister to inform decision making
- Coordinates federal departments involvement in consultation activities
- Coordinates with province in consultation activities
- Administers the Indigenous Funding Program
- Represents the Crown in its legal duty to consult, NOT part of the JRP Secretariat
- Upon request from the Joint Review Panel, provides information on the record to inform their analysis and recommendations



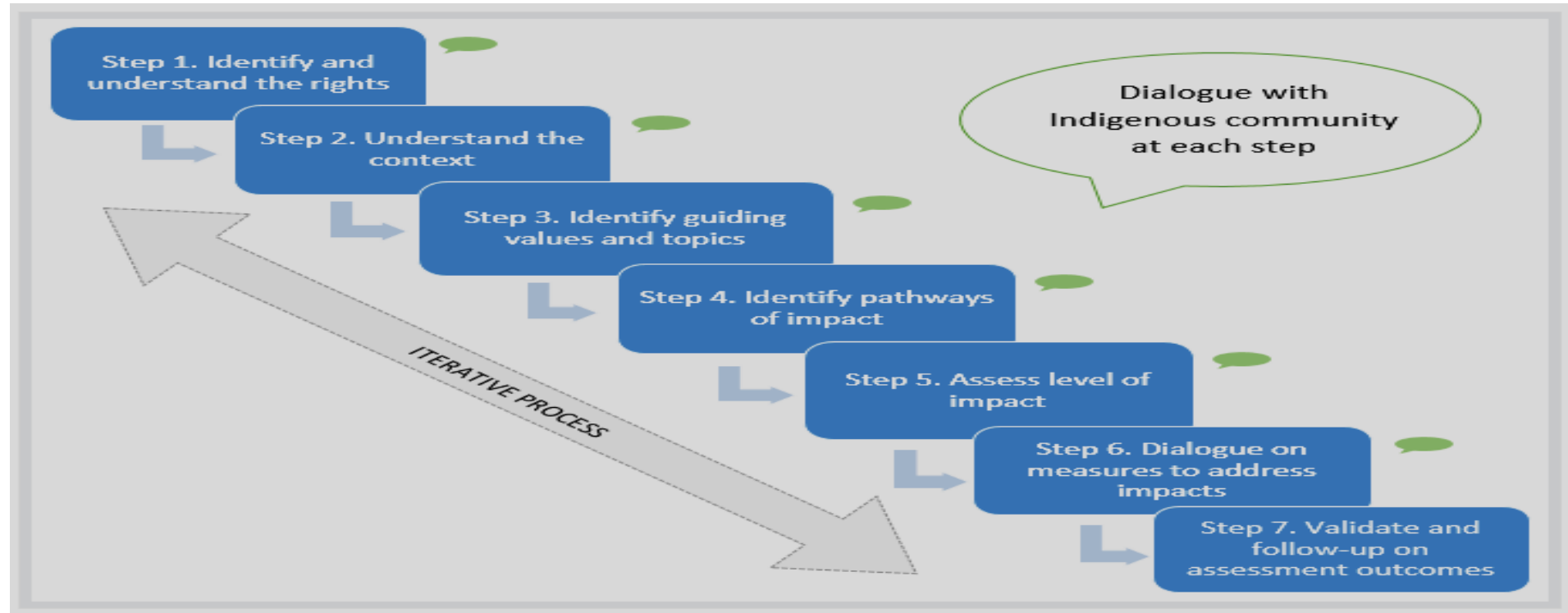
# Updated Consultation Activities

	Consultation activities in the Joint Review Panel Process
Phase I	Initial engagement and consultation on the updated draft Joint Review Panel Agreement including Terms of Reference
Phase II	Review of proponent's updated technical studies, prepare for Joint Review Panel process leading to hearings
Phase III	Hearings and preliminary assessment of impacts on rights
Phase IV	Consultation on the Joint Review Panel EA Report, draft EA conditions for a federal Decision Statement, and finalization of Crown Consultation and Accommodation Report.
Phase V	Federal and provincial regulatory permitting

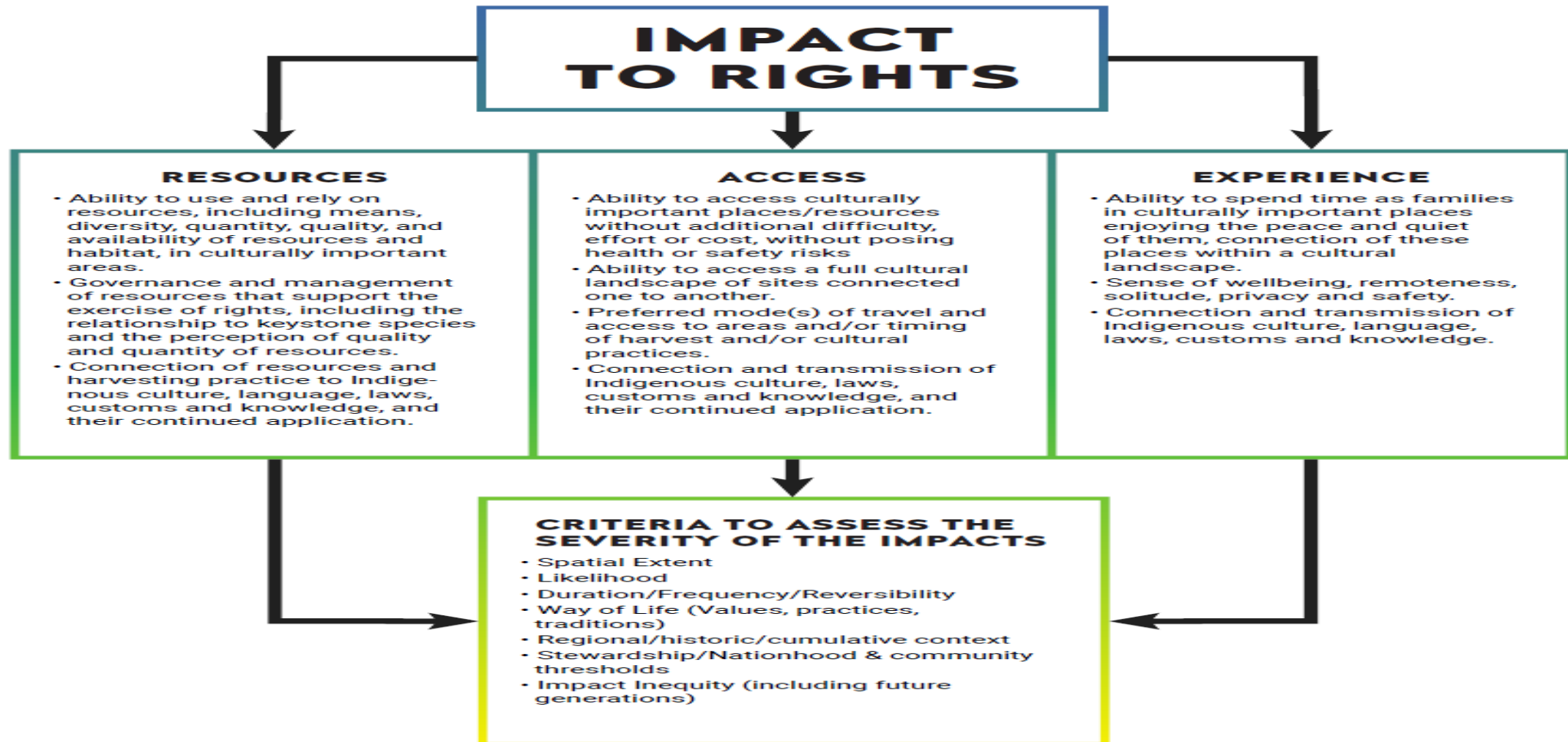


# Agency Guidance – Assessment of Impacts on Rights

The Assessment of Impact on the rights of Indigenous peoples can be broken down into seven steps.



# Methodology to Assess Severity of Impacts on Rights



# Consultation – Next Steps

- Virtual meetings continue
- Possibility of face-to-face meetings with Indigenous groups in the Fall/Winter
- Consult Indigenous groups on updated Joint Review Panel Terms of Reference, Harmonization Agreement, updated technical studies as these become public documents
- Share and present *Interim Guidance: Assessment of Potential Impacts on the Rights of Indigenous Peoples* and other guiding documents with Indigenous groups to begin discussions
- Prepare information packages to assist Indigenous groups participation in resumption of assessment process
- Collaborate on assessment of impacts on rights







# Agency Contacts

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Marathon Palladium Project  
Joint Review Panel

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Crown Consultation Coordinator  
Jason Boisvert

Telephone: 613-219-3220

Email: [Jason.Boisvert@canada.ca](mailto:Jason.Boisvert@canada.ca)



**Biigtigong Virtual Community Consultation  
November 26, 2020  
Marathon Palladium Project PGM**

**Agenda**

**Introductions/Instructions**

**Opening – Chief Duncan Michano**

**Presentations – Generation Mining Ltd., Ministry of Environment, Conservation and Parks/Ministry of Energy, Northern Development, Impact Assessment Agency of Canada**

**Question and Answer Period**

**Closing Remarks**

**Juanita Starr is inviting you to a scheduled Zoom meeting.**

**Topic: BN Virtual Community Consultation - Re: Marathon Palladium Project**

**Time: Nov 26, 2020 05:00 PM Eastern Time (US and Canada)**

**Join Zoom Meeting**

**<https://zoom.us/j/92485365823?pwd=TU1zcGMxQ0tOODd1VG5FTm9uWWVEdz09>**

**Meeting ID: 924 8536 5823**

**Passcode: 590334**

**Protocols for the Meeting:**

- Users must have the designated app on their communication devices or can log on by laptop with the log in provided.
- Admittance into the meeting will be allowed only 15 minutes past the start time.
- Participants will be muted during the presentation.
- Presentation and Q&A. Meeting will be moderated by a BN staff member. All questions will be asked during the Q & A after the presentation.
- Participants can ask a question via the chat box or my “raise your hand” feature to ask the question themselves. The host organizer will announce who will be asking their question in que and will unmute the participant to do so.
- Contact information for BN Staff and meeting presenters will put at the end of the presentation.
- Participant draws will conclude the meetings.

## **Red Sky Project Update and 2021 Exploration Plan**

Generation Mining – Marathon PGM Project Update and 2021 Exploration Plan

**Participants:** 4 (GenPGM), Julius Brinkman (Red Sky)

**Presenters:** T. Leblanc, C. Moffett, J. McBride

### **Meeting Notes & Covered Topics:**

-Project Update presentation by Cathryn (Intro and Project Background) and Tabatha (Added improvements, optimized mine design, project timeline, EA process, benefits from project for local communities)

-John gave high-level information on the potential for 2021 exploration

### **Comments and Questions:**

Julius: Red Sky separates business and economics from consultation, and such Donelda runs consultation whereas Julius handles activities with venture partners to provide benefits to Red Sky Metis Independent Nation and economic development.

-Red Sky has won bid to make water processing facility for LDI for tailings through Blue Metric joint venture partner with Red Sky.

-Red Sky has Thunder Bay JV partner in which their specialty is access roads

-Economic benefits for Red Sky includes a phase I construction and a phase 2 employment opportunity in which Donelda will concentrate on Phase 2 opportunities (handling job opportunities and postings) whereas Julius focusses on Phase 1 of development opportunities and construction contracts

-Red Sky webpage has JV partners listed (portion broken out into construction JVs) tailings pond development, blasting, more enhanced type of projects (not pinnacle civil constructions but didn't catch name of partner)

(this company did essentially bulk of steel development type projects for LDI when it was starting)

-JV partner Voltage Power specializes in construction of high-voltage transmission lines

-JV partner in K-sports and their specialty is sales/leasing/maintenance of UTVs and ATVs

# GENERATION PGM

November 2020 - UPDATE

## MARATHON PALLADIUM PROJECT



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# AGENDA

- Who is Generation PGM Inc.
- Need for the Project
- Project Description
- Schedule
- Environmental Assessment Through a Joint Review Panel
- Future Together



# INTRODUCTION

- Generation PGM Inc. (GenPGM) is a subsidiary of Generation Mining Limited, TSX:GENM
- Experienced management team with backgrounds in building, development and operations
- With interests in platinum group metals (PGM), specifically the Marathon Palladium Project
- Most advanced palladium project in North America



## Palladium: Ontario's Supply Advantage

Palladium's market value has greatly appreciated due to its critical role in auto manufacturing and vehicle exhaust systems, where it helps transform poisonous gases into less toxic and harmful outputs

- I.** Insufficient global palladium supply exists
- II.** Canada's platinum-group metals (including palladium) are concentrated Northern Ontario
- III.** Expanding palladium production could revitalize Northern Ontario's economy

Marathon Project represents a vital strategic asset for a competitive Ontario economy and instrumental in the transition towards renewable energy and green technologies

## Copper: Essential to Vital Technology

*Copper is a key metal for many innovative technologies and a necessary component in the production of electric vehicles*



**Electric Vehicles**

A reliable supply of copper will be vital to the success of the recently announced upgrade to Ford's Oakville EV plant



**Telecomm**



**Industrial Tech**



**LED lightbulbs**



**Smart Grids**





- The open pit ore will be processed (crushed, ground and concentrated) at an on-site processing facility.
- Final concentrates containing Palladium and Copper will be transported off-site via road and/or rail to a smelter and refinery for extraction and purification
- Site construction will take 18 to 24 months
- Construction workforce will require +900 workers with an average of approximately 450 to 500 people
- Production is estimated to begin late 2023
- Operating workforce estimated at +450 people
- The mine has been designed to ensure that the environment will be protected with specific attention to water and air

## Improved Water Management

- Process Plant, primary crusher, truck shop, offices and fuel farm moved out of Pic River watershed
- Site access road realigned to cross fewer streams
- Storm Water Pond (SWP) added for risk management and protection of Pic River watershed
- SWP used to collect stormwater runoff and improve management of site water

## Reduce Greenhouse Gas and Understand the Carbon Footprint

- Mine Operation design to minimize fuel usage with the location of the primary crusher
- Evaluating Trolley Assist (electrical assistance for haul trucks) for key haulage segments
- Power efficient equipment included in the Processing Plant design
- Evaluating CO<sub>2</sub> capture in construction concrete and possibly processed solids

## Mine Rock Storage Area (MRSA)

- Includes storage of mine rock into pit(s)
- Similar footprint to past designs, less impact to sub-watersheds
- 85-90% of Mine Rock is Type 1 (not acid generating)
- Good quality waste rock can be used for aggregate – business opportunity

## Process Solids Management Facility (PSMF)

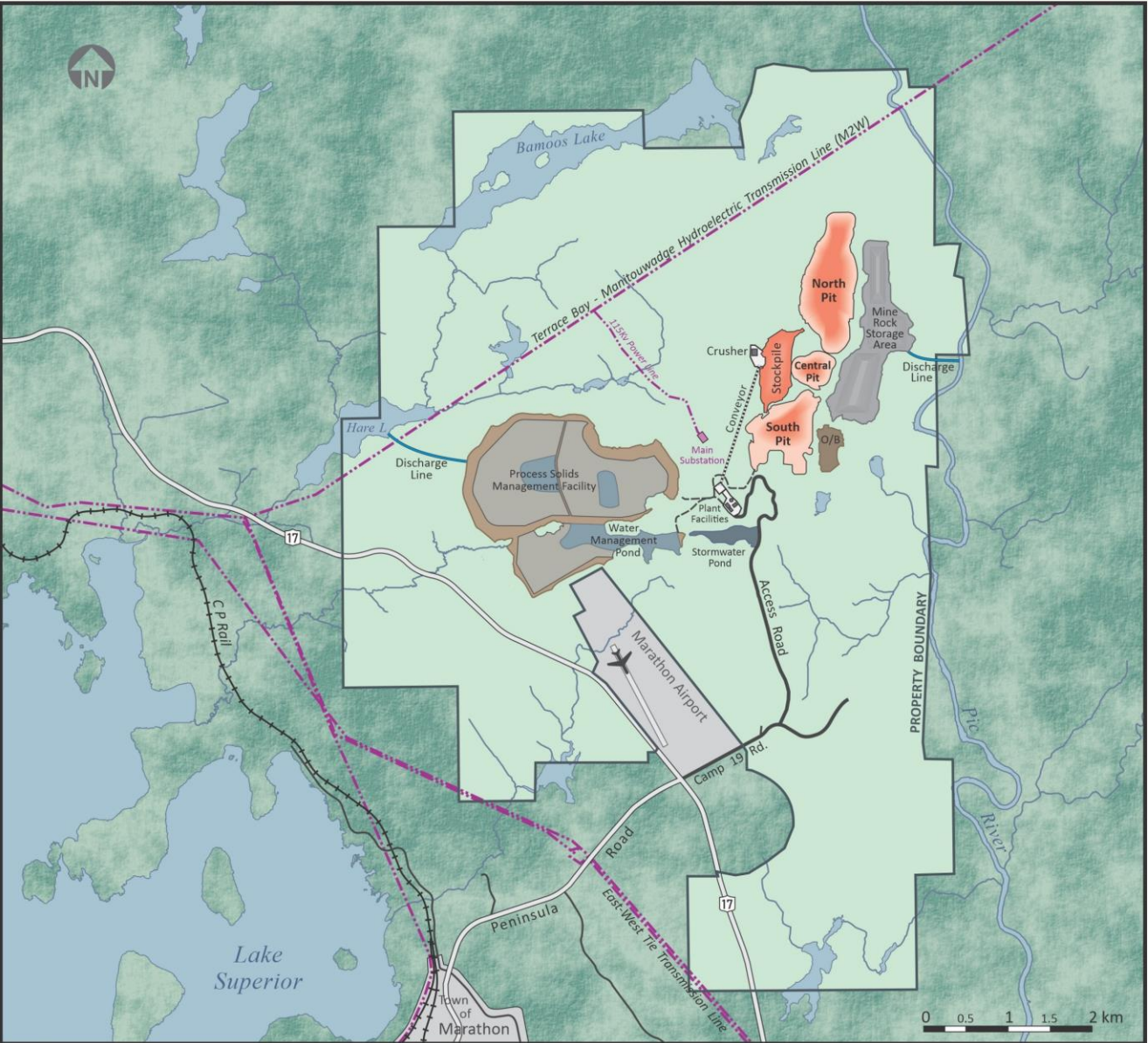
- We heard from communities → *limited* desire to have final discharge from PSMF to: Pic River, Bamooos Lake, Lake Superior and Angler Creek/Stream 6 as such... these have been **excluded**
- Hare Lake was selected as the preferred discharge location, based on feedback from communities
- Improved water management onsite and in PSMF
- +90% of water will be recycled in the process plant
- Excess water will be treated as required and discharged
- Discharge effluent will achieve required water quality objectives at end of pipe
- Discharge will be protective of fish and fish habitat

# OVERVIEW OF KEY DESIGN UPDATES

GENERATION PGM

Topic	2014	2020
Average Process Rate	22,000 tonnes per day	~25,200 tonnes per day
Open Pit	One primary and four satellite pits	Three Pits: North, Central and South
Mine Life	11.5 years	~12.6 years
Process Solids Management Facility (PSMF)	Located west of open pits, final elevation to 375 m above sea level (asl)	Similar footprint west of pits, elevation 380 m asl
Mine Rock Storage Area (MRSA)	East of open pits	Slightly smaller footprint, using mined-out pits for storage of mine rock
Process Plant and Primary Crusher	Southeast of open pits	West of open pits, now centrally located away from Pic River

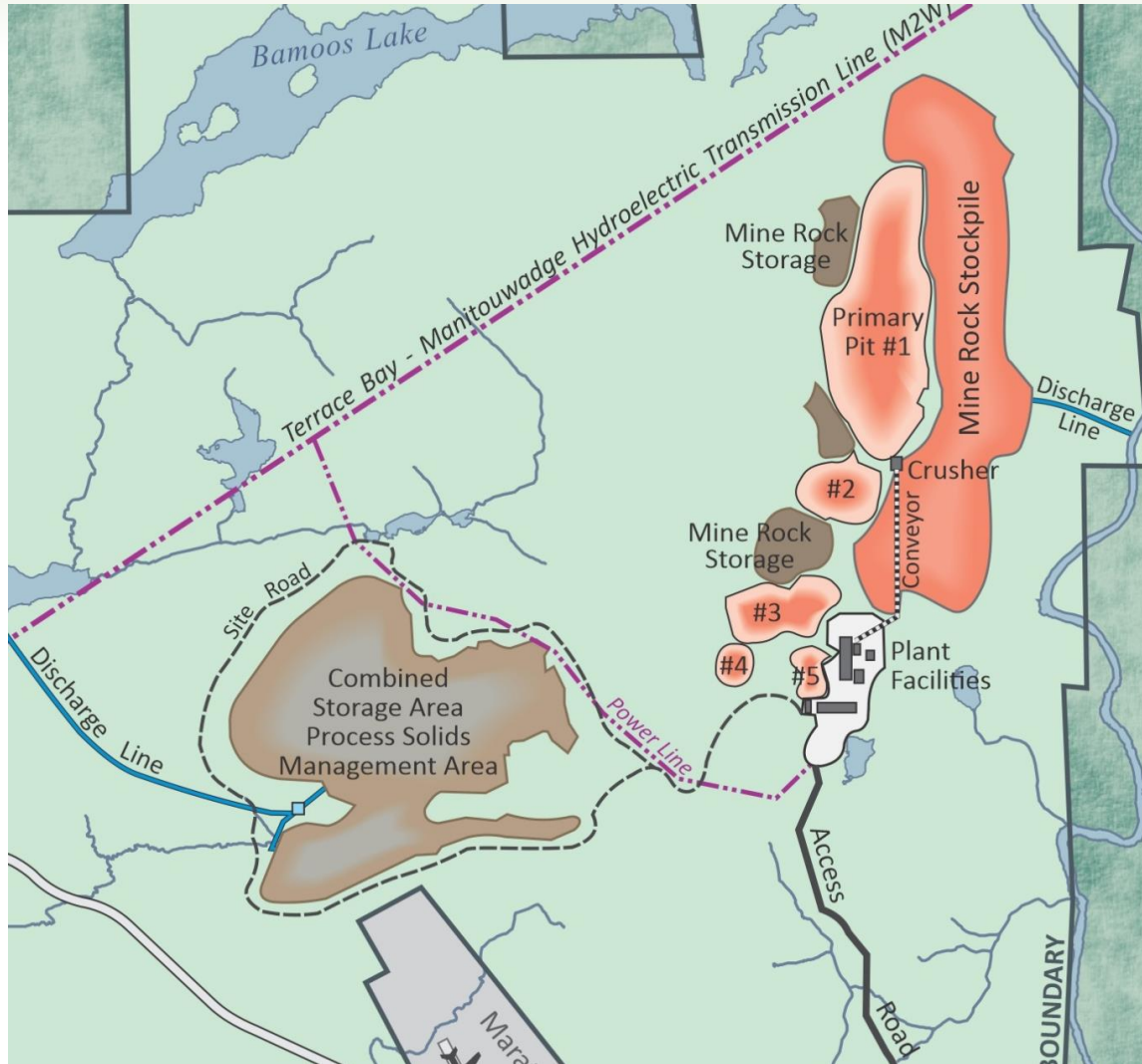




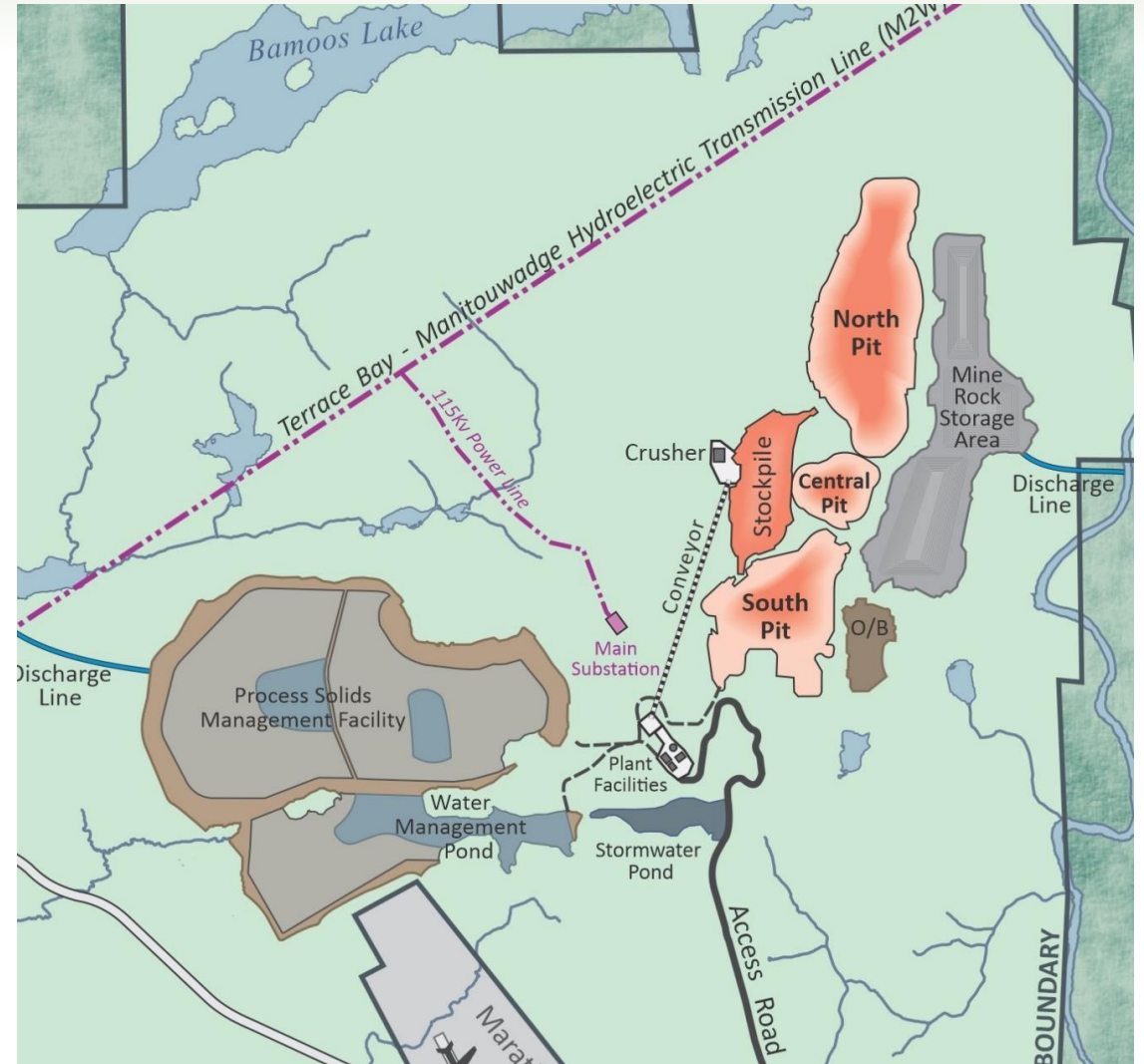
2020 Project Design

# 2014 PROJECT VERSUS 2020 OPTIMIZED DESIGN

GENERATION PGM



2014 Project Design



2020 Project Design

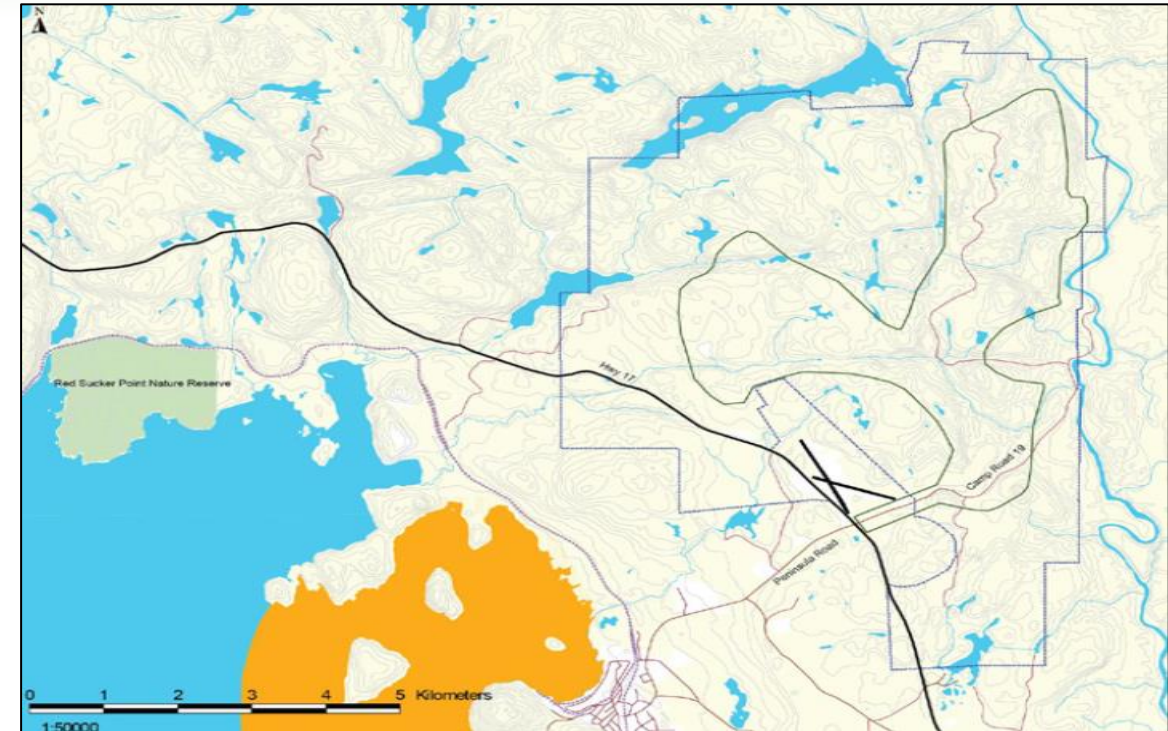
# MARATHON PALLADIUM PROJECT TIMELINE

GENERATION PGM

	2019	2020	2021	2022	2023
Asset Acquisition	Active				
Update Resource	Active				
PEA Study	Active	Active			
Feasibility Study		Active	Active		
EA / Permitting / Social Approvals		Active	Active	Active	
Construction				Active	Active
Production					Active

\* Important note: Construction and production are subject to favorable results in the feasibility study, permitting and financing of the project.

- The importance of this process is to consider the effects on ecosystem, and mitigate and/or eliminate any negative effects on the environment and communities
- Gen PGM is dedicated to protecting the Valued Ecosystem Components (VECs)
- Key elements include: management of water, protecting wildlife, vegetation, species at risk, and Indigenous and Community considerations
- Surveys conducted within the Project footprint to analyze possible effects
  - Birds, mammals, insects, plants
  - Groundwater and surface water
  - Air quality monitoring
  - Aquatic life



- - Project boundary
- - Project study area
- - Provincial Park
- - International Joint Commission Area of Concern (Peninsula Harbour)



## Local Jobs and Youth Retention

**350 – 400**

Full time, permanent jobs generated, with most of these roles held by residents and community partners



**3.75**

Estimated employment multiplier.\* Every mining job created spurs nearly four downstream jobs in nearby industries



**+**

Significant financial benefits, business and employment opportunities for Indigenous communities through agreements



**12+**

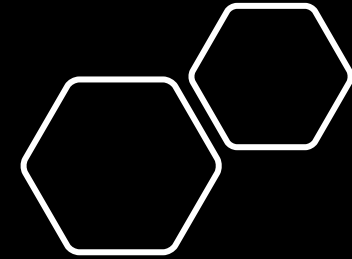
Years in expected life of the palladium mine, sustaining jobs, retaining local youth, and spurring residual economic activity

***The Marathon palladium mine will be a vital investment in the recovery of the Northern Ontario economy following the COVID-19 economic crisis.***

***This project will create good-paying jobs, while stimulating local industries and promoting the retention of local youth and talent.***

\*University of Toronto. ("Ontario Mining: A partner in prosperity building")

# GENERATIONPGM



More Information on the Project can be found at

[www.genmining.com](http://www.genmining.com)

and the Impact Assessment Registry at

<https://iaac-aeic.gc.ca/050/evaluations/proj/54755?culture=en-CA>

**If you have additional questions,  
please email us at [comments@genpgm.com](mailto:comments@genpgm.com)**