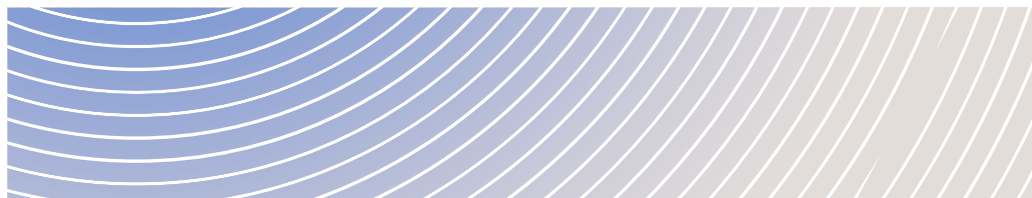


# Impact Assessment Agency of Canada



ANALYSIS OF GREENSTONE GOLD MINES' PROPOSED CHANGES TO THE  
HARDROCK GOLD MINE PROJECT

FEBRUARY 2021



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Analyse des changements proposés par Greenstone Gold Mine au projet de mine d'or Hardrock

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# 1. Introduction

The Hardrock Gold Mine Project (the Project), as proposed by Greenstone Gold Mines (the proponent), includes the construction, operation, decommissioning, and abandonment of an open pit gold mine and on-site metal mill located approximately five kilometres south of Geraldton, Ontario, at the intersection of Highway 11 (Trans-Canada Highway) and Michael Power Boulevard. The gold mine would have an ore production capacity of 30 000 tonnes per day, and the metal mill would have an ore input capacity of 30 000 tonnes per day.

The Project was subject to an environmental assessment under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). The environmental assessment was conducted by the Canadian Environmental Assessment Agency. The former Minister of Environment and Climate Change issued a Decision Statement<sup>1</sup> for the Project on December 10, 2018. The Decision Statement contains 116 legally binding conditions, which include mitigation and follow-up program measures that the proponent must comply with throughout the life of the Project.

On August 28, 2019, the *Impact Assessment Act* (IAA) came into force, repealing the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). Section 184 of IAA provides that decision statements issued under CEAA 2012 are deemed to be decision statements under IAA, and therefore subject to the provisions of IAA. On the same date, the Canadian Environmental Assessment Agency became the Impact Assessment Agency of Canada. In this report, the term “Agency” can refer to either the former Canadian Environmental Assessment Agency or the current Impact Assessment Agency of Canada.

On May 1, 2020, the proponent informed the Impact Assessment Agency of Canada of proposed changes to the Project. The Agency conducted an analysis of the proposed Project changes and the potential adverse environmental effects of those changes, including additional impacts on the exercise of rights of Indigenous groups, to assess:

- whether the changes constitute a new or different designated project that may require a new impact assessment; and
- whether any changes (including addition or removal) may be required to the mitigation and follow-up program measures included as conditions in the Decision Statement to address the proposed Project changes.

The Agency’s analysis is summarized in this report.

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<sup>1</sup> <https://iaac-aeic.gc.ca/050/evaluations/document/128173>

## 2. Proposed Project Changes

The proposed project changes include minor changes to the Project's overall footprint, including a smaller open pit, creation of a new access road to Southwest Arm of Kenogamisis Lake, and repositioning of several project components.

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### 2.1 Agency's Analysis of Changes

The *Physical Activities Regulations* under IAA identify the physical activities that constitute designated projects that may require an impact assessment. The Agency is of the view that the proposed project changes do not constitute a new or different designated project that may require a new impact assessment.

The Agency analyzed the proposed project changes and the potential adverse environmental effects of those changes, whether the mitigation and follow-up program measures described in the 2018 Environmental Assessment Report<sup>2</sup> may require additions or alterations to account for the proposed changes, and whether any additional impacts on the exercise of rights may occur on the Indigenous groups identified in the Decision Statement, or on any Indigenous groups not identified in the Decision Statement. The Agency is of the view that no modifications of the mitigation and follow-up program measures identified in the Decision Statement are necessary. A detailed analysis conducted by the Agency is presented in Table 1 of this report.

The Agency reviewed a summary of the proponent's engagement activities<sup>3</sup>, along with letters from Indigenous groups to the proponent indicating that these groups have no concerns related to the proposed changes. The Agency validated this conclusion with the Indigenous groups (see Sections 4.1 and 4.2).

#### 2.1.1 Project components outside of the Project Development Area

The Agency notes that the definition of the Project Development Area in the Decision Statement, as given in condition 1.25, relies on Figure 1 of the 2018 Environmental Assessment Report. With the proposed project changes, several project components would extend partially or totally outside of the Project Development Area: Aggregate Source T2 and its access road, Aggregate Source S1, Temporary Effluent Treatment Plant Discharge Pipeline, Sand Washer - Seasonal Water Taking and Water Line, Operational Effluent Treatment Plant Discharge Pipeline and Access Road, Freshwater Intake Pipeline and Access Road, and Power Line and Transformer Station Access Road. A detailed description of project components that would extend outside of the Project Development Area and the associated conditions is provided in Table 1.

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<sup>2</sup> <https://iaac-aeic.gc.ca/050/evaluations/document/129183>

<sup>3</sup> <https://iaac-aeic.gc.ca/050/evaluations/document/136677>

Condition 1.25 needs to be updated to encompass the proposed project changes, to ensure that the Agency's ability to enforce the Decision Statement is not impeded. The proponent has provided a revised figure for the Project Development Area, which is included as Figure 1 of this report.

## **3. Potential Adverse Environmental Effects from Proposed Project Changes**

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### **3.1 Assessment of potential adverse environmental effects**

The following is an analysis of whether the proposed project changes would cause adverse environmental effects and would require modifications, including additions or removals, to the mitigation and follow-up program measures included as conditions in the Decision Statement. A detailed analysis of the proposed project changes conducted by the Agency is presented in Table 1 of this report. The Agency conducted a comment period to validate its views on the proponent's proposed project changes with the Indigenous groups, and federal and provincial authorities, and to provide an opportunity for any further comments before providing advice to the Minister of Environment and Climate Change on potential amendments to the Decision Statement.

#### **3.1.1 Proponent's Assessment**

The proponent is of the view that the project changes are minor in nature, and the adjustments to the location and size of project components will not cause any adverse environmental effects not already considered, or require additional or modified mitigation and follow-up program measures from what was described in the 2018 Environmental Assessment Report. Additionally, the proponent is of the view that some of the changes, notably the addition of a new access road to Southwest Arm of Kenogamisis Lake and optimizations to the Goldfield Creek Diversion, enable the Project to meet several conditions within section 6 of the Decision Statement.

#### **3.1.2 Views Expressed**

The Ontario Ministry of Heritage, Sport, Tourism and Culture Industries expressed that it had no concerns related to the proposed amendments to the Decision Statement. It did have questions of clarification regarding the proposed location of the East Access Road (see row no. 2 in Table 1) for its own regulatory process related to archaeological assessments<sup>4</sup>. No further concerns were raised by Indigenous groups,

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<sup>4</sup> The Ontario Ministry of Heritage, Sport, Tourism and Culture Industries will contact the proponent directly to address its questions.

federal departments, provincial ministries or members of the public on the draft version of this report or the proposed amendments to the Decision Statement.

### 3.1.3 Agency's Analysis and Conclusions

The Agency is of the view that the proposed adjustments to the Project will not result in adverse environmental effects beyond those that were identified in the 2018 Environmental Assessment Report, and therefore no changes are required to the mitigation or follow-up program measures that were described in the 2018 Environmental Assessment Report. The Agency notes that the Project Development Area, originally defined in condition 1.25 to be an area shown in Figure 1 of the 2018 Environmental Assessment Report, needs to be updated to encompass the project changes. The proponent has provided a revised figure for the Project Development Area, included as Figure 1 in this report, that incorporates the proposed changes to the Project.

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## 3.2 Rights of Indigenous Peoples

An analysis of adverse effects of changes to the environment on current use of lands and resources for traditional purposes, health of Indigenous peoples, physical and cultural heritage, and biophysical resources informed the assessment of impacts on the exercise of rights of Indigenous Peoples as recognised and affirmed in section 35 of the *Constitution Act, 1982* during the environmental assessment for the Project. Mitigation and follow-up program measures were developed and the Decision Statement includes related conditions.

The following is an analysis of whether the proposed project changes would cause any additional adverse impacts to the exercise of rights by Indigenous groups beyond the effects described in the 2018 Environmental Assessment Report, and whether the proposed project changes would impact the exercise of rights of other Indigenous groups not identified in the Decision Statement. A detailed analysis can be found in Table 1 of this report.

### 3.2.1 Proponent's Assessment

The proponent indicated in its submission to the Agency that it does not expect any additional mitigation measures or follow-up program measures from what was proposed in the 2018 Environmental Assessment Report, and does not anticipate any new adverse impacts on the exercise of rights of Indigenous peoples. The proponent engaged with the Indigenous groups in May and June 2019 to provide information related to the proposed project changes, and expressed that the Indigenous groups presented no concerns related to the proposed project changes.

### 3.2.2 Views Expressed

Animbiigoo Zaagi'igan Anishinaabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and Métis Nation of Ontario wrote to the proponent in September and October 2020 to state that they

have no concerns with the proposed changes to the Project. The proponent provided these letters to the Agency on October 7, 2020.

The Agency contacted the Indigenous groups to comment on the draft version of this report and the proposed amendments to the Decision Statement, and verified with them that they do not have any concerns with the proponent's proposed project changes.

### **3.2.3 Agency's Analysis and Conclusions**

The Agency is of the view that the proposed project changes are unlikely to cause adverse environmental effects and impacts to the exercise of rights of Indigenous Peoples beyond those assessed in the 2018 Environmental Assessment Report, and therefore no changes are required to the mitigation or follow-up program measures that were described in the 2018 Environmental Assessment Report; except to update the Project Development Area with the revised figure, which is included as Figure 1 of this report.

The Agency notes that there are no new adverse environmental effects or impacts to the exercise of rights by Indigenous Peoples from the proposed project changes that would extend into the local and regional assessment areas identified in the 2018 Environmental Assessment Report, and therefore, there will be no impact on the exercise of rights of other Indigenous groups not identified in the Decision Statement.

## **4. Consultation and Engagement**

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### **4.1 Proponent's Engagement with Indigenous Groups**

In May and June 2019, the proponent indicated that engagement took place with the following groups<sup>3</sup> on the proposed changes:

- Aroland First Nation;
- Animiigoo Zaagi'igan Anishinabek;
- Ginoogaming First Nation;
- Long Lake #58 First Nation; and
- Métis Nation of Ontario.

On October 7, 2020, the proponent sent the Agency letters it received from all five Indigenous groups, expressing that they have no concerns with the proposed project changes.

### **4.2 Agency's Consultation on Proposed Project Changes**

The Agency contacted Indigenous groups identified in condition 1.18 (which are the five Indigenous groups listed in Section 4.1 of this report) to verify that the proponent informed and provided an opportunity to provide comments, and to validate whether the Indigenous groups wished to share anything further with the Agency



(see section 3.2.2). None of the groups provided further comments during the Agency's comment period on the draft version of this report, from November 24 to December 15, 2020.

The Agency also sought comments from federal and provincial authorities, and the public on the proposed project changes (see section 3.1.2) to provide advice to the Minister of Environment and Climate Change on the need for a potential amendment to the Decision Statement. One comment was received from the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (see Section 3.1.2), and one comment was received by a member of the public, which was in support of the Project.

## 5. Conclusion

The Agency is of the view that the proposed project changes will not result in new adverse environmental effects that are not already accounted for in the 2018 Environmental Assessment Report, and therefore no modifications of the mitigation and follow-up program measures identified in the Decision Statement are necessary to address the proposed project changes. The Agency is also of the view that the proposed project changes will not cause any additional adverse environmental effects and impacts to the exercise of rights of the Indigenous groups identified in the Decision Statement other than the effects described in the 2018 Environmental Assessment Report. The proposed project changes will not impact any Indigenous groups that are not identified in the Decision Statement for the Project.

Given that the proposed project changes would cause several project components to extend partially or totally outside of the Project Development Area as defined in condition 1.25, the Agency recommends that condition 1.25 be updated, to define the Project Development Area to be the area shown in Figure 1 of this report. This update will ensure that the Agency's ability to enforce the Decision Statement is not impeded.

**Table 1 - Agency's Preliminary Analysis of Proposed Changes**

No.	Project activity/component	New design feature? (May 2020)	Changes in size and location	Outside of the Project Development Area in Figure 1 of the 2018 Environmental Assessment Report?	Does this proposed change require addition or alteration of mitigation and follow-up program measures proposed in the 2018 Environmental Assessment Report?	Summary of Use by Indigenous Groups	Is this project change likely to cause additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups not accounted for in the 2018 Environmental Assessment Report?
N/A	Open Pit Gold Mine	No	Smaller than original.  No change to location.	No	No.  The Agency notes that the boundary of the open pit is pushed further away from the historical Hardrock Tailings, which will reduce the likelihood of mobilizing the existing historical tailings and causing adverse effects to water quality of Central Basin of Kenogamisis Lake.	N/A	N/A
1	Pond M1	No	Smaller than original.  Moved approximately 350 metres northeast of the original location.	No	No.  The Agency acknowledges that moving Pond M1 away from its original location near the Southwest Arm Tributary is in accordance with the commitment made by the proponent in its Mitigation, Monitoring and Commitment List <sup>5</sup> to increase the setback distance from Southwest Arm Tributary. However, the size of Pond M1 is also reduced, which could affect its ability to function as the central collection pond for contact water and increase its chances for overflowing and breach.  This concern was raised to the proponent as part of Information Requirement AM(1)-07 <sup>6</sup> during the environmental assessment. In response, the proponent's analysis showed that the water quality from Pond M1 would meet Schedule 4 of Metal and Diamond Mining Effluent Regulations (MDMER) or Ontario Regulation (O.Reg.) 560/94, during and after operations. The proponent assessed the worst-case scenario of a potential breach and release of contact water into the Southwest Arm Tributary, and found that the concentration of water quality parameters will return to Provincial Water Quality Objectives (PWQO) or background levels with the Local Assessment Area, and would not cause lethal or sub-lethal effects on fish and fish habitat.  To reduce the potential for overflowing or breach from Pond M1, the proponent provided mitigation and follow-up program measures, such as construction of berms around the contact water collection ponds and designing the ponds to convey a 1-in-100 year storm event, and monthly monitoring of water quality of Pond M1 to confirm treatment requirements of the Effluent Treatment Plant. A list of additional mitigation measures for Pond M1 from the EIS are presented in the <i>Optimization Report – Table 2-1 Addendum</i> <sup>3</sup> and will further	Animbiigoo Zaagi'igan Anishinaabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and the Métis Nation of Ontario raised concerns with the Project's potential to impact their members' access and use of the Southwest Arm of Kenogamisis Lake where it meets with Goldfield Creek Tributary, and the removal of access to areas along Lahtis Road.	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report. The new location of Pond M1 is further away from the Goldfield Creek and is tightly pressed against the Waste Rock Storage Area. Therefore, access by Indigenous groups is not anticipated to be impacted.

<sup>5</sup> See ID Number 3-27 of the Mitigation, Monitoring and Commitment List, available here: <https://iaac-aeic.gc.ca/050/documents/p80068/125250E.pdf>

<sup>6</sup> AM(1)-07 can be assessed through this link: <https://iaac-aeic.gc.ca/050/documents/p80068/122116E.pdf>

					<p>reduce the potential for any adverse change in water quality of the Southwest Arm Tributary and associated waterbodies.</p> <p>In addition, condition 3.5 requires the proponent to collect contact water, and treat excess water that cannot be reused. In a letter dated October 22, 2020<sup>3</sup>, the proponent confirmed with the Agency that the reduction in the size of Pond M1 is backed up by detailed engineering, and would not impede the ability of Pond M1 to contain the volume of contact water that it was originally planned for.</p>		
2	Access to the Southwest Arm of Kenogamisis Lake (East Access Road)	Yes	<p>New access road - approximately 4.5 kilometres long and 20 metres wide.</p> <p>New access road – connects with Highway 11 and goes along the Project Development Area boundary.</p>	No	<p>No.</p> <p>The Agency acknowledges that this access road is designed to meet conditions 6.1 and 6.4, and is a mitigation measure outlined in Box 7.3.1 of the 2018 Environmental Assessment Report. This mitigation measure was intended to allow access to Southwest Arm of Kenogamisis Lake to Indigenous groups and public.</p> <p>This access road runs in close proximity to the open pit, which was identified as a major source of dust, noise, and vibration in the 2018 Environmental Assessment Report. The Report noted that during operations, there would be exceedances of total suspended particulate and Particulate Matter (PM<sub>10</sub>) to the east of the Project Development Area, across from the open pit. This is the area where the proposed access road will be built; however, the Agency notes that these exceedances were predicted to happen approximately one day per year, and therefore the health risks associated with it can be considered negligible. The proponent provided a list of mitigation measures to reduce the changes to air quality, such as using dust suppressants, real-time monitoring of PM<sub>10</sub>, and enforcing speed limits on the roads.</p> <p>The proponent stated in its document<sup>3</sup> that the “holder of mineral exploration claims on the peninsula between the Central Basin and Southwest Arm of Kenogamisis Lake also expressed a desire for road access through the project site to access the claimed area”. In a letter to the Agency dated October 22, 2020<sup>3</sup>, the proponent indicated that “the road will have minimal use by [Greenstone Gold Mines] and will not interfere with public or Indigenous access”. The Agency assumes in its analysis that the new access road will not be used by the proponent or the holder of mineral exploration claims in a manner that will disrupt the access or use of this access road by Indigenous groups and public.</p>	<p>Animbiigoo Zaagi’igan Anishinabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and Metis Nation of Ontario stated the importance of the Kenogamisis Lake and surrounding area for fishing activities. These Indigenous groups also raised concerns with the Project’s potential to impact their members’ access and use of the Southwest Arm of Kenogamisis Lake where it meets with Goldfield Creek Tributary, and the removal of access to areas along Lahtis Road.</p>	<p>The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.</p>
3	Goldfield Creek Diversion Optimizations	No	<p>The size of pond increased from 7.5 hectares to 19 hectares.</p> <p>Tailings Management Facility Dyke and Pond T2 moved 100 metres to the south, and haul</p>	No	<p>No.</p> <p>According to the proponent, the proposed change in the location of Tailings Management Facility dyke would improve the foundation for the diversion dyke, and improve isolation of subsurface flows between the fresh water diversion and the Tailings Management Facility. In addition, the haul road crossing of the Southwest Arm Tributary has been integrated into grade control structure #2 to improve constructability and minimize construction disturbance.</p>	<p>Animbiigoo Zaagi’igan Anishinaabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and the Métis Nation of Ontario raised concerns with the Project’s potential to impact their members’ access and use of the Southwest Arm of Kenogamisis Lake where it meets with Goldfield Creek Tributary, and the removal of access to areas along Lahtis Road.</p>	<p>The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.</p>

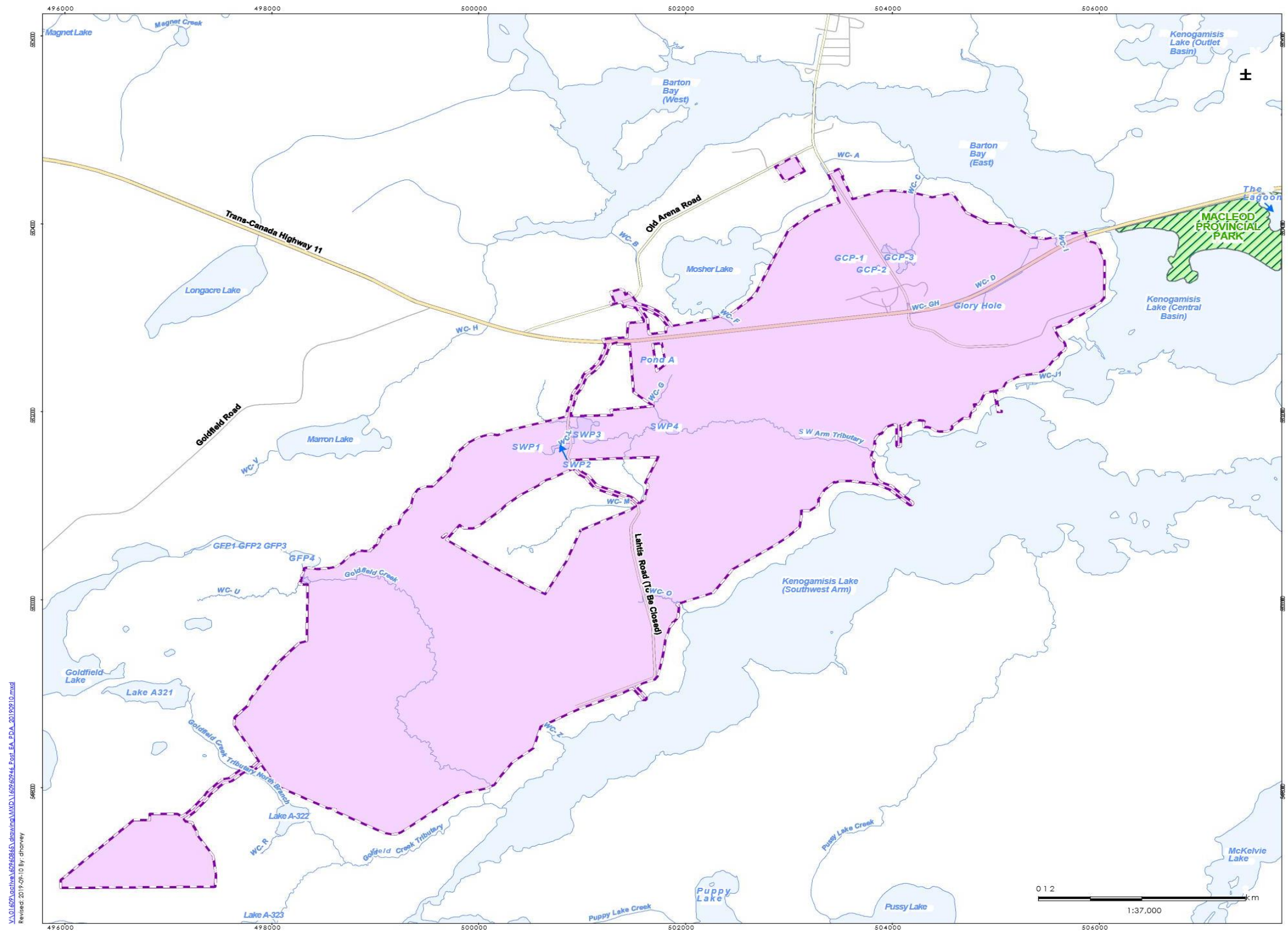
			road crossing integrated into grade control structure #2.		<p>The Agency notes that the Goldfield Creek Diversion optimizations were intended to meet conditions 6.2 and 6.8 which allows the Indigenous groups access to the areas surrounding Goldfield Creek Diversion.</p> <p>The proponent also provided a list of mitigation measures in the <i>Optimization Report – Table 2-1 Addendum</i> related to the construction of Goldfield Creek Diversion Channel, which will encompass any changes made to the Goldfield Creek Diversion Channel.</p> <p>The increase in pond size from 7.5 hectares to 19 hectares will allow creation of more fish habitat as part of fish habitat offsetting plan, which will undergo a regulatory approval by Fisheries and Oceans Canada.</p>		
4	Aggregate Source T2	No	<p>The size decreased from 72 hectares to 29 hectares.</p> <p>0.86 hectares outside of the previous footprint.</p>	Yes	<p>The Agency recommends a revision of the Project Development Area defined in condition 1.25 to encompass this project change.</p> <p>The Agency notes that a small section of the aggregate extraction limit and the permit boundary are outside of the Project Development Area as shown in Figure 1 of the 2018 Environmental Assessment Report, which could pose issues with respect to enforcement of condition 3.14 and 6.8.</p>	Animbiigoo Zaagi'igan Anishinaabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and the Métis Nation of Ontario identified that they use the Project Development Area, which Aggregate Source T2 is a part of, for traditional purposes such as plant gathering, hunting, trapping, fishing and cultural activities.	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.
5	Aggregate Source T2 Access Road	No	<p>The road is reduced in length from 2 kilometres to 1.3 kilometres.</p> <p>Instead of running SE of Lake A-322, road will run northwest of Lake A-322.</p>	Yes	<p>The Agency recommends a revision of the Project Development Area defined in condition 1.25 to encompass this project change.</p> <p>The Agency notes that the T2 access road extends outside of the Project Development Area as shown in Figure 1 of the 2018 Environmental Assessment Report, which could pose issues with respect to enforcement of conditions 3.14, 4.4, 4.5 and 6.8.</p>	Animbiigoo Zaagi'igan Anishinaabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and the Métis Nation of Ontario identified that they use the Project Development Area, which Aggregate Source T2 Access Road is a part of, for traditional purposes such as plant gathering, hunting, trapping, fishing and cultural activities.	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.
6	Aggregate Source S1	No	<p>Slight increase in size (area not identified by the proponent).</p> <p>No changes to location.</p>	Yes	<p>The Agency recommends a revision of the Project Development Area defined in condition 1.25 to encompass this project change.</p> <p>The extraction will occur within the Project Development Area as shown in Figure 1 of the 2018 Environmental Assessment Report, but the diversion ditches extend beyond it, which could pose issues with respect to enforcement of conditions 3.14, 4.2 and 6.8.</p>	Animbiigoo Zaagi'igan Anishinaabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and the Métis Nation of Ontario identified that they use the Project Development Area, which Aggregate Source S1 is a part of, for traditional purposes such as plant gathering, hunting, trapping, fishing and cultural activities.	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.
7	Temporary Effluent Treatment Plant Discharge Pipeline	No	<p>Increased from 100 metres in length to 340 metres.</p> <p>Moved from the shoreline further into the lake at a depth of 2.75 metres.</p>	Yes	<p>The Agency recommends a revision of the Project Development Area defined in condition 1.25 to encompass this project change.</p> <p>The Agency notes that the proposed extension of this pipeline further into Kenogamisis lake is not captured by the Project Development Area as shown in Figure 1 of the 2018 Environmental Assessment Report, which could pose issues with respect to enforcement of condition 3.14, 6.4 and 6.8.</p> <p>According to the proponent, the extension of the pipeline would increase effectiveness of mixing and dispersion of effluent, and avoid shoreline habitat. Any potential effects on fish and fish habitat from this extension would be reduced by the mitigation</p>	<p>Animbiigoo Zaagi'igan Anishinaabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and Métis Nation of Ontario raised concerns regarding effects of contaminants on the availability and quality of fish. These Indigenous groups stated the importance of the Kenogamisis Lake and surrounding area for fishing activities.</p> <p>Aroland First Nation and Ginoogaming First Nation inquired about the losses of habitat associated with flow reductions in Kenogamisis lake.</p>	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.

					<p>and follow-up program measures described in Boxes 7.1-1, 7.1-2, 7.3.1, and 7.3.2 of the 2018 Environmental Assessment Report (e.g., salvage and relocation plan).</p> <p>In addition, the proponent provided a list of mitigation measures in <i>Optimization Report – Table 2-1 Addendum</i> (e.g., keep clearing of riparian vegetation to a minimum) that will mitigate any adverse on fish and fish habitat during construction and maintenance activities.</p>	Métis Nation of Ontario and Long Lake #58 First Nation identified navigation routes along the Southwest Arm of Kenogamisis Lake.	
8	Sand Washer - Seasonal Water Taking and Water Line	Yes	N/A	Yes	<p>The Agency recommends a revision of the Project Development Area defined in condition 1.25 to encompass this project change.</p> <p>The Agency notes that the proposed Sand Washer – Seasonal Water Taking and Water Line is outside of the Project Development Area as shown in Figure 1 of the 2018 Environmental Assessment Report, which could pose issues with respect to enforcement of conditions 3.14, 4.2, 6.4 and 6.8.</p> <p>No further changes in the mitigation and follow-up program measures are required as measures identified for water taking structures in Boxes 7.1-1, 7.1-2, 7.3.1, and 7.3.2 of the 2018 Environmental Assessment Report related to water taking will also apply to this new project feature.</p> <p>In addition, the proponent provided a list of mitigation measures in <i>Optimization Report – Table 2-1 Addendum</i> that will address the potential for any adverse effects on water quality of Southwest Arm of Kenogamisis Lake from in-water or near-water works.</p>	<p>Animbiigoo Zaagi'igan Anishinabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and Métis Nation of Ontario raised concerns regarding effects of contaminants on the availability and quality of fish. All of these Indigenous groups stated the importance of the Kenogamisis Lake and surrounding area for fishing activities.</p> <p>Aroland First Nation and Ginoogaming First Nation inquired about the losses of habitat associated with flow reductions in Kenogamisis lake.</p> <p>Métis Nation of Ontario and Long Lake #58 First Nation identified navigation routes along the Southwest Arm of Kenogamisis Lake.</p>	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.
9	Operational Effluent Treatment Plant Discharge Pipeline and Access Road	No	No Pipeline ends in the same place but takes a different route.	Yes	<p>The Agency recommends a revision of the Project Development Area defined in condition 1.25 to encompass this project change.</p> <p>The Agency notes that the new route of the Operational Effluent Treatment Plant Discharge Pipeline and Access Road is outside of the Project Development Area as shown in Figure 1 of the 2018 Environmental Assessment Report, which could pose issues with respect to enforcement of conditions 3.14, 4.2, 4.4 to 4.7, 6.4, 6.6 and 6.8.</p> <p>No further changes in the mitigation and follow-up program measures are required as the proponent provided a list of mitigation measures in <i>Optimization Report – Table 2-1 Addendum</i> that will mitigate any adverse changes in water quality of the surrounding waterbodies from construction and maintenance activities.</p>	<p>Animbiigoo Zaagi'igan Anishinabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and Metis Nation of Ontario stated the importance of the Kenogamisis Lake and surrounding area for fishing activities. These Indigenous groups also raised concerns with the Project's potential to impact their members' access and use of the Southwest Arm of Kenogamisis Lake where it meets with Goldfield Creek Tributary, and the removal of access to areas along Lahtis Road.</p> <p>Métis Nation of Ontario and Long Lake #58 First Nation identified navigation routes along the Southwest Arm of Kenogamisis Lake.</p>	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.
10	Freshwater Intake Pipeline and Access Road	No	<p>Increase in size (not identified by the proponent).</p> <p>Same location but a change in routing.</p>	Yes	<p>The Agency recommends a revision of the Project Development Area defined in condition 1.25 to encompass this project change.</p> <p>The Agency notes that the new route of the Freshwater Intake Pipeline and Access Road is outside of the Project Development Area as shown in Figure 1 of the 2018 Environmental Assessment Report, which could pose issues with respect to enforcement of conditions 3.14, 4.2, 4.4 to 4.7,</p>	<p>Animbiigoo Zaagi'igan Anishinabek, Aroland First Nation, Ginoogaming First Nation, Long Lake #58 First Nation and Metis Nation of Ontario stated the importance of the Kenogamisis Lake and surrounding area for fishing activities.</p> <p>Long Lake #58 First Nation raised concerns regarding potential effects of the Project on</p>	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.

					<p>6.4, 6.6, 6.8 and 7.1, particularly with respect to the progressive reclamation of plant species of importance to Indigenous groups, and the continuing access to the areas of cultural importance surrounding Kenogamisis Lake.</p> <p>No further changes in the mitigation and follow-up program measures are required as the list of measures provided in the <i>Optimization Report – Table 2-1 Addendum</i> will mitigate any adverse changes in surrounding water quality from construction and maintenance activities.</p>	<p>medicinal plants along the shoreline of Kenogamisis Lake and the surrounding waterbodies.</p> <p>Métis Nation of Ontario indicated areas of cultural importance including five Tents/temporary structures; one located within the Project Development Area, three within the Local Assessment Area immediately adjacent to the Project Development Area along the Southwest Arm of Kenogamisis Lake near Lahtis Road, and one is located in the Local Assessment Area on the east side of Goldfield Lake.</p> <p>Animbiigoo Zaagi'igan Anishinabek, Aroland First Nation and Ginoogaming First Nation identified Kenogamisis Lake and portions of the Project Development Area as important knowledge transfer and teaching areas.</p> <p>Métis Nation of Ontario and Long Lake #58 First Nation identified navigation routes along the Southwest Arm of Kenogamisis Lake.</p>	
11	Power Line and Transformer Station Access Road	No	<p>Smaller (not identified by the proponent).</p> <p>All transmission lines moved east of the MTO Patrol Yard.</p>	Yes	<p>The Agency recommends a revision of the Project Development Area defined in condition 1.25 to encompass this project change.</p> <p>The Agency notes that the Power Line and Transformer Station Access Road extends outside of the Project Development Area as shown in Figure 1 of the 2018 Environmental Assessment Report, which could pose issues with respect to enforcement of conditions 3.14, 4.4 and 4.5, 6.4, 6.6, 6.8 and 7.1, particularly with respect to the progressive reclamation of plant species of importance to Indigenous groups, and the continuing access to the areas of cultural importance surrounding Kenogamisis Lake.</p>	<p>Métis Nation of Ontario indicated areas of cultural importance including five Tents/temporary structures; one located south of Mosher Lake within the Project Development Area, three are located in the Local Assessment Area immediately adjacent to the Project Development Area along the Southwest Arm of Kenogamisis Lake near Lahtis Road, and one is located in the Local Assessment Area on the east side of Goldfield Lake.</p> <p>Animbiigoo Zaagi'igan Anishinabek, Aroland First Nation and Ginoogaming First Nation identified Kenogamisis Lake and portions of the Project Development Area as important knowledge transfer and teaching areas.</p> <p>Métis Nation of Ontario and Long Lake #58 First Nation identified navigation routes along the Southwest Arm of Kenogamisis Lake.</p>	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.
12	Liquid Sulphur Dioxide (SO <sub>2</sub> ) Storage Tanks	Yes	N/A	No	<p>No.</p> <p>The Agency notes that the proponent would no longer undertake transformation of solid to liquid sulphur dioxide on-site. Instead, the liquid sulphur dioxide will be delivered and stored in storage tanks located within the process plant. The proponent provided a list of mitigation measures in <i>Optimization Report – Table 2-1 Addendum</i> that were originally described and considered in the EIS and will mitigate any risks</p>	<p>Indigenous groups did not raise any concerns related to storage tanks.</p>	The Agency is of the view that there are no additional adverse environmental effects and impacts to the exercise of rights of Indigenous groups outside of those accounted for in the 2018 Environmental Assessment Report.

					<p>associated with ore processing, and handling of dangerous substances.</p> <p>Any additional impacts from the use of liquid Sulphur dioxide storage tanks are covered under existing conditions related to accidents and malfunctions in section 9 of Decision Statement.</p>		
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# Figure 1 – Revised Project Development Area



- Legend**
- Project Development Area
  - Existing Features**
  - Highway
  - Major Road
  - Local Road
  - Watercourse
  - Provincial Park
  - Waterbody

**Notes**

1. Coordinate System: NAD 1983 UTM Zone 16N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

October 2020  
160960946

Client/Project

Greenstone Gold Mines GP Inc.  
(GGM) Hardrock Project

Figure No.

1

Title

**Project Development Area (PDA)**

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 Revised: 2018/09/10 By: dthorpe