CÔTÉ GOLD PROJECT
Chester and Neville Townships, Ontario

AMENDED ENVIRONMENTAL IMPACT STATEMENT / FINAL ENVIRONMENTAL ASSESSMENT REPORT EXECUTIVE SUMMARY

Submitted to:
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Submitted by:
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January 2015

TC121522

INTRODUCTION AND ENVIRONMENTAL ASSESSMENT CONTEXT

IAMGOLD Corporation (IAMGOLD) is a leading mid-tier gold producer headquartered in Toronto, Ontario. IAMGOLD is listed on the Toronto Stock Exchange main board under the symbol "IMG". IAMGOLD currently owns six mines in Canada and abroad, and is in the process of developing four additional projects, including the Côté Gold Project (the Project).

IAMGOLD acquired Trelawney Mining and Exploration Inc. (Trelawney) in 2012. Trelawney had been exploring the Project property since 2009, with the objective of developing an open pit gold mine and process plant. As of December 31, 2012, the Côté Gold drill hole database contained results of 293 diamond drill holes for a total of 158,047 m. IAMGOLD has also undertaken or commissioned environmental, hydrogeological, geotechnical, mineralogical, engineering, logistics and economic studies related to the potential development of the property.

Project Name:	Côté Gold Project
Proponent:	IAMGOLD Corporation
Primary Contact:	**IAMGOLD Corporation:** Steven Woolfenden, Manager, Corporate Environmental Assessments and Approvals 401 Bay Street, Suite 3200 Toronto, Ontario, M5H 2Y4 Steven_Woolfenden@iamgold.com Telephone: 416-594-2884

IAMGOLD has been working closely with the Provincial and Federal regulatory agencies to harmonize the Federal and Provincial Environmental Assessment (EA) processes applicable to the Côté Gold Project (the Project) and, where possible, to align public consultation periods to meet both Federal and Provincial requirements, minimizing duplication of effort.

IAMGOLD submitted a Project Description to the Canadian Environmental Assessment Agency (the Agency) on March 15, 2013. Based on the Project Description, the Agency determined that a Federal EA, pursuant to the Canadian Environmental Assessment Act 2012 (CEAA 2012), was required. The Agency then issued draft EIS Guidelines on May 13, 2013 to determine the scope of the EA required for the Project. On July 9, 2013, IAMGOLD was informed that a Standard Assessment would be required for the Côté Gold Project and final EIS Guidelines were issued by the Agency, the requirements of which this EA Report is intended to fulfil.

IAMGOLD initiated the Provincial EA process, through the submission of a Draft ToR, to facilitate ongoing public consultation on the Project. A Draft ToR was issued for a 30 day public review comment period between May 10, 2013 and June 9, 2013. The Draft ToR was subsequently revised, based on comments on the document and results of open houses, and was re-issued as the Proposed ToR for another 30 day public comment review period from July 19, 2013 and August 19, 2013. The Proposed ToR was approved by the Ontario Minister of the Environment on January 14, 2014.

The EIS / Draft EA report was prepared in accordance with the Proposed ToR and final EIS guidelines and was available for public review from June 13, 2014 to July 14, 2014. Comments received on the EIS / Draft EA report have been addressed and incorporated into this Amended EIS / Final EA Report.

This EA report has been prepared to provide Federal and Provincial authorities with information regarding the proposed Côté Gold Project. It is intended to provide sufficient information and support a decision by the Federal Minister of the Environment under *CEAA 2012* and for the Ontario Minister of the Environment to approve the Project pursuant to the *Ontario Environmental Assessment Act*. The Federal and Provincial government authorities have agreed that a single EA report will be used for the coordinated EA process.

PROJECT OVERVIEW

The Project is located in the Chester and Neville Townships in the District of Sudbury, northeastern Ontario. It is approximately 20 kilometres (km) southwest of Gogama, 130 km southwest of Timmins, and 200 km northwest of Sudbury, see Figure ES-1.

IAMGOLD proposes to construct, operate and

eventually rehabilitate a new open pit gold mine, and is currently conducting engineering studies to further confirm and determine the technical and economic aspects of the Project.

The preliminary site layout (see Figure ES-2) proposes to place the required mine-related facilities in close proximity to the open pit, to the extent practicable, on lands that are leased and/or, on patented lands held fully and/or jointly by IAMGOLD. Open pit mining operations will occur at a rate of approximately 60,000 tonnes of ore per day. Overburden, mine rock and low grade ore extracted from the open pit will be stockpiled in a nearby mine rock area (MRA).

Ore processing will be carried out by conventional methods, using a combination of gravity separation and cyanidation for gold recovery, followed by in-plant cyanide recycle and destruction. Tailings will be stored in a constructed tailings management facility (TMF). A high proportion of the ore processing plant water requirement will derive from water recycled from the TMF, augmented by open pit dewatering, as well as runoff collected from the various stockpile areas, with a seasonal need for fresh water make-up (from Mesomikenda Lake). Excess site water will be discharged to Bagsverd Creek via a polishing pond and/or additional water treatment, if required. Such discharge will meet applicable Federal and Provincial effluent discharge requirements and will be protective of receiving water aquatic life.

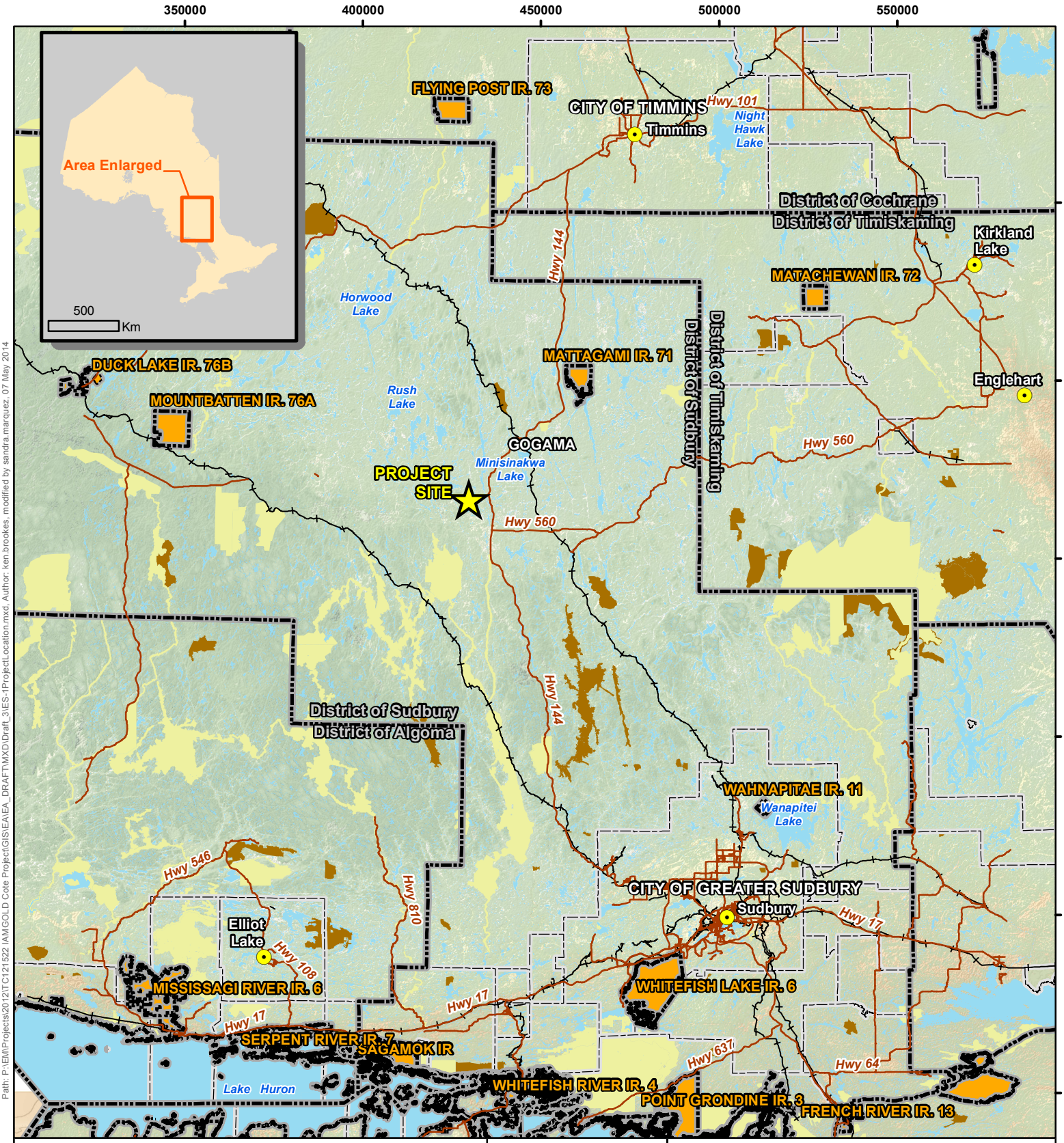
Mining operations will be supported by the development of an explosives manufacturing and storage facility. A maintenance garage, warehouse and administration complex will be developed adjacent to the ore processing plant.

An on-site accommodations complex will also be developed at the start of construction with a capacity to host 1,500 workers. This complex will provide accommodation for the construction and operations workforce. Some Project personnel may commute from Gogama and from the Mattagami First Nation reserve. Potable water will be extracted primarily from groundwater resources. IAMGOLD intends to deposit non-hazardous domestic solid wastes in a nearby-off-site landfill that is currently operated by the Ministry of Natural Resources and Forestry. IAMGOLD and the Ministry of Natural Resources and Forestry are in negotiations on expansion of the landfill to meet the Côté Gold Project needs. If it is determined that the landfill is not suitable for the Côté Gold Project, an onsite landfill will be then developed. IAMGOLD is planning on continuing and expanding its existing recycling program with the aim to minimize solid wastes. Domestic sewage will be treated using a packaged sewage treatment plant or equivalent. Hazardous solid and liquid waste will be hauled off site by licensed contractors to licensed storage facilities. Opportunities to recycle some of the hazardous waste, such as used oil, will be investigated.

Initial construction power will be provided by the existing transmission line connection to the Provincial electrical grid, supported by diesel power generator(s) (less than 5 MW required). Permanent power will

be provided through a dedicated connection to a proposed new 230 kV transmission line, originating from a substation located within the City of Timmins.

As part of the proposed development of the open pit, Côté Lake will need to be drained. It is expected that portions of Three Duck Lakes, Chester Lake, Clam Lake and the Mollie River system will be dammed and/or will require realignment to allow for the safe development and operation of the open pit. It is currently planned that Bagsverd Creek will also be realigned to allow development of the TMF.



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LEGEND

- Project Site Location
- Regional Communities
- Major Roads
- Railway
- Lower Tier Municipality Boundary
- Upper Tier Municipality Boundary
- First Nation Reserve
- Conservation Reserve (Regulated)
- Provincial Park
- Waterbody / Large Watercourse
- Wooded Area

NOTES:
- All base data on this map was extacted from Land Information Ontario, MNDM, OBM Ontario Digital Geospatial Database and Ontario Road Network Database.

0 20 40 60 80 100 Kilometres

Datum: NAD83
Projection: UTM Zone 17N

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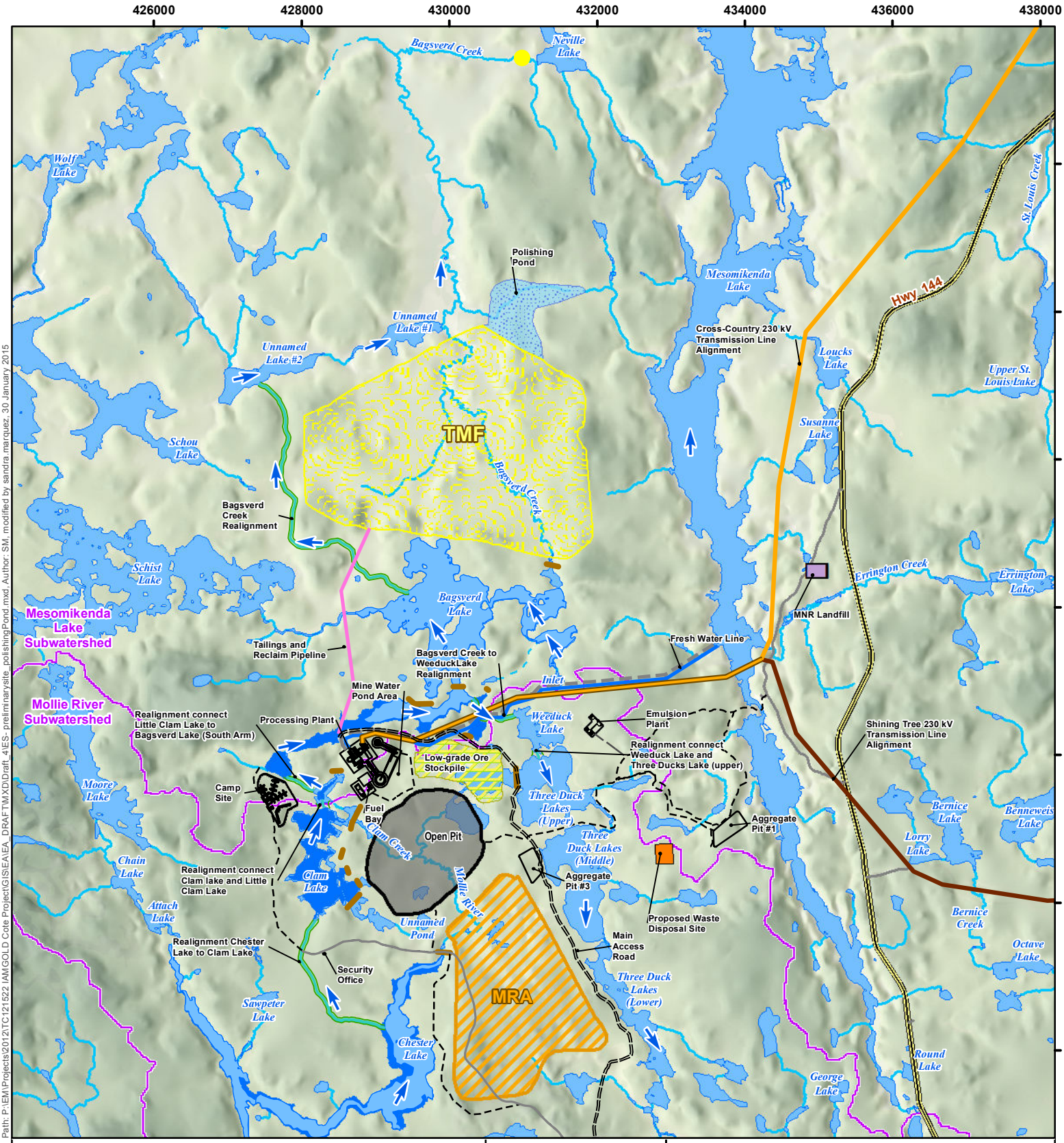
Project Location

PROJECT N°: TC121522

FIGURE: ES-1

SCALE: 1:1,450,000

DATE: April 2014



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LEGEND

- Existing Intermittent Watercourse
- Existing Permanent Watercourse
- Existing Waterbodies
- Highway
- Local Road
- Subwatershed Boundary
- Wooded Area
- Open Pit
- Potential Discharge Locations
- Facilities
- Dam
- Main Access Road
- Access Road
- Cross-Country 230 kV Transmission Line Alignment
- Shining Tree 230 kV Transmission Line Alignment
- Tailings and Reclaim Pipeline
- Fresh Water
- Watercourse Realignment
- Proposed Water Flow Direction
- Proposed Lake Area
- Polishing Pond
- Low-grade Ore Stockpile
- Proposed Mine Rock Area (MRA)
- Proposed Tailings Management Facility (TMF)
- Proposed Landfill
- MNR Landfill

NOTES:
- Ontario base data extracted from Land Information Ontario (MNR)
- TMF and subwatershed provided by Golder Associates.
- Watercourse realignment and proposed lake area provided by Calder Engineering.
- Surface infrastructure, open pit, landfill, MRA and transmission lines provided by IAMGOLD.

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Preliminary Site Plan

Datum: NAD83
Projection: UTM Zone 17N

N W E S

0 1 2 3 4 5 Kilometres

PROJECT N°: TC121522

FIGURE: ES-2

SCALE:1:70,000

DATE: January 2015

SCOPE OF THE PROJECT AND ASSESSMENT

Physical Works

Physical works related to the Project are proposed to consist of:

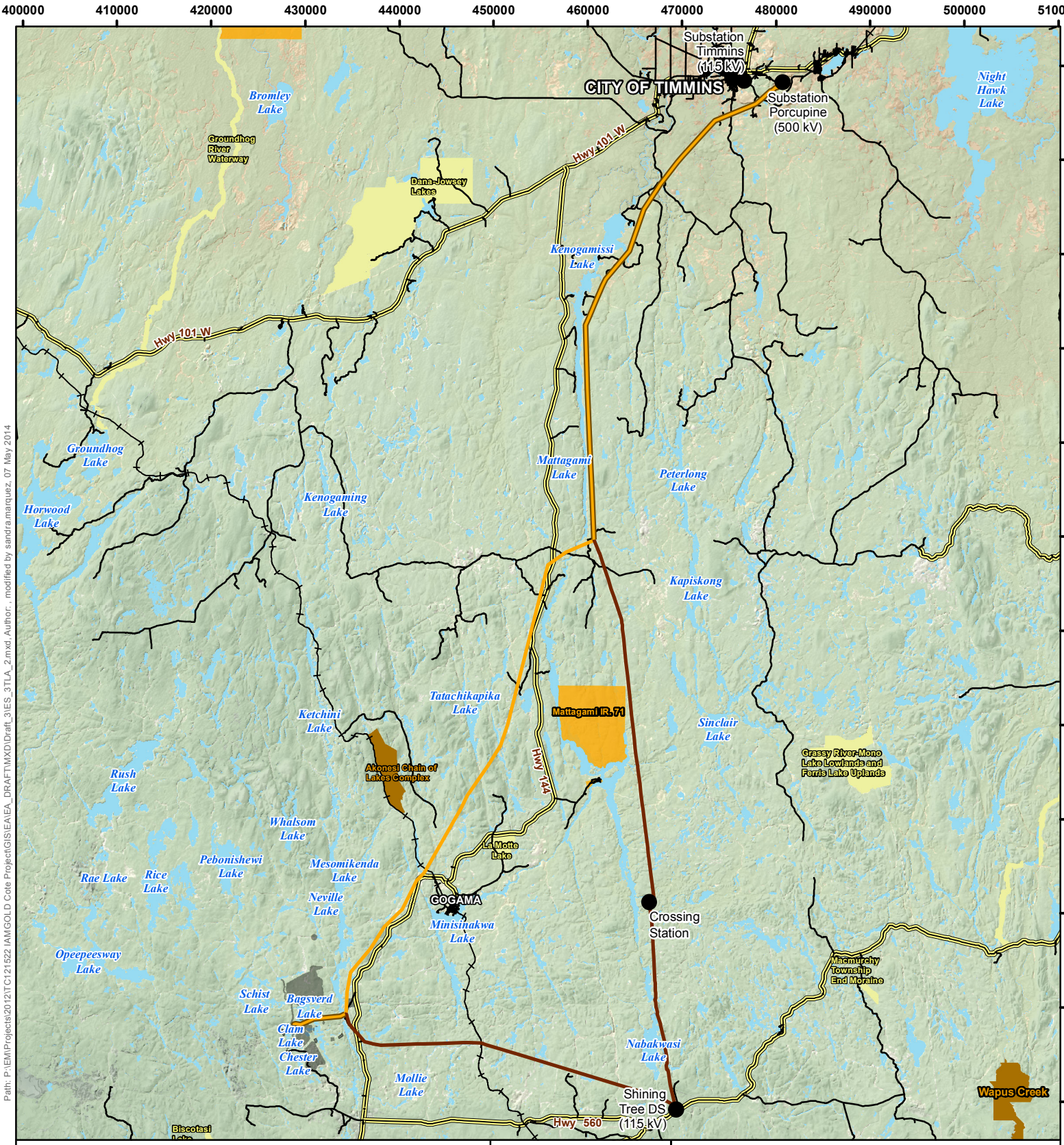
- Open pit: approximately 210 hectares (ha) in area, with a depth of approximately 550 m. Mining will occur at a rate of approximately 60,000 tpd of ore production over an approximate 15 year period.
- Mine Rock Area (MRA): approximately 20 million tonnes (Mt) of overburden and 850 Mt of mine rock, not required for site construction purposes, will be stored in a surface stockpile. A low-grade ore stockpile will also be developed.
- Ore processing plant: ore will be crushed, ground and processed on site to recover gold. The exact gold production rate will depend on ore grade and gold prices. The doré gold bar product will then be securely transported off site by road. Typically, for a project of this size, the final product is shipped off site by truck once per week.
- Tailings Management Facility (TMF): a preferred area for TMF development has been selected. This TMF covers an area of approximately 840 ha and will provide capacity for the storage of approximately 261 Mt of tailings over the expected Project life. The maximum projected dam heights are expected to be in the range of 40 m to 45 m above grade.
- Water management facilities: the principal flows at the Project site will be managed with drainage works, pipelines and water management ponds. Watercourse realignments will also be required around the open pit and TMF.
- Transmission line: power during the operations phase of the Project will be supplied by a new 230 kV transmission line connected to the existing Hydro One Network in Timmins at the Porcupine substation.
- Associated buildings, facilities and infrastructure: additional permanent on-site facilities currently planned, are expected to include: a maintenance garage, a fuel and lube facility, a warehouse, an administration complex, a construction and operations accommodations complex, an explosives manufacturing and storage facility, an aggregate plant and pit, fuel storage facilities, potable and process water treatment facilities and domestic and industrial solid waste handling facilities. These facilities will be supported by related on-site access roads, pipelines and power infrastructure.

The proposed Project layout, showing the main Project components and associated facilities and infrastructure, is shown in Figure ES-2 and Figure ES-3.

Project Phases

Primary construction phase activities will include:

- procurement of material and equipment;
- movement of construction materials to select laydown areas at and near the Project site;
- construction of additional site access roads;
- construction of dams and water realignment channels/ditches in preparation for the development of the open pit, as well as the construction of the TMF;
- construction/placement of "compensatory" fish habitat within channel realignments and works authorized to offset the loss of lake habitat;
- dewatering of Côté Lake to allow for development of the open pit;
- stripping of overburden and initiation of open pit mine development;
- development of aggregate source(s) anticipated to be principally for concrete manufacture, foundation work and TMF dam filter zones;
- establishment of site area drainage works, including pipelines from freshwater / recycled water sources;
- development and installation of construction facilities, including laydown areas, camp facilities, augmentation of electrical substation capacity and other related construction infrastructure;
- construction of associated buildings and facilities, such as a fuel bay, sewage treatment plant and landfill (if developed);
- preparation of on-site mineral waste handling facilities, including the TMF dams;
- construction and energizing of a 230 kV feeder transmission line, including an on-site electrical substation; and
- expansion of environmental protection and monitoring plan(s) for construction activities;



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LEGEND

- Proposed Site Facilities
- Proposed Cross-Country 230 kV Transmission Line Alignment
- Proposed Shining Tree 230 kV Transmission Line Alignment
- Waterbody / Large Watercourse
- Wooded Area
- Railway
- Highway/Expressway
- Local Road
- First Nation Reserve
- Conservation Reserve (Regulated)
- Provincial Park

NOTES:
- All base data on this map was extacted from Land Information Ontario, MNDM, OBM Ontario Digital Geospatial Database and Ontario Road Network Database.

Datum: NAD83
Projection: UTM Zone 17N

0 10 20 30 40 50 Kilometres

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Proposed Transmission Line Alignment Alternatives

PROJECT N°: TC121522

FIGURE: ES-3

SCALE: 1:550,000

DATE: April 2014

Activities that will be carried out during the operations phase are anticipated to include:

- ore and mine rock extraction activities;
- ore processing (gravity separation and cyanidation, with a cyanide destruction process, using recycled water as much as feasible);
- ongoing management of chemicals and wastes;
- water management/treatment;
- environmental monitoring and reporting;
- follow-up environmental studies; and
- progressive site reclamation, where and to the extent practical.

The decommissioning phase activities will consist of the closure and reclamation of the various Project components, including the 230 kV transmission line, should the transfer to a utility prove not feasible. The objective of closure is to reclaim the Project site area to as near a naturalized and productive condition as possible upon completion of mining.

The post-closure phase will be carried out in two distinct stages. Following the removal of infrastructure and waste, as well as the revegetation of disturbed areas, the open pit will continue to flood during post-closure stage I. It is anticipated that this stage could last approximately 50 to 80 years. Flooding will occur through natural groundwater infiltration and precipitation, as well as by active filling with water collected in some or all of the MRA seepage collection ponds. If the water quality is deemed suitable for discharge to the environment, pumping from the seepage collection ponds around the MRA to the pit would cease. Watercourse realignments and associated dams will be left in place during post-closure stage I.

Post-closure stage II is the final stage of rehabilitation of the site and commences once the open pit is completely flooded. The main objective is to reincorporate the open pit lake into the existing water systems and to return the subwatersheds to their pre-mining conditions, as much as practicable.

A preliminary schedule for the development of the Project has the construction phase commencing after completion of the coordinated Federal and Provincial environmental assessment (EA) process and the feasibility study which is scheduled to be completed early 2016. The decision to proceed with construction will depend on the Project economics, which is based on the projected gold price. The operations phase is expected to start approximately two years following the commencement of construction and to continue for a 15 year mine life, based on the known reserves. The closure phase will require approximately two years and the post-closure phase is anticipated to take between 50 to 80 years.

DESCRIPTION OF THE ENVIRONMENT

Baseline information for the Project was collected for each discipline of the physical, biological and human environments. Extensive studies were conducted in 2012 and 2013 in order to inform Project designs, provide reference values for future monitoring activities and to allow for the assessment of potential Project effects on the environment.

Climate

The climate at the Project site is typical of northeastern Ontario, experiencing short, warm summers and long, cold winters. Long-term climate statistics for the regional climate stations maintained by Environment Canada are monitored in Timmins, Chapleau and Sudbury, and indicate a total annual precipitation of 800 mm to 900 mm, with 29% to 37% falling as snow in the region. Annual average temperatures range from -17°C to 19°C, with minimum daily temperatures occurring in January and maximum daily temperatures occurring in July.

Air Quality, Noise and Vibration

The Project site is located in a remote area in a rural setting. Regional air quality data from Ministry of the Environment and Climate Change (MOECC) stations, located at the nearest urban centres (Sudbury, Sault Ste. Marie and North Bay), is considered to be conservative when used as existing baseline data for the regional study area. Regional air quality is considered to be good due to the rural setting, and is influenced by natural and man-made emissions borne on southern winds. Air quality data collected at the Project site is consistent with the regional setting with no significant anthropogenic sources of air emissions in the vicinity.

The noise survey data indicates that the environment in the regional and local study areas is characteristic of a rural (Class 3) area, in accordance with MOECC guideline publication NPC-232 average noise levels are 34 dBA (evening/night) and 44 dBA (daytime).

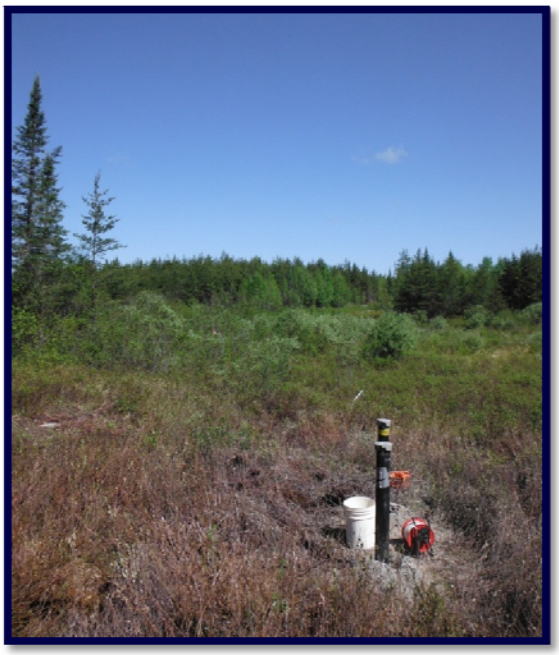
Geochemistry and Geology

The Project area is located in the Swayze Greenstone Belt, an extension of the Abitibi Greenstone Belt located within the Superior province. The Swayze belt contains both extrusive and intrusive rocks with compositions ranging from ultramafic to felsic. It also contains chemical and clastic sedimentary rocks which mainly occur near the top of successions. The Côté Gold deposit is hosted within the Chester Granitoid Complex, which comprises the northern edge of the Ramsey-Algoma granitoid complex.

Selected samples of overburden and rock available were analysed to screen for the potential of metal leaching and acid rock drainage. Test results indicate a very low potential for metal leaching and acid rock drainage for tailings and mine rock materials. Overburden materials in the vicinity of the future open pit were also assessed in a similar manner and likewise indicate little potential for metal leaching and acid rock drainage. Geochemical investigations are ongoing to fully characterize mine rock, tailings and other materials to be produced or used by the Project to guide design and engineering studies.

Results to date indicated that the likelihood of net acid conditions occurring in the mine rock piles is considered to be very low. Inclusion of the limited amount of potentially acid generating materials with the bulk of the mine rock is deemed to be an appropriate management method and as such, segregation of potentially acid generating materials is not necessary.

Hydrology & Hydrogeology



The Project site is located within the Upper Mattagami River Watershed, north of the intercontinental watershed divide between the James Bay and Great Lakes Watersheds, which drains northward through the City of Timmins and ultimately to James Bay. Surface water flows at the Project site are controlled by a number of lakes and creeks which flow to the Mollie River and Mesomikenda Lake prior to discharging to the Minisinakwa Lake and ultimately the Mattagami River. Surface water flowpaths at the Project site are currently monitored by 14 hydrological stations distributed throughout the Mesomikenda Lake and Mollie River Subwatersheds. Mean annual runoff for the region is in the range of 300 mm to 350 mm, and groundwater recharge to streamflow is estimated at an annual average of 0% to 20%, indicating that surface flow is dominant in the regional systems.

The Mattagami River upstream of the City of Timmins Water Filtration Plant (including the Project site) is within the Intake Protection Zone 3 in the context of the Mattagami Conservation Authority Provincial Drinking Water Source Protection Program.

Groundwater is recharged as infiltrating precipitation is inferred on a regional level to flow from the south-southwest to the north-northeast. On a local level, groundwater flow is controlled by the topography, flowing from high-elevation recharge areas to discharge at low-lying areas and nearby surface water features and wetlands.

The movement of groundwater within overburden throughout the Project site is highly variable and typical of granular to fine granular materials such as gravel and sand mixtures. Granular till materials, with equally high permeability as overburden, were observed at depth in several locations, particularly in the low-lying areas along the Mollie River and the Bagsverd Creek valleys. A wide range of groundwater movement through the bedrock was measured, as the upper 10 m consists of fractured bedrock, while at greater depth there is unfractured bedrock. Groundwater movement generally decreases with depth which is typical in the Canadian Shield.

Surface Water, Sediment and Groundwater Quality

Surface water quality sampling was completed at 22 locations, which included numerous hydrological stations near the Project site, and results were referentially compared to water quality standards and guidelines. The overall water quality observed in the study area is considered typical of lakes and watercourses present in the regions of the Canadian Shield. The results indicate that at some locations the concentrations of some parameters were consistently or occasionally greater than the Provincial Water Quality Objectives and Canadian Environmental Quality Guidelines for the protection of aquatic life. This is because flow is influenced by bedrock outcrops, and concentrations that exceed water quality criteria likely reflect the influence of natural mineral laden bedrock weathering processes on surface water quality. Water column profiling results indicate that most lakes in the study area experience a turnover during spring, and the profiles of dissolved oxygen, temperature, and conductivity (to a lesser extent) indicate that the water column is stratified from mid- to late-spring and through the summer months.

Sediment analysis indicated good sediment quality, with the majority of parameter concentrations below Provincial Sediment Quality Guidelines and Federal Canadian Environmental Quality Guidelines. Noted exceedances for total organic carbon were deemed typical in northern Ontario lakes due to a naturally high organic content. Some metal parameters were detected at higher concentrations (copper, iron and magnesium) and are similarly attributable to the weathering of the underlying mineral laden bedrock.

Groundwater quality results indicate that field pH, aluminum, arsenic, cadmium, chromium, cobalt, copper, iron, molybdenum, silver, tungsten, uranium, vanadium, zinc, un-ionized ammonia and free cyanide were occasionally present in concentrations greater than water quality standards and guidelines (Provincial Water Quality Objectives and Canadian Environmental Quality Guidelines). In addition, arsenic and uranium were occasionally greater than Ontario Drinking Water Standards, though this is not uncommon for regions in the Canadian Shield. All other parameters and/or concentrations analysed were consistently below water quality criteria.

Vegetation

The vegetation baseline studies for the regional and local study areas around the Project site demonstrate that the vegetation communities are typical of the mixed boreal forest region of northern Ontario. The local study area and Project site are dominated by upland forested and non-forested communities, which comprise approximately 65% of the area. Upland communities and ecosites consisted of deciduous, mixed wood, coniferous and cultural habitats. Wetland communities and ecosites consisted of swamp, fen and marsh-type wetlands.

The majority of the recorded plant species are native to Ontario and no provincially or federally listed or rare species were identified through field studies. Field surveys also indicated that no Rare Vegetation Communities are present within the local study area.

Wildlife

Wildlife surveys conducted between 2012 and 2013 identified species of birds, reptiles and amphibians, mammals and species at risk. The area exhibits a relatively high diversity of avian and mammalian species that reflect the diversity of available habitats (forests, wetlands, shrublands and clearings). Species observed during surveys in the regional and local study areas are considered to be largely abundant and common to region.

Source: U.S. Fish and Wildlife Services – Northeast Region

Based on a review of ecosites present, field studies confirmed the presence of Specialized Habitats for Wildlife, namely Bald Eagle Nesting Habitat, Raptor Nesting Habitat, and Amphibian Breeding Habitat (Wetlands). No significant Habitat for Species of Conservation Concern was confirmed.

Species at risk detected through field surveys in the local and regional study areas around the Project site are listed in Table ES-1.

Table ES-1: Species at Risk Detected within the Local and Regional Study Areas

Species Common Name	ESA	SARA
Birds		
Bald Eagle	SC	NAR
Canada Warbler	SC	T
Common Nighthawk	SC	T
Olive-sided Flycatcher	SC	T
Rusty Blackbird	SC	—
Mammals		
Little Brown Myotis (bat)	E	—
Reptiles		
None detected	—	—

ESA - *Endangered Species Act*, SARA - *Species at Risk Act*.
E – Endangered, NAR – Not at Risk, SC – Special Concern, T – Threatened

Aquatic Biology

As previously noted, the Project is located in the headwaters of the Mattagami Watershed which is characterized by the presence of numerous lakes and rivers. Lake depths vary from approximately 3 m in Côté Lake, 1.6 m in Unnamed Lake #1 and up to 5.8 m in Little Clam Lake with the nearby Mesomikenda Lake being the only waterbody of significant depth at an average of 32 m. Most lakes have a neutral to slightly acidic pH, with warm waters, shallow Secchi depths (mostly yellow-brown coloured water with moderate clarity) and dissolved oxygen levels typical for regional lake The banks of the surveyed lakes were mostly bordered by wetlands and/or forested to the shoreline. Black Spruce and Cedar mainly overhung the shorelines with alders, shrubs, sedges and grasses in the understory at the lakes' edges. Within the lakes, emergent macrophytes were observed in the periphery, providing spawning habitat for Yellow Perch and Northern Pikes. The lakes supported large-bodied fish species primarily consisting of Northern Pike, Yellow Perch and White Sucker. Some of the water bodies also supported Lake Whitefish and Walleye, which also represent important sport fish. Samplings of the water bodies did not provide evidence of any aquatic Species at Risk (such as Lake Sturgeon) under COSEWIC.

The rivers, including Mollie River, Bagsverd Creek and Clam Creek, are characterized by slow flows, except for shallow and rocky portions and due to extensive macrophyte coverage observed along the banks, the watercourses provide suitable spawning grounds for Northern Pike.

Ponds surrounding the Project site generally have emergent macrophytes and wood debris with Alders, sedges, shrubs, and grasses dominating the banks. Except for the presence of White Sucker in Bagsverd Pond and West Beaver Pond, no large-bodied fish were captured in sampled ponds

Land and Resource Use, Traditional Knowledge and Land Use

The regional study area is primarily used for resource development (mineral exploration, forestry), cottaging and outdoor recreation, and wilderness pursuits such as canoeing, trapping, hunting and fishing. Mining and forest related activities are the predominant types of industrial or commercial land uses in the regional study area. It appears that some recreation uses (such as fishing and hunting) may not be as popular in the area as in adjacent areas; however, cottaging and canoeing are valued and historical land uses.

The Mattagami First Nation and Flying Post First Nation were provided funding by IAMGOLD to complete a traditional knowledge and traditional land use study. Subsequently, some cultural resources that may be affected by the Project were identified, including a wildlife point (bald eagle nest), portage route, waterfowl hunting route and a waterfowl hunting point. Information has not yet been provided by the community on the current use of these sites or the value ascribed by the community to them. Other resources that may be used by the Mattagami and Flying Post First Nation in the Project area include pickerel, moose, ducks, partridge (grouse), and blueberries.

Specific traditional land uses and traditional knowledge related to the Project area from the Métis has not yet been received. According to reports published by the Métis Nation of Ontario, important plant species in general for the Métis include mushrooms; specifically birch and chanterelle mushrooms, ferns, and berries. Important wildlife includes grouse, deer, moose, ducks and geese. Fish species in the area that may be used by the Métis include trout, pike, walleye, and whitefish.

Built Heritage Resources

No built heritage resources, other than ruins from previous mining activities, have been identified in the local study area. Twelve cultural heritage landscapes and 19 built heritage resources were identified within the regional study area. These landscapes are: five remnants of Culturally Modified Trees (CMT) that served as Aboriginal and early Euro-Canadian trail markers; and seven remains of early trail systems, reflected today in open corridors through wooded areas.

Archaeology

Archaeological assessments conducted for the Project followed applicable regulations and guidelines as per the *Ontario Heritage Act* and the Ministry of Tourism, Culture and Sport. Some of the prime areas of potential were tested in the spring of 2012. Stage 1 and Stage 2 investigations identified a total of 37 archaeological sites and 31 features, located and recorded within the Project property. This includes 18 pre-contact archaeological sites, 11 historic archaeological sites and 8 ancient trails and portages. If any identified sites were to be impacted by Project activities, then Stage 3 and Stage 4 archaeological assessments would be carried out.

Visual Aesthetics

The existing landscape at, and around the Project site is typical of northern Ontario, characterized by densely populated coniferous and deciduous trees, rivers and lakes. Landscapes from the identified receptor sites during winter and summer present a natural setting with views of lakes and/or rivers, trees and natural forest clearings.

Socio-Economics

The regional study area includes the areas of Gogama, Timmins, Sudbury, the Unorganized North Sudbury Subdivision, Unorganized Timiskaming West, Mattagami First Nation, Flying Post First Nation, Brunswick House First Nation and Matachewan First Nation. Timmins and Sudbury are urban communities which have increasingly become service hubs for mining, education and health services. The rural areas of Gogama and the unorganized subdivisions have, over the past decade, seen negative population growth and an ageing demographic. The First Nation reserves have younger populations and have seen positive population growth, although some (Mattagami and Matachewan in particular) seem to be undergoing a demographic transition to a larger working-age population. The majority of their members live off-reserve.

The regional study area's population grew by 1.3% over the period from 2006 to 2011. The majority of regional study area residents (97.3%) live in one of the two cities in the regional study area, Timmins and Sudbury. Both Cities have grown in population, while rural populations shrank. High commodity prices have strengthened the regional study area's economy over the last decade, particularly in urban areas, which have also benefited economically from their role as regional service hubs. .

The culture of the region has been influenced by the Aboriginal peoples who reside(d) in the area and the pattern of settlement from French and English Canada. Gogama in particular has a strong Franco-Ontarian influence in its culture. According to information from Statistics Canada, more than half of its residents, 56.1%, consider French their mother tongue and 64.3% of residents are bilingual. A substantial and rising share of the region's residents identify as Aboriginal, 8.0% in Timmins and 8.2% in Sudbury. Among those who identify as Aboriginal there are multiple identities, with about half of the population identifying as Métis and half as First Nation.

The regional economy has been strengthened by a sustained increase in commodity prices, particularly in gold, which has helped expand the mining industry. The regional study area has a long history of mining and the industry has played a role in forming its institutions, culture and infrastructure. Both Timmins and Sudbury have had or have mines in production within their city limits. People working in mining make up 14.5% of the workforce of Timmins and 8.6% of the workforce of Sudbury compared to 0.4% for Ontario as a whole. Both City governments are supportive of the mining industry. The strong relationship with natural resource based activities leaves it highly affected by global markets and commodity prices.

The regional study area is accessible by road, rail and air services. The regional study area's infrastructure and social services for Timmins and Sudbury provide adequate services for current demands and needs. Generally, water and wastewater treatment is adequate throughout the regional study area, including the First Nation communities, although Gogama's wastewater treatment is currently near capacity.

ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT

The Ontario *Environmental Assessment Act* makes reference to both "alternatives to" a proposed undertaking, and "alternate methods" of carrying out a proposed undertaking.

As part of the development of the EA process and in compliance with Environmental Impact Statement (EIS) Guidelines, IAMGOLD committed to assess alternatives to, and means of carrying out the Project.

Project Alternatives

Alternatives for the Project have been considered with respect to the following Project components:

- mining;
- minewater management;
- mine rock and overburden management (mine rock area, MRA);
- ore processing plant;
- process effluent treatment;

- tailings management facility (TMF);
- water supply;
- water discharge;
- watercourse realignments;
- site infrastructure positioning;
- aggregate supply;
- solid waste management and domestic sewage treatment;
- power supply and routing; and
- mine closure.

A summary of the proposed alternatives for the Project are presented in TableES-2, followed by the rationale for the selected alternatives. For some Project elements, technologies or processes were readily selected due to the technical suitability of those suited to the Project's conditions and those that can be financially sustained by the Project. The preferred alternatives, which have been carried forward in the prediction of effects and impact assessment, are highlighted in Table ES-2.

Alternatives to the Project

Three alternatives to the Project have been identified, which include:

- proceed with the Project in the near term, as planned by IAMGOLD;
- delay the Project until circumstances are more favourable; and
- the "do-nothing" alternative (development of the Project is cancelled).

From an overall perspective, the preferred alternative is to proceed with the Project in the near-term. Although there is essentially no differences in environmental effects associated with the alternative of proceeding with the Project as planned versus timing commencement of the Project with improved market conditions.

Table ES-2: Summary of Alternative Methods for the Project

Project Element	Alternative	Rationale for Selection
Mining	Open pit mining	Orebody is a high tonnage, relatively low-grade deposit located near the surface, which is best suited to open pit mining.
	Underground mining	Orebody not suitable for underground mining, due to the fact that the gold is finely disseminated and close to the surface.
	Open pit and underground mining	It is not anticipated that developing a smaller open pit, combined with an underground operation is not suitable due to the fact that the gold is finely disseminated in the orebody.
Minewater Management	Develop a separate minewater system	A key objective of the Project is to recycle as much of the on-site water as practicable. A separate minewater treatment and management system would go against this objective.
	Integrate minewater with TMF operations	This alternative is best suited to the Project's objective of recycling on-site water.
Mine Rock and Overburden Management	Place and manage the mine rock and the overburden in stockpile adjacent or proximal to open pit	For large mining projects, minimizing mine rock management cost is a major cost driver; therefore, it is common to place mine rock and overburden as close to the pit as practicable.
	Establish a temporary stockpile location, with mine rock and overburden retained in the pit during operations and/or returned to pit at closure	Moving the large amounts of overburden and mine rock generated during the construction and operations phases again upon closure would increase the Project footprint and be excessively costly, which may render the Project uneconomic.
Gold Recovery	Non-cyanide recovery	No viable industrial scale application alternative available.
	Cyanide recovery methods	This method is applied when all gold is extremely fine and cannot be recovered partially by using gravity separation.
	Combination of non-cyanide and cyanide recovery methods	In this orebody, a portion of the gold can be recovered using gravity separation, such that a smaller fraction will require cyanide leaching, hence the combination of these two methods is the chosen alternative.

Table ES-2: Summary of Alternative Methods for the Project (cont'd)

Project Element	Alternative	Rationale for Selection
Process Effluent Treatment	In-plant cyanide recycling and destruction using the SO_2/Air process	This process presents the lowest risk to surface water quality and people in the case of an accidental release of tailings.
	Process plant effluent discharge to the TMF with natural degradation for the destruction of cyanide	The use of natural degradation presents a greater overall environmental risk.
	Process effluent discharge to the TMF for natural cyanide degradation and use supplemental hydrogen peroxide destruction of any residual cyanide	Hydrogen peroxide treatment will have a lower cost than the SO_2/Air, but may carry environmental risks.
Tailings Management	Tailings slurry (~50% solid content)	This is the most commonly used deposition method in cooler climates and is therefore most proven methodology.
	Thickened tailings (~60% solid content)	Thickening of tailings is very costly and is generally only carried out in settings with very limited water availability and in dry climates.
	Paste thickened tailings (~68% solid content)	
Water Supply	Mesomikenda Lake	Allows for a reliable source of water from the largest body of water in the area at a relatively short distance from the Project with minimal potential for environmental effects.
	Other area watercourse(s), lake(s) and pond(s)	The only other local surface water with sufficient capacity, and that is reasonably close, is Bagsverd Lake. Taking water from Bagsverd Lake during low flow years would affect aquatic habitat and fish in the lake and downstream.
	Groundwater well(s)	Groundwater yield is limited and insufficient to meet Project needs.
Water Discharge	Mesomikenda Lake	Mesomikenda Lake is capable of meeting the Project's water discharge needs. However cottagers and downstream users may perceive water discharge as an infringement or as a disturbance.
	Bagsverd Creek	Water quality modelling predicts that effects on Bagsverd Creek would be slightly lower than Mesomikenda Lake. The resulting mixing zone in Neville Lake is predicted to be smaller.

Table ES-2: Summary of Alternative Methods for the Project (cont'd)

Project Element	Alternative	Rationale for Selection
Watercourse Realignments	Realignment of Bagsverd Creek around the TMF and realignment of portions of Three Duck Lakes, Chester Lake, Clam Lake and the Mollie River system around the open pit and MRA.	Watercourse realignments were designed and optimized to minimize impacts to receiving waters and aquatic species. In addition, they were developed to minimize transfer between watersheds and also considered ability to offset impacts to fish and fish habitat
	Other realignments around Project components	Additional options were considered to be less favourable with regards to desired environmental outcomes.
Site Infrastructure	Maintenance garage, warehouse and administration complex	As final Project design is considered the optimal locations for these components may be further refined and optimized to meet Project needs and minimize environmental effects.
	Accommodation complex	
	Fuel and lube bay	
	General laydown areas and temporary storage facilities	
	Explosives manufacturing and storage facilities	
Aggregate Supply	Overburden/mine rock	Approximately 40 Mt of mine rock is expected to be used in various forms of Project site construction. Quality overburden and mine rock are not sufficient to meet all construction needs.
	Dedicated on-site aggregate pits	Resources available from existing on-site pit are approximately 0.5Mm^3 and are expected to have low potential for environmental effects.
	Commercial off-site aggregate pits	Implies reliance on external suppliers and higher cost due to the transportation of material to the Project site.

Table ES-2: Summary of Alternative Methods for the Project (cont'd)

Project Element	Alternative	Rationale for Selection
Non-Hazardous Solid Waste	Truck waste off-site to an existing licensed landfill	Transport would increase traffic along local roads and relies on provision of services by others. Transporting could be contracted to others but may be too costly.
	Develop an on-site landfill	This alternative requires long term monitoring and potential closure liabilities, making it less attractive from a cost perspective.
	Acquire/manage an off-site landfill proximal to the Project	Close proximity to the Project site will reduce cost of hauling wastes and would eliminate the need for development of access roads. Facility location reduces the risk for potential effects to groundwater due to local topography and geology.
	Incineration	This alternative is not economically viable and will increase undesirable emissions.
Hazardous Solid Waste	Shipment off-site to an appropriate licensed landfill	Shipment of hazardous solid waste is generally the preferred alternative to limit the Project footprint.
	Development of an on-site hazardous solid waste management system (such as landfill)	This alternative's potential risks to the environment are unacceptable and it was therefore not considered further.
Domestic Sewage	Septic tank(s) and tile field(s)	Due to soil conditions at the site, this technology would require import of additional material. Suitable on site locations without affecting watercourses are limited.
	Lagoons	System is poorly suited for colder regions due to the reduction of biological oxidation processes.
	Package sewage treatment plant	Package sewage treatment plants are proven technology and cost effective. Remaining sludge will be trucked offsite to a licensed landfill or disposed of in the TMF. Post-treatment effluent can be directly discharged to the environment.
	Trucking domestic sewage off-site to a licensed treatment plant	Alternative would minimize onsite environmental effects.. Trucking would increase traffic along local roads and increase the potential for accidents and spills and is not economical.

Table ES-2: Summary of Alternative Methods for the Project (cont'd)

Project Element	Alternative	Rationale for Selection
Power Supply and Routing	On-site diesel generation	This alternative has high environmental implications and is not economically viable for the Project.
	Tie in to the 115 kV line near the Project	This alternative is considered insufficient based on the power requirements of the Project design.
	230 kV Shining Tree transmission line alignment	This alignment has greater vegetation clearing requirements. This alternative is more costly due to its greater length, which also causes greater transmission losses.
	230 kV Cross-Country transmission line alignment	This alignment has a smaller footprint. In addition, transmission losses will be reduced which reduces the demand on the provincial; electrical grid.
	Alternative energy sources (hydroelectric, solar, wind)	Renewable energy cannot provide consistent uninterrupted power or do not meet IAMGOLD's technical needs.
Mine Closure – Open pit mine	Natural flooding	It would take approximately 100 years or more for the pit to flood naturally, without additional inflows.
	Enhanced flooding	Enhanced flooding will reduce the time until the open pit is fully flooded. Runoff and seepage collected from the MRA will be used to enhance flooding of the open pit.
	Backfill with mineral waste	This alternative is not economically viable for the Project.
Mine Closure – Water management system	Leave in place	This alternative would require long term maintenance and monitoring of residual site drainage features.
	Partial removal	Partial removal would have been considered if full removal was not technically feasible.
	Full removal	Minimizes long term maintenance and monitoring requirements while also re-establishing, as much as possible, pre-disturbance conditions.

Table ES-2: Summary of Alternative Methods for the Project (cont'd)

Project Element	Alternative	Rationale for Selection
Mine Closure – Stockpiles	Re-use	40Mt of mine rock are expected to be used for site construction activities. Use of mine rock and overburden beyond this amount is not required. There is no other foreseen use of mine rock after Project closure.
	Stabilization and covering/revegetation	This alternative will provide the required long term physical and chemical stability of the residual stockpiles. Partial covering and revegetation will expedite the growth of plants and trees.
	Use in backfill	Due to mine sequencing of the open pit, backfill during the operations phase is not practicable. Backfilling of the open pit post-closure is uneconomical.
	Engineered cover	Engineer covers are required to control metals leaching or acid generation. The mine rock management plans at the Project are designed to prevent any acid rock drainage potential. Therefore this more costly alternative is not required.
Mine Closure – TMF	Permanent flooding	The tailings are considered to have a very low potential for metals leaching and acid rock drainage, therefore this alternative is not required.
	Covering and revegetation	In the case of non acid generating tailings, such as for this Project, the tailings surface can be revegetated directly without the need for a layer of topsoil.
Mine Closure– Buildings	Disassembly and removal	This is a common practice, and is more costly, but disassembly and full removal of buildings will allow the area to return to unobstructed terrestrial habitat.
	Re-use of acceptable buildings	At this point, it is not expected that there would be any follow up uses for any of the onsite infrastructure.

Table ES-2: Summary of Alternative Methods for the Project (cont'd)

Project Element	Alternative	Rationale for Selection
Mine Closure – Infrastructure (access roads, transmission line)	Decontamination and removal	This is a common practice, is more costly, but disassembly and full removal of infrastructure will allow the area to return to unobstructed terrestrial habitat.
	Leave in place for future use	At this point, it is not expected that there would be any follow up uses for any of the onsite infrastructure and/or the transmission line.
	Reclaim in place	This alternative is more cost efficient but less environmentally friendly and not compliant with Ontario closure regulations.
Mine Closure – Drainage (watercourse realignments)	Stabilize and leave in place	The Mollie River system realignments are necessary to support the development of the open pit, MRA and low-grade ore stockpiles. The Bagsverd Creek realignment is necessary to support the development of the TMF. These features will need to remain in place due to the existence of the MRA and the TMF.
	Removal	A complete removal of realignments is not possible due to the existence of the MRA and the TMF.

Note: Shading indicates preferred alternatives.

PUBLIC AND ABORIGINAL ENGAGEMENT

An important part of the Project permitting and planning process is proactive consultation with potentially affected and interested stakeholders, Aboriginal communities and government agencies. For the Project, consultation has involved informing and engaging these respective Parties about the development of the Project, responding to their interests and concerns, and continuing to build and maintain positive relationships. This has been,

and is currently being achieved, by creating avenues for dialogue and information exchange (verbal and written), and by fostering an ongoing relationship between IAMGOLD and these stakeholder and Aboriginal groups.

The goal of consultation for the Project is to provide stakeholders, Aboriginal communities and government agencies with information and gather their feedback about:

- the Company;
- the status of exploration and mining-related activities;
- the EA processes and related documents including the Provincial ToR and the Federal PD;
- the environmental baseline studies and any anticipated environmental effects and associated effects management strategies; and
- the closure plan concepts.

Engagement of Aboriginal communities, local land users and community members, business and community organizations and government agencies was done through a series of activities, including holding meetings, hosting open houses, conducting site visits and developing and issuing plain language materials (fact sheets, newsletters). IAMGOLD is committed to ongoing discussions with Aboriginal communities and other stakeholders about potential Project effects and appropriate mitigation strategies.

IAMGOLD has identified the following stakeholders that have, or could have an interest in the Project:

Business and Community Organizations:

- Cambrian College;
- Collège Boréal;
- Gogama Area Chamber of Commerce;
- Gogama Recreation Committee;
- Gogama Snowmobile Club;
- Greater Sudbury Chamber of Commerce;
- Greater Sudbury Development Corporation;
- Laurentian University;
- Mattagami Region Conservation Authority;
- Mesomikenda Lake Cottagers Association;
- Northern College;

- Sudbury Area Mining Supply and Service Association;
- Timmins Chamber of Commerce;
- Timmins Economic Development Corporation;
- Local land and resource users (e.g. trap line permit holders);
- Adjacent or local mining rights holders;
- Local small business owners; and
- Local outfitter and tourism operators.

Environmental Non-Government Organizations:

- Mining Watch Canada;
- Northwatch; and
- Canadian Parks and Wilderness Society (Wildlands League).

Non-Government Organizations:

- Northern and Outdoor Tourism Ontario;
- Ontario Mining Association;
- Ontario Prospectors Association;
- Porcupine Prospectors and Developers Association; and
- Sudbury Prospectors and Developers Association.

An understanding of the Aboriginal communities that could be affected by, or have an interest in the Côté Gold Project was first established through advice from the Ministry of Northern Development and Mines (MNDM) to Trelawney and also through advice from the Canadian Environmental Assessment Agency (the Agency) based on information provided by Aboriginal Affairs and North Development Canada (AANDC). Considering advice from regulators, the proposed footprint of the current Project design and through discussion with local communities, IAMGOLD made a preliminary list of potentially affected Aboriginal communities for early engagement activities.

On March 6, 2013 the Agency informed IAMGOLD that the following Aboriginal communities should be consulted with respect to the Project:

- Algonquin Anishinabeg Nation Tribal Council;
- Brunswick House First Nation;
- Flying Post First Nation;

- Mattagami First Nation; and
- Métis First Nation of Ontario – Region 3.

It was noted that as the Federal EA progresses, the Agency will notify:

- Beaverhouse First Nation;
- Chapleau Ojibway First Nation; and
- Matachewan First Nation.

On May 23, 2013, IAMGOLD received further direction from the Provincial Crown, through MNDM, that the following communities should be consulted with respect to the Project:

- Brunswick House First Nation;
- Flying Post First Nation;
- Matachewan First Nation;
- Mattagami First Nation; and
- Métis Nation of Ontario.

During the Spring of 2013 IAMGOLD was also approached by Serpent River First Nation and M'Chigeeng First Nation, requesting that IAMGOLD consult with these communities on the potential impact of the Project on their harvesting rights.

Comments and questions received from stakeholders about the Project were primarily regarding:

- effects on water quality and use (such as water intake and discharge, use of cyanide, etc.);
- effects on local water systems;
- effects on fish and wildlife habitat;
- effects on land uses such as fishing, canoe route and forestry;
- location and function of the MRA and the TMF;
- acid rock generation study results and management;
- effects related to noise and potential decreases in property value for cottagers;
- current and future access for land users to the Project area;
- development of a larger skilled workforce in mining;
- effects related to the use of cyanide and tailing discharge on land use and fish populations; and
- lack of consultation plan for managing cottager and community relations.

Comments and questions received from Aboriginal groups about the Project were primarily regarding:

- water quality and draining of Côté Lake;
- effects on wildlife habitat and abundance;
- effects on fish habitat and abundance;
- effects on land uses such as fishing, camping, trapping and hunting;
- development of an IBA;
- traditional knowledge and traditional land use studies;
- closure planning and financial assurance;
- business, training and employment opportunities;
- effects on local water systems; and
- development of a MOU.

Comments and questions received from government agencies about the Project were primarily regarding:

- terminology and technical guidance on the draft ToR and baseline studies;
- alternative assessments;
- effects assessments;
- water quality and use;
- effects on the local water system;
- effects on fish and wildlife habitat;
- effects on land and resource users;
- effects on socio-economic conditions;
- results of acid rock generation studies;
- coordination of the Provincial and Federal EA processes;
- requirement of land use permits;
- transmission line alternatives;
- permitting a landfill on-site for construction and operations purposes;
- noise effects;
- archaeological and built heritage studies;
- terminology and technical guidance on the ToR;

- location of landfill and waste management facilities;
- indicators for the assessment of alternatives;
- abandoned and rehabilitated mine hazards;
- power requirements and the construction and operation of the 230kV transmission line; and
- location and function of the MRA and TMF.

Further to the topics listed above, the following is a summary of some of the key comments received as of October 15, 2013 about the Project from the general public, Aboriginal communities and leadership representatives and government agencies, and how IAMGOLD has worked to address them.

Acid Rock Generation

Stakeholders inquired about the results of any acid rock generation studies and how this would be managed. Geochemical testing of available tailings materials indicates that principally, the tailings are non-potentially acid generating. The investigations indicated that only 6% of non-ore rock samples indicated a potential for future acid generation and further, based on rock handling procedures and the geologic structure of the ore body, it is not anticipated that the MRA will generate acid rock drainage.

Adjacent Land Users

Cottagers on Mesomikenda Lake have expressed concern about an increased amount of noise on Mesomikenda Lake since the commencement of work at the Project's exploration site. IAMGOLD is aware that increased activity does generate noise which may disturb nearby cottagers. IAMGOLD assures that moving forward with the Project, measures will be taken to minimize the potential disruption caused by the operations of an exploration camp.

Cottagers on Mesomikenda Lake have also expressed concerns about the potential for future noise effects from the Project on cottagers, a devaluation of property value and a potential for reduced enjoyment of property. Potential future effects of the Project on property value and noise have been assessed in the EA. IAMGOLD is committed to continuing engagement with the Mesomikenda Lake Cottagers Association, to ensure that appropriate mitigation strategies (e.g., modification of traffic patterns at site to reduce noise levels, timing of blasting in the open pit to limit noise and vibration impacts to cottagers, etc.) are developed, as appropriate.

Business, Employment and Training Opportunities

Initial discussions between IAMGOLD and stakeholders highlighted the desire to increase labour and training capacity in the region and the need to integrate academia and the business community to attract people and investment into the regional Project area. In response to this, IAMGOLD has completed a labour effects assessment as part of the socio-economic effects assessment for this Project.

IAMGOLD has been actively discussing education and training in addition to employment and procurement opportunities with Aboriginal groups as part of the ongoing Impact-Benefit Agreement negotiations. IAMGOLD is also developing practices to facilitate the procurement of Aboriginal ventures and labour supply. Funding and training programs for local Aboriginal communities will be initiated as development prospects for the Project are firmed up.

Mine Closure

Stakeholder groups have inquired about IAMGOLD's experience with mine closure and what assurances would be in place for rehabilitation of the mine site. There were also questions related to what the Project site would look like after closure and whether or not Aboriginal groups could be involved in reclamation planning. IAMGOLD has assured stakeholders that they have experience with closure planning in Canada as well as other parts of the world.

IAMGOLD must file Closure Plans and post financial assurance with Provincial authorities so the funds are available for closure and reclamation, if required. Current closure plans are to return the Project site to a naturalized state at closure, however throughout the consultation phases of the EA, IAMGOLD is interested in hearing feedback on the management objectives of the closure plan.

Mine Rock Area and Tailings Management Facility

Stakeholders identified concerns about the plans to store mine rock and tailings specifically related to acid rock generation, location and size. As part of the alternatives assessment required for the Project, IAMGOLD considered a multitude of locations for both mine rock areas and tailings management facilities. In accordance with approved methodologies, these sites were then narrowed down and presented in the Project Description and draft Terms of Reference. Based on public comments received, technical suitability, cost and environmental effects two mine rock areas close to Mesomikenda Lake have not been removed from the proposed Project. Potential Effects on Water Resources, Water Quality and Water Bodies

Stakeholder groups have raised concerns about the nature and extent of potential effects of the Project on water. Specifically, questions around the impact on aquatic habitat, the draining of Côté Lake and realignments were raised. IAMGOLD is committed to designing watercourse realignments to convey flows in a natural manner, and where possible, to enhance the ecological function of the watershed. With respect to the draining of Côté Lake, IAMGOLD will offset the loss of fish habitat within the adjacent lakes or streams, to maintain the existing fish communities. In addition, the habitat population will be monitored throughout the life of the Project and after closure to ensure the population thrives and fish are healthy.

Stakeholder groups have raised concerns about the potential for methyl mercury production associated with flooding terrestrial habitat as part of the watercourse realignments. IAMGOLD is committed to the

removal of terrestrial vegetation and organic soils prior to flooding in order to prevent the potential for methyl mercury production.

Stakeholders also expressed concern about unintended tailings releases and potential water contamination. IAMGOLD has assured stakeholders that the Company will design and manage the Project using proven and effective systems for containment and storage to avoid unintended releases. IAMGOLD is committed to recycling as much water as possible to reduce demands on adjacent waterbodies and limit the release of mine effluent.

Traditional Knowledge, Land Use and Project Agreements

Aboriginal groups raised concern that the Traditional Knowledge and Traditional Land Use (TK/TLU) studies would be too narrowly focused on present uses of the Project site area. As these studies help to define the potential impacts of the Project on local communities, IAMGOLD and Mattagami First Nation formed a working group to discuss questions that should be asked to community members. As a result, the TK/TLU studies have a regional focus, and also consider the past and present uses of the Project site within the 'living memory' of community members. The studies also make note of historical uses of the land that may have been previously displaced by and/or have the potential to be further impacted by future mining activities. IAMGOLD has incorporated the TK/TLU studies into the EA to ensure adequate Aboriginal community input has been received as part of the process.

Wabun Tribal Council, Mattagami First Nation and Flying Post First Nation initiated negotiation of an Impact Benefit Agreement with IAMGOLD to address the potential impacts of the Project on their Treaty rights. Additionally, IAMGOLD has initiated negotiations with the Métis Nation of Ontario on an Impact Benefit Agreement, following the ratification of a Memorandum of Understanding. Discussions with both groups are ongoing, and the agreements are being developed in parallel with the EA and permitting process.

Transmission Line Alignments

Given that IAMGOLD is proposing the potential development of a new route for the power transmission line, the Ministry of Natural Resources and Forestry identified that IAMGOLD would be required to assess relevant public value, consider alternative sources of power, outline the advantages and disadvantage of different routes and identify the various potential effects of the feasible options.

Stakeholders have expressed some concerns about the construction of a new 230 kV transmission line in the Project area. Consequently, IAMGOLD is addressing these concerns in the EA by outlining the potential effects on wildlife and potential increase in traffic in the area. Furthermore, IAMGOLD has taken these concerns into consideration by proposing that the transmission line would be removed at closure to rehabilitate the site, unless otherwise negotiated with Aboriginal groups and/or local communities.

Waste Management

The Ministry of Environment identified that placement of domestic waste in local landfills must be planned ahead of time to ensure that landfills have capacity. IAMGOLD has identified that their domestic waste and recycled material is currently transported to the Timmins area landfill and recycling facility, but the Company is in the process of working in partnership with the Ministry of Natural Resources and Forestry to rehabilitate and expand an existing nearby facility.

HUMAN AND ECOLOGICAL HEALTH RISK ASSESSMENT

Unacceptable health risks to human health receptors are not expected to occur as a result of the Project. The modelling study predicts a potential for increased exposure to impaired air quality. These periods are transient in nature and dependent on the final Project boundaries. As a result, exposure is expected to be much less than that predicted by modelling.

In terms of risk to ecological receptors, no unacceptable risks attributable to Project-related emissions and discharges were identified for terrestrial receptors. For aquatic receptors, while modelling identified exceedances of aquatic health benchmarks for certain substances and receiving environments, compared to risk-based toxicological reference values, no unacceptable risk was identified.

ACCIDENTS AND MALFUNCTIONS

Potential accidents and malfunctions that could affect the environment should they occur at the Project once in operation were identified to aid the preparation of emergency response and contingency plans for the Project. Each credible potential accident and malfunction identified was subjected to a risk assessment to determine its likelihood of occurrence and measure of environmental consequence. No accidents and malfunctions were found to be of high risk.

The tailings management facility includes a combination of passive dam safety features incorporated into the design, dam construction quality assurance and quality control measures and operational safeguards, which result in a very low likelihood of tailings dam failure and a corresponding very low risk of tailings containment failure. IAMGOLD is committed to operate the Project, should it be approved, to the highest standards for operation, security and health and safety.

SUMMARY OF ENVIRONMENTAL EFFECTS ASSESSMENT, MITIGATION MEASURES AND PROPOSED SIGNIFICANCE DETERMINATION

The identification of potential effects is based on an analysis of the interactions of the various Project components with the physical, biological and human environments. Effects assessment indicators are aspects of the physical, biological and human environment that are particularly notable or valued because of their ecological, scientific, resource, socio-economic, cultural, health, aesthetic, or spiritual importance, and which have a potential to be adversely affected by Project development.

The prediction of environmental effects consists of the following steps:

- Selection of effects assessment indicators: Identification of effects assessment indicators for each discipline that are used, where appropriate, to characterize how the Project could affect the environment. The indicators ensure that the impact assessment is practical, concise and relevant, and indicators are chosen such that they represent the effects on the environment as a whole.
- Selection of study areas: Definition of study areas to describe the geographic extent of potential environmental effects.
- Prediction of effects: Based on the Project design, including mitigation, effects are predicted through modelling or qualitative analysis. In carrying out the environmental effects analysis, a number of analytical methods and tools have been utilized and include laboratory tests, mass balance calculations, statistical packages and various types of models. It should be noted that the process of predicting effects and developing mitigation measures is inherently iterative.
- Identification of mitigation measures: Engineering and Project design modifications selected to limit the effect of the Project on the environment.
- Determination of significance: Based on the results of the prediction of effects and the application of mitigation measures, the significance of the impact is assessed through predetermined assessment criteria (magnitude, geographic extent, duration, frequency, reversibility and likelihood) and a decision tree.

If an impact is determined to be significant, it would not be acceptable for the Project. In such cases, further mitigation, monitoring and management measures would be developed and incorporated to reduce the significance level.

The Project has been designed such that all impacts have been assessed to be *not significant*. Key environmental effects predicted for the Project are described below.

The prediction of air quality determined that particulate matter levels may infrequently be higher than Ambient Air Quality Criteria in a small area proximate to the modelled Project site boundary. The particulate matter levels are predicted to be below the Ambient Air Quality Criteria at each of the sensitive receptors (cottages) located within the local study area. All other air quality assessment indicators were determined to be below the Ambient Air Quality Criteria at all times.

It is expected that daytime noise levels at receptor locations will be at, or below baseline ambient noise levels. Nighttime noise levels may exceed baseline ambient noise levels at some receptor locations. With mitigation applied, it is predicted that the Project will meet applicable noise guidelines at receptor locations during daytime and nighttime.

The water management system at the Project site will be set up such that process water will be recycled in order to minimize water intake and effluent discharges. It should also be noted that cyanide levels will be reduced prior to discharge to the TMF via a cyanide destruction system and that no water will be discharged from the TMF to the environment. Although final effluent treatment is not expected to be required, IAMGOLD will treat, as necessary, to ensure that any effluent meets applicable receiving water criteria and is protective of aquatic species.

Fish habitat will be affected by the construction of retention dams and watercourse realignments required to accommodate the removal of Côté Lake and the development of the open pit and the TMF. The watercourse realignment design will offset the loss of fish habitat within the adjacent lakes or streams, to maintain the existing fish communities and fisheries.

Terrestrial habitat will be affected as a result of Project site development and transmission line construction. Habitat removal will affect local wildlife species but the habitats that will be removed are commonplace in the regional environment. It is expected that there will be no measurable residual effect to population abundance and distribution.

With effects management strategies in place, it is expected that there may be effects to socio-economic indicators, however, these are predicted to be within the normal range of variability and are not substantive enough to require government or community investment. A number of positive economic effects are predicted in relation to employment and business opportunities. The Project is also expected to generate federal and provincial government revenues.

The Project may affect areas used for traditional and non-traditional land uses such as fishing, hunting and canoeing but is not expected to limit the ability to carry out those traditional and non-traditional activities in the area.

Tables ES-3 to ES-6 present the effects, mitigation and significance determination for each effects assessment indicator during the construction, operations, closure and post-closure phases, respectively.

A number of potential effects that the environment could have on the Project have been identified for assessment based on guidance provided from regulatory agencies and experience with other mine environmental assessments:

- water supply availability;
- natural hazards; and
- climate change.

The proposed Project is being planned and designed, and will be constructed and operated, with due consideration of the local environmental conditions in and around the Project site.

With regards to climate change effects on the Project, the overall effect of climate change across the complete ensemble of climate change projections on the Côté Gold Project site will be a net increase in the overall water balance. There is also the potential for a higher degree of episodic precipitation events leading to pulses of higher than usual runoff. However, the water balance for the Project has been reviewed with regards to its ability to accommodate these changes and it has been determined that the current design and water balance are suitable.

CUMULATIVE EFFECTS

Several projects of varying scope and scale relating to mining and exploration, forestry and, to a lesser degree, transportation, electricity and municipal development, are in the vicinity of the Project. There are no known proposed or planned projects that would be expected to have a cumulative adverse effect on effects assessment indicators defined for the Project. The cumulative effects which have been identified are anticipated to be either neutral (insignificant) or positive. Though difficult to quantify, it is expected that the combined projects will lead to population growth in the local communities in the vicinity of the Project, and is considered to be a positive and desirable effect.

Table ES-3: Impact Assessment Matrix for the Construction Phase

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Suspended Particulate Matter (Dust) as Total Particulate Matter (PM_{tot}.)	Changes in air quality due to particulate emissions from construction activities. These activities include site preparation and construction, open pit overburden stripping and stockpiling and onsite road traffic.	▪ Dust Best Management Plan (DBMP) ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<120 µg/m³).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Particulate Matter (PM_{10}); 24 Hour Average	Changes in air quality due to particulate emissions from construction activities. These activities include site preparation and construction, open pit overburden stripping and stockpiling and onsite road traffic.	▪ DBMP ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<50 µg/m³).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter ($PM_{2.5}$); 24 Hour Average	Changes in air quality due to particulate emissions from construction activities. These activities include site preparation and construction, open pit overburden stripping and stockpiling and onsite road traffic.	▪ DBMP ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<25 µg/m³).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter ($PM_{2.5}$); Annual Average	Changes in air quality due to particulate emissions from construction activities. These activities include site preparation and construction, open pit overburden stripping and stockpiling and onsite road traffic.	▪ DBMP	Level I Concentrations are comparable to baseline levels (4.2 µg/m³).	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Sulphur Oxides (SO_x), Mainly as Sulphur Dioxide (SO_2)	Changes in air quality due to gaseous emissions from construction activities, mainly vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emissions requirements ▪ Use of low sulphur fuel	Level II Concentrations are below Federal and/or Provincial criteria.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Nitrogen Dioxide (NO_2); 24 Hour Average	Changes in air quality due to gaseous emissions from construction activities, mainly vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emissions requirements	Level II Concentrations are below Federal and/or Provincial criteria (<200 µg/m³).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Nitrogen Dioxide (NO_2); 1 Hour Average	Changes in air quality due to gaseous emissions from construction activities, mainly vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emissions requirements	Level II Concentrations are below Federal and/or Provincial criteria (<400 µg/m³).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Arsenic; 24 Hour Average	Changes in air quality due to particulate emissions from construction activities, mainly handling of mine rock. Due to infrequent blasting during the construction phase, emissions of metals are infrequent.	▪ DBMP	Level I Concentrations are comparable to baseline levels (0.0018 µg/m³).	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Lead	Changes in air quality due to particulate emissions from construction activities, mainly handling of mine rock. Due to infrequent blasting during the construction phase, emissions of metals are infrequent.	▪ DBMP	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Manganese; 24 Hour Average	Changes in air quality due to particulate emissions from construction activities, mainly handling of mine rock. Due to infrequent blasting during the construction phase, emissions of metals are infrequent.	▪ DBMP	Level I Concentrations are comparable to baseline levels (0.0055 µg/m³).	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	VOCs	Changes in air quality due to gaseous emissions from construction activities, mainly vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emissions requirements	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Air Quality	Other Key Metals	Changes in air quality due to particulate emissions from construction activities, mainly handling of mine rock. Due to infrequent blasting during the construction phase, emissions of metals are infrequent.	▪ DBMP.	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Hydrogen Cyanide (HCN); 24 Hour Average	No cyanide is used during the construction phase. Therefore, this effect is not assessed during the construction phase.	Not applicable	—	—	—	—	—	—	—
Noise & Vibration	Daytime Noise Level	Changes in noise levels due to construction activities, including equipment movement, haulage and stockpiling operations.	▪ 1 km setback distances to be kept at the Project site between the construction location and the receptors ▪ Construction equipment not to exceed noise levels specified in NPC-115 and NPC-118	Level II Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Noise & Vibration	Nighttime Noise Level	Changes in noise levels due to construction activities, including equipment movement, haulage and stockpiling operations.	▪ 1 km setback distances to be kept at the Project site between the construction location and the receptors ▪ Construction equipment not to exceed noise levels specified in NPC-115 and NPC-118	Level III Noise level above 40 dBA.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Noise & Vibration	Blasting Noise Level	Changes in air vibration levels due to construction activities at the Project site and near watercourse realignments. Blasting is expected to occur infrequently during the construction phase.	▪ Charge size of construction blasting outside of the open pit boundary will be such that the objectives of NPC-119 will be achieved. ▪ Blasting charge size in the open pit is planned to be in compliance with NPC-119	Level II Blasting noise level above the adjusted baseline noise level (39 dBA) but below the regulatory limit of 120 dBL.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely
Noise & Vibration	Blasting Vibration Level	Changes in ground vibration levels due to construction activities. Blasting expected to occur infrequently during the construction phase.	▪ Charge size of construction blasting outside of the open pit boundary will be such that the objectives of NPC-119 will be achieved ▪ Blasting charge size in the open pit is planned to be in compliance with NPC-119	Level II Blasting vibration level at the receptor is above perceptible vibration level (0.14 mm/s) and below the regulatory limit (10 mm/s).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Hydrology	Change in Flow	Streamflow changes due to construction of various Project components, such as watercourse realignments, TMF and MRA.	Not applicable	Level I <10% or a change in flow which does not affect the hydrological characteristics.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Water Quality	Change in Water Quality	Changes in water quality due to erosion and runoff which could potentially increase total suspended solids in water courses. Best Management Practices will be used during the construction phase, which will prevent changes in water quality.	▪ Best Management Practices (BMPs) and engineering design to limit soil erosion and mobilization/transport of sediments from disturbed areas	Level II Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Not likely
Hydrogeology	Groundwater Levels (Water Table)	Localized changes in groundwater levels due to construction activities, mainly watercourse realignments.	Not applicable	Level III Change in the water table elevation is predicted to be greater than 5 m.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level III Effect is not reversible.	Not significant	Likely
Aquatic Biology	Aquatic Toxicity	Effects on aquatic species due to changes in water quality. Best Management Practices will be used during the construction phase, which will prevent changes in water quality.	▪ The use of erosion control measures and timing of construction to avoid spawning and egg incubation periods	Level I Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Not likely
Aquatic Biology	Commercial, Recreational and Aboriginal Fisheries	Effects on commercial, recreational and Aboriginal fisheries due to site construction, including relocation of fish due to dewatering of Côté Lake, construction of watercourse realignments and overpressure from blasting.	▪ Relocate fish (representative numbers of the community) to established habitats. Time relocation relative to life cycle requirements and environmental conditions ▪ Removal of terrestrial vegetation and organic soils prior to flooding in order to prevent the potential for methyl mercury production through decaying of terrestrial vegetation	Level I There is no measurable residual effect to communities or populations.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Aquatic Biology	Loss of Aquatic Habitat	Loss of aquatic habitat due to construction of Project components. Lotic habitat affected includes Mollie River, Clam Creek and Bagsverd Creek. Lentic habitat affected includes Côté Lake, Beaver Pond, Clam Lake, Little Clam Lake, Unnamed Pond #3, East Beaver Pond and Three Duck Lakes.	▪ Spawning habitat within the water bodies affected will be included in the *Fisheries Act* Authorization for the site as a loss of habitat and will be addressed through the compensation plan (including modifications to ensure flow, fish passage and use of habitats) ▪ Design of the realignment channels will incorporate the life cycle requirements of the resident fish species and promote, where possible, an increase in habitat	Level I Less than 10% of lotic habitat (stream length - m) and /or lentic habitat (lake area - m^2) within the local study area.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Upland Plant Community Types	Vegetation loss due to site clearing. The Project is predicted to alter approximately 1,800 ha of the land cover.	▪ Limit the area of Project footprint and disturbance from employees and mining activities ▪ Construct the 230 kV transmission line to minimize potential for ground disturbance and soil erosion, and use existing roads and rails as practicable ▪ Rehabilitate habitat for plants as practicable ▪ Limit / prevent the transfer of invasive plant species from equipment and imported soil	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Wetlands	Loss of wetland areas due to site clearing. The Project is predicted to alter approximately 185 ha of wetlands.	▪ Where practical, avoid placement of structures in waterbodies along the transmission line ROW, and to the extent practicable, in low-lying areas	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Vegetation Species at Risk, Species of Special Concern and Provincially Rare Species	No predicted effect on Species at Risk, Species of Special Concern and Provincially Rare Species as none were identified during baseline data collection. Therefore, this effect is not assessed.	Not applicable	—	—	—	—	—	—	—

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology	Ungulates	Potential change in ungulates population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated1,106 ha of suitable moose winter habitat and 1,074 ha of suitable moose summer habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce risk of mortality to wildlife-Minimize construction of new roads ▪ No hunting by Project personnel ▪ Enforce speed limits on Project roads ▪ Awareness trainings for employees	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Furbearers	Potential change in furbearers population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated 355 ha of suitable beaver habitat. Between 1,074and 1,266 ha of suitable black bear, eastern wolf, and American marten habitat will be removed from construction of the Project. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce risk of mortality to wildlife ▪ Minimize construction of new roads ▪ No hunting by Project personnel ▪ Enforce speed limits on Project roads ▪ Awareness trainings for employees	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology	Migratory Birds	Potential change in migratory birds population abundance and distribution due to habitat removal during the construction phase. Site construction will remove 99 and 216 ha of suitable nightjar, olive-sided flycatcher, rusty blackbird, and waterbird habitat. The Project is predicted to remove 1,203 and 1,233 ha of suitable Canada warbler and tree-nesting raptor habitat, respectively. The Project is not anticipated to remove any suitable short-eared owl habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Limit risk of nest destruction and mortality of migratory birds ▪ Construct the transmission line ROW outside of the migratory bird breeding season ▪ Install conductor wires at a sufficient distance apart to prevent accidental electrocution of birds ▪ Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable ▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist ▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Wildlife Species at Risk	Potential change in wildlife species at risk population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated 1,233 ha of suitable bat habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce the risk of mortality to birds and bats ▪ Reduce risk of mortality to wildlife ▪ Include Common Nighthawk and Bank Swallow identification as part of site induction to improve success of wildlife reporting programs ▪ Contact the MNRF and Environment Canada within 24 hours if Common Nighthawk or Bank Swallow are recorded nesting on site	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology - TL	Vegetation Communities	Vegetation loss due to transmission line ROW clearing. The Project is predicted to result in the removal of 549.2 ha of forested communities including 146 ha of coniferous swamp.	▪ Construct the 230 kV transmission line to minimize potential for ground disturbance and soil erosion, and use existing roads and rails as practicable ▪ Retain existing low-lying vegetation along the transmission line ROW	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Ungulates - Moose	Potential change in moose population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of habitat including areas with high potential Moose aquatic carrying capacities as well as 24 ha of identified over-wintering areas and portions of areas with the potential to support moderate to high densities of Moose in the dormant season. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce risk of mortality to wildlife ▪ Minimize construction of new roads ▪ No hunting by Project personnel ▪ Enforce speed limits on Project roads ▪ Awareness trainings for employees	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Furbearers - Wolves	Potential change in wolves population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of habitat. Noise from construction activities may temporary displace local wolves and/or local Moose that wolves depend on for food. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce risk of mortality to wildlife ▪ Minimize construction of new roads ▪ No hunting by Project personnel ▪ Enforce speed limits on Project roads ▪ Awareness trainings for employees	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Furbearers - American Marten	Potential change in American marten population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of habitat including 127 ha of identified core marten habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce risk of mortality to wildlife ▪ Minimize construction of new roads ▪ No hunting by Project personnel ▪ Enforce speed limits on Project roads ▪ Awareness trainings for employees	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Furbearers - Black Bear	Potential change in black bear population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce risk of mortality to wildlife ▪ Minimize construction of new roads ▪ No hunting by Project personnel ▪ Enforce speed limits on Project roads ▪ Awareness trainings for employees	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Bats	Potential change in bats population abundance and distribution due to the construction of the transmission line. A total of 130 ha of suitable vegetation community types for bat roosting habitat will be cleared for Project development. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Enforce speed limits along Project roads ▪ Reduce the risk of mortality to birds and bats	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Migratory Birds	Potential change in migratory birds population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Limit risk of nest destruction and mortality of migratory birds ▪ Construct the transmission line ROW outside of the migratory bird breeding season ▪ Install conductor wires at a sufficient distance apart to prevent accidental electrocution of birds ▪ Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable ▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist ▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
				Level I	Level II	Level I	Level III	Level I		
Terrestrial Biology - TL	Raptors	Potential change in raptors population abundance and distribution due to the construction of the transmission line. Vegetation clearing for construction of the transmission line alignment is anticipated to remove 403.2 ha of forested land capable of providing woodland raptors nesting habitat. No raptor nests are located within the proposed transmission line alignment footprint and it is not expected that habitat removal will affect known raptor nests through habitat removal. Effects are potentially associated with general disturbance and vehicular collisions.	▪ Limit risk of nest destruction and mortality of migratory birds ▪ Construct the transmission line ROW outside of the migratory bird breeding season ▪ Install conductor wires at a sufficient distance apart to prevent accidental electrocution of birds ▪ Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable ▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist ▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife ▪ Minimize the level of potentially disturbing activities near any known or subsequently discovered active raptor nest sites during the raptor breeding season until nests are vacated ▪ Remove carcasses of road-killed animals or any other carcasses found onsite in a timely manner to limit the attraction of wildlife	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area.	The duration of the effect is less than or equal to 2 years.	Effect occurs frequently or continuously.	Effect is fully reversible.	Not significant	Not likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Species at Risk, Species of Special Concern and Provincially Rare Species	Potential change in population abundance and distribution for species at risk, species of special concern and provincially rare species due to the construction of the transmission line. Overall, construction of the transmission line alignment will result in the clearing and temporary removal of 232.9 ha of deciduous mixed woodland habitat which may be used as nesting habitat by Canada Warbler; 403.2 ha of forest habitat which may be used as nesting habitat for Common Nighthawk; 22.9 ha of wetland habitat and 146 ha of coniferous forest habitat suitable for Olive-sided Flycatcher and Rusty Blackbird; 22.6 ha of wetland habitat and 3.8 ha of open water habitats which may provide potential habitat to Snapping Turtles. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable ▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist ▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife ▪ Include Common Nighthawk and Bank Swallow identification as part of site induction to improve success of wildlife reporting programs ▪ Contact the MNRF and Environment Canada within 24 hours if Common Nighthawk or Bank Swallow are recorded nesting on site	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Land Use	Land Use Plans and Policies	Potential effects on land use planning areas during the construction phase of the Project may include overlapping of land use policy area where the use would not be allowed and creating land use conflicts.	▪ Incorporate the MOECC D-series guidelines	Level II The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level III Effect is not reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Mineral Exploration	Changes in access to other claim areas or effects on the ability to exercise exploration activities within these claim areas during the construction phase.	▪ Work with claim holders to identify access changes and negotiate access agreements if there is any requirement to use or cross IAMGOLD properties	Level II The Project overlaps or changes access to other mining claims but does not limit the ability to exercise exploration activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Forestry	The potential effects on forestry due to the construction phase of the Project include overlapping, and therefore, loss of Forest Management Units (FMUs) area, long-term removal of forest resources (at the Project site footprint and along transmission line alignment) and changes to access along the Cross-Country TLA and at the Project site.	▪ Re-route the Chester Access Road south of the Project site	Level II The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Hunting	Potential effects on hunting during the construction phase of the Project include overlapping of, and therefore, limiting use of or access to WMUs, overlapping of, and therefore, limiting use of or access to BMAs, increased access to BMAs along the TLA alternatives and changes to the abundance and distribution of wildlife that could affect hunting success rates due to construction activities.	▪ The Ministry of Natural Resources and Forestry (MNRF) has advised that the affected BMA holder can apply to obtain licenses to additional BMAs in the Timmins District to augment the loss of access to the northern portion of the affected BMA ▪ Enforce speed limits and warn IAMGOLD personnel of areas of high wildlife activity and crossings ▪ Prohibit hunting on IAMGOLD property ▪ Food wastes generated on-site will be appropriately disposed of to reduce the attraction of wildlife	Level II The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Trapping	A number of trapline areas overlap with the Project site and TLA alternatives. Potential effects on trapping during the construction phase of the Project include loss of trapline areas or trap cabins, changes to access to trapline areas or trap cabins and changes to the abundance and distribution of furbearers that could affect trapping success rates, and therefore, trapping income due to changes in biophysical or anthropogenic conditions.	▪ Based on discussion with the MNRF no compensation is required for trap line losses	Level II The Project overlaps with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Recreational and Commercial Fishing	The Project site and TLAs overlap with Fisheries Management Zone (FMZ) 8 and several bait harvest areas. Potential effects on fishing during the construction phase of the Project include loss of bait harvest areas or recreational fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish that could affect fishing success rates, and therefore, any commercial fishing income (such as for bait fish harvesters) due to changes in biophysical or anthropogenic conditions.	Not applicable	Level II The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Cottages and Outfitters	Numerous cottages and outfitters are located near the Project site. Potential effects on the cottagers may include decreased enjoyment and leisure lifestyle associated with cottaging due to construction noise and dust; perceived effects to water quality, quantity and area aesthetics) and increased vehicle traffic. The potential effects of the Project on the outfitters may include decrease in areas recommended by outfitters to clientele (related to effects on BMAs), perception that the area is not pristine or natural which could detract clientele and increased local clientele due to increased workforce in area (staying or hunting, etc).	▪ Limit recreational boating for workers while they are staying at the work camp on-site ▪ Potential purchase of cottages	Level II The Project is proximal to cottage areas or areas used by outfitters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers / outfitters.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Land Use	Navigable Waters	Due to the construction of the watercourse realignments and retention dams, canoe routes will need to be modified during the construction phase.	▪ To be determined through consultation with any potential canoe route users to facilitate navigation during construction and operations.	Level II The Project is proximal to canoe routes/waterways used for canoeing/ portaging and does not limit the ability to use these navigable waters.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Land Use	Other Recreational Uses	The potential effects on other recreational uses include temporary disruption of the snowmobile Trunk Trail due to construction of the Project transmission alignment, changes to access to the Project area that may have previously been used for other recreation uses and changes in the natural aesthetic of the area which may detract some recreational users to avoid the Project area.	▪ Consult with local snowmobile clubs and organizations, particularly when construction timing and transmission line engineering / pole placement is better known, to minimize potential conflicts	Level II The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Traditional Land Use	Plant Harvesting	There is a potential for blueberry harvesting to be affected during the construction phase of the transmission line due to clearing of vegetation.	Not applicable	Level II The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Traditional Land Use	Traditional Hunting	Potential effects on traditional hunting during the construction phase include changes in access to and overlapping of the waterfowl hunting site and waterfowl hunting route and therefore limiting its use, enhanced access to hunting areas and travel corridor resulting from transmission line ROW clearing and changes to the abundance and distribution of wildlife due to construction activities that have the potential to affect hunting.	▪ Prohibit hunting on IAMGOLD property to provide safety for both hunters and workers	Level II The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Traditional Land Use	Fishing	Potential effects on fishing during the construction phase of the Project include loss of traditional fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish due to construction activities.	▪ Design or time construction activities so there are limited or no in-water works required ▪ No fishing by Project personnel will be permitted while working or residing on-site	Level II The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Traditional Land Use	Canoeing	Due to the construction of the watercourse realignments and retention dams, canoe routes will need to be modified during the construction phase.	▪ To be determined through consultation with any potential canoe route users to facilitate navigation during construction and operations	Level II The Project is proximal to traditional canoe routes/waterways used for canoeing/ portaging and does not limit the ability to use these navigable waters.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Traditional Land Use	Cultural, Spiritual and Ceremonial Sites	Changes in ability of Aboriginal people to access sites that may be of cultural, spiritual, ceremonial value or may increase or decrease intrinsic values such as privacy, in using sites.	▪ Inform workers of locally nesting raptors ▪ Consult with Mattagami First Nation and Flying Post First Nation on how the removal of an eagles nest can be conducted in a culturally sensitive manner, and be open to hosting a traditional ceremony (ies) on site should one be requested	Level I The Project does not overlap important cultural, spiritual or ceremonial sites.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape from Receptor Locations	Changes in landscape due to construction of Project components that could potentially be seen from nearby water bodies and land.	▪ Limit the design height of the MRA to 150 meters ▪ Purchase and remove the trapper's cabin on Three Duck Lakes	Level I No perceptible change in landscape.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Visual Aesthetics	Change in Landscape from Non-Receptor Locations	Changes in landscape due to construction of Project components that could potentially be seen from nearby bodies of water.	▪ Limit the design height of the MRA to 150 meters	Level II Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape due to the Transmission Line	Changes in landscape due to construction of the transmission line that could potentially be seen from nearby receptors.	Not applicable	Level II Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Archaeology	Effect on Heritage Sites	Changes to physical or cultural heritage resources including structures, sites or things of historical, archaeological, paleontological or architectural importance that may be overprinted by Project components.	▪ Completed mitigation - archaeological assessments Stages 1, 2, 3 and 4, as required ▪ Buffer zones are established, as required	Level I The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the *Heritage Act*.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level III Effect is not reversible.	Not significant	Not likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Cultural Heritage Landscapes and Built Heritage Resources	Effect on Heritage Resources	Changes to cultural heritage resources including built heritage and/or cultural heritage landscapes, as regulated by the Ontario Heritage Act. Heritage resources could potentially be affected by the Project.	Not applicable	Level I The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Socio-Economic	Labour Market	Direct, indirect and induced employment levels are expected to increase due to Project construction activities. The effect on employment is therefore positive and highly distinguishable in the regional study area and lasts for the life of the Project.	▪ Support employment of local community members where possible ▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Cultural awareness training ▪ Provide on-the-job Common Core training to workers ▪ Provide training and education in local communities	—	—	—	—	—	—	—
Socio-Economic	Business opportunities	The construction of the Project is expected to result in increased business opportunities. There will be a positive highly distinguishable effect in the regional study area and will last for the life of the Project.	▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Implement a procurement policy that structures opportunities in terms of package size and bid evaluation to reflect Aboriginal and local capabilities ▪ Establish a system to monitor and report on local and regional content with mechanisms to adapt procurement policies where required ▪ Support capacity building for local businesses	—	—	—	—	—	—	—

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Government Finances	The Project is expected to produce substantial revenues for Federal and Provincial governments through corporate taxes and royalties, indirect taxes on products, indirect taxes on production and direct taxes on income earned from economic activity. The residual effect is considered positive effect that lasts for the life of the Project and is expected to result in a measurable change in revenues outside of the normal range of variability for the Provincial and Federal governments.	Not applicable	—	—	—	—	—	—	—
Socio-Economic	Population and Demographics	The Project will create employment during the construction, operation and closure phases. This has the potential to positively affect, directly and indirectly, the population and demographics of regional study area communities. Regionally: Residual positive (growth) effects but not likely to be noticeable are expected in Timmins and Sudbury when construction begins. Locally: positive, highly distinguishable effect and may result in the need for investment by the community or government that lasts for the construction phase.	▪ Support employment of local community members where possible ▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Cultural awareness training ▪ Provide on-the-job Common Core training to workers ▪ Provide training and education in local communities	—	—	—	—	—	—	—
Socio-Economic	Community Health Conditions	This Project has the potential to affect the existing health of the population in a variety of ways including the interaction of the workers with the local population, increased employment and income. This interaction could result in a more positive or adverse lifestyle depending on individual choices and the on-site work environment.	▪ Provide access to long distance phone service for employees ▪ Provide for basic worker health care ▪ Provide information on health-related issues such as nutrition, sexually transmitted infections, alcohol abuse etc. to workers ▪ Provide worker transportation to and from Project site	Level I Effects are within the normal range of variability.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Housing and Temporary Accommodation	The Project will interact with permanent and temporary housing through the need to provide housing to the temporary workforce, migrants seeking work and others who are attracted to the region as it becomes a more robust economy. Locally: Residual housing effects in the local study area, while considered positive, are distinguishable and require investment by the community or government to address and be experienced in the construction phase.	▪ Develop on-site camp ▪ Monitor indicators of Project housing effects and adapting management measures	Level I Effects are manageable within the stock of existing housing and temporary accommodations.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Public Utilities	The Project has the potential to effect demands on public utilities such as water and wastewater, electricity, and solid waste systems because the Project will require them on-site and an increase in population may result in growth in housing and businesses with associated demands for public utilities. Regionally: Population changes in Timmins and Sudbury are low and therefore not expected to result in noticeable increased demands for any public utilities.	▪ Work with Gogama Local Service Board	Level II Effects may require investment to meet Project needs that are within the capabilities of communities or governments.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Education	The Project could intersect with the education and training sector in a variety of ways including increases in population of school aged children and increased demands for post-secondary school training to access Project employment effects (direct, indirect and induced). The residual effect on primary and secondary education is considered positive since it results in a slight increase in enrolment in elementary schools in the local study area and in enrolment in high schools in the regional study area (Timmins and Sudbury).	▪ Support post secondary education of workers	—	—	—	—	—	—	—
Socio-Economic	Emergency Services	The Project will affect emergency services due to increases in population; increases in disposable income levels due to direct and indirect employment related to the Project; and through increases in Project-related accidents that require medical attention.	▪ Maintain open communication with local service providers to monitor existing social issues	Level II Effects may require investment to meet Project needs that are within the capabilities of emergency service providers.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-3: Impact Assessment Matrix for the Construction Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Other Community Services	The Project could affect community services as a result of population changes and residency decisions, and the extent to which direct or indirect population growth in certain communities may place pressure on their services and infrastructure.Regionally: Residual effects on community services in Timmins and Sudbury are expected to be within the normal range of variability and last throughout the life of the Project.Locally: Positive effects for recreation services and negative due to lack of services in local study area communities (for shelters, victims' services, child care and health care).	▪ Implement the Zero Harm policy at the Project site	Level II Effects may require investment to meet Project needs that are within the capabilities of community service providers.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Transportation	The effects of the Project on traffic volumes will occur on Highway 144 as vehicular traffic will be the main mode of transportation used to transport goods, services and workers to and from the Project site. Rail may also be used during the construction phase to transport some Project materials to Gogama, to be offloaded there and transported by truck to the Project site.	▪ Road safety awareness training ▪ Schedule major equipment delivery and removal ▪ Schedule shuttle bus travel and shifts ▪ Ensure heavy load sizing and seasonal load restrictions ▪ Transport oversized loads in parts ▪ Report wildlife sightings on highways	Level II Traffic may increase but does not require investment in roadway infrastructure to accommodate Project demands.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Suspended Particulate Matter (Dust) as Total Particulate Matter ($PM_{tot.}$)	Changes in air quality due to particulate emissions from operations activities. These activities include onsite road traffic, mine rock management, primary crushing, drilling, blasting, loading and hauling of ore and mine rock in the open pit.	▪ DBMP ▪ TMF DBMP ▪ Dust collection systems ▪ Control measures provided by equipment supplier for drilling ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<120 µg/m³).	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Particulate Matter (PM_{10}); 24 Hour Average	Changes in air quality due to particulate emissions from operations activities. These activities include onsite road traffic, mine rock management, primary crushing, drilling, blasting, loading and hauling of ore and mine rock in the open pit.	▪ DBMP ▪ TMF DBMP ▪ Dust collection systems ▪ Control measures provided by equipment supplier for drilling ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<50 µg/m³).	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter ($PM_{2.5}$); 24 Hour Average	Changes in air quality due to particulate emissions from operations activities. These activities include onsite road traffic, mine rock management, primary crushing, drilling, blasting, loading and hauling of ore and mine rock in the open pit.	▪ DBMP ▪ TMF DBMP ▪ Dust collection systems ▪ Control measures provided by equipment supplier for drilling ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<25 µg/m³).	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter ($PM_{2.5}$); Annual Average	Changes in air quality due to particulate emissions from operations activities. These activities include onsite road traffic, mine rock management, primary crushing, drilling, blasting, loading and hauling of ore and mine rock in the open pit.	▪ DBMP ▪ TMF DBMP ▪ Dust collection systems ▪ Control measures provided by equipment supplier for drilling ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	Level I Concentrations are comparable to baseline levels (4.2 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Sulphur Oxides (SO_x), Mainly as Sulphur Dioxide (SO_2)	Changes in air quality due to gaseous emissions from Project site activities, mainly from the cyanide destruction process but also from vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emission requirements ▪ Use of low sulphur fuel ▪ Closed loop delivery of SO_2 gas for cyanide destruction	Level II Concentrations are below Federal and/or Provincial criteria.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Nitrogen Dioxide (NO_2); 24 Hour Average	Changes in air quality due to gaseous emissions from Project site activities, mainly blasting but also vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emission requirements ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	Level II Concentrations are below Federal and/or Provincial criteria (<200 µg/m^3).	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Nitrogen Dioxide (NO_2); 1 Hour Average	Changes in air quality due to gaseous emissions from Project site activities, mainly blasting but also vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emission requirements ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	Level II Concentrations are below Federal and/or Provincial criteria (<400 µg/m^3).	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Arsenic; 24 Hour Average	Changes in air quality due to particulate emissions from Project site activities, mainly handling of ore and mine rock.	▪ DBMP ▪ TMF DBMP ▪ Dust collection systems ▪ Control measures provided by equipment supplier for drilling ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	Level I Concentrations are comparable to baseline levels (0.0018 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Lead	Changes in air quality due to particulate emissions from Project site activities, mainly handling of ore and mine rock.	▪ DBMP ▪ TMF DBMP ▪ Dust collection systems ▪ Control measures provided by equipment supplier for drilling ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Manganese; 24 Hour Average	Changes in air quality due to particulate emissions from Project site activities, mainly handling of ore and mine rock.	▪ DBMP ▪ TMF DBMP ▪ Dust collection systems ▪ Control measures provided by equipment supplier for drilling ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	Level II Concentrations are below Federal and/or Provincial criteria (<0.2 µg/m^3).	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	VOCs	Changes in air quality due to gaseous emissions from Project site activities, mainly operation of the landfill and vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emission requirements	Level II Concentrations are below Federal and/or Provincial criteria.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Air Quality	Other Key Metals	Changes in air quality due to particulate emissions from Project site activities, mainly handling of ore and mine rock.	▪ DBMP ▪ TMF DBMP ▪ Dust collection systems ▪ Control measures provided by equipment supplier for drilling ▪ Blasting to occur mid-day based on favourable climatic conditions ▪ Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	Level II Concentrations are below Federal and/or Provincial criteria.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Hydrogen Cyanide (HCN); 24 Hour Average	Changes in air quality due to gaseous emissions from Project site activities, mainly operation of outdoors cyanide leach tanks.	▪ Cyanide destruction at the ore processing plant	Level II Concentrations are below Federal and/or Provincial criteria (<8 µg/m^3).	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Noise & Vibration	Daytime Noise Level	Changes in noise levels due to activities at the Project site, including open pit operations, mine rock and ore haulage, additional vehicle movements at the site, operation of the ore processing plant.	▪ Site equipment will be operated to meet NPC-300 operational noise limits	Level II Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Noise & Vibration	Nighttime Noise Level	Changes in noise levels due to activities at the Project site, including open pit operations, mine rock and ore haulage, additional vehicle movements at the site, operation of the ore processing plant.	▪ Site equipment will be operated to meet NPC-300 operational noise limits ▪ To meet NPC-300 night-time criteria, sensitive receptors may be purchased	Level II Noise level above nighttime baseline (34 dBA) and below or equal to 40 dBA.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Noise & Vibration	Blasting Noise Level	Changes in air vibration levels due to Project site activities, i.e., open pit blasting	▪ Blasting charge size in the open pit is planned to be in compliance with NPC-119	Level II Blasting noise level above the adjusted baseline noise level (39 dBA) but below the regulatory limit of 120 dBL.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely
Noise & Vibration	Blasting Vibration Level	Changes in ground vibration levels due to Project site activities, i.e., open pit blasting.	▪ Blasting charge size in the open pit is planned to be in compliance with NPC-119	Level II Blasting vibration level at the receptor is above perceptible vibration level (0.14 mm/s) and below the regulatory limit (10 mm/s).	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely
Hydrology	Change in Flow	Streamflow changes due to water intake and discharge in addition to continued operation of various Project components, such as watercourse realignments, TMF and MRA.	▪ Realignment channels and dams	Level I <10% or a change in flow which does not affect the hydrological characteristics.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Water Quality	Change in Water Quality	Changes in water quality due to Project discharges and runoff. Parameters potentially exceeding baseline include: ammonia, arsenic, barium, calcium, chloride, cobalt, copper, molybdenum, nickel, nitrate, phosphorus, potassium, sodium, strontium, sulphate, uranium.	▪ Best Management Practices (BMPs) and engineering design to limit soil erosion and mobilization/transport of sediments from disturbed areas ▪ Treatment of process water; construction and operation of engineered water management systems to collect surface drainage (runoff) and seepage from the operations area and in particular the TMF, MRA, low-grade ore stockpile, overburden stockpiles, plant site area and associated buildings, and explosives manufacturing areas; reclaim water; returned (or recycled) to the process plant; use of liners on starter tailings dams to limit seepage losses during the early years of operations ▪ Management of solid domestic and industrial waste in a permitted landfill, including the use of BMPs ▪ Inclusion of PAG rock within the bulk of the MRA ▪ BMPs for explosives use ▪ Treatment of sewage ▪ Monitoring and treatment of effluent, monitoring of groundwater quality and remedial action, as required	Level II Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Hydrogeology	Groundwater Levels (Water Table)	Changes in groundwater levels due to open pit development.	Not applicable	Level II Change in the water table elevation is predicted to be between 1 and 5 m.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Aquatic Biology	Aquatic Toxicity	Effects on aquatic species due to changes in water quality, primarily related to Project discharges.	▪ Site specific water quality objectives will need to be developed for these substances or effluent treatment will need to be employed such that protection of aquatic life is assured	Level I Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Aquatic Biology	Commercial, Recreational and Aboriginal Fisheries	Effects on commercial, recreational and Aboriginal fisheries due to open pit blasting and because newly established watercourse realignments may not be fully established.	▪ Relocate fish (representative numbers of the community) to established habitats. Time relocation relative to life cycle requirements and environmental conditions ▪ Removal of terrestrial vegetation prior to flooding will reduce the potential for methyl mercury production through decaying of terrestrial vegetation ▪ Design water intake structures to meet DFO requirements to prevent/limit fish impingement	Level I There is no measurable residual effect to communities or populations.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Aquatic Biology	Loss of Aquatic Habitat	Continued loss of aquatic habitat due to Project footprint. Lotic habitat affected includes Mollie River, Clam Creek and Bagsverd Creek. Lentic habitat affected includes Côté Lake, Beaver Pond, Clam Lake, Little Clam Lake, Unnamed Pond #3 and East Beaver Pond.	▪ Time construction of watercourse realignments to allow for vegetation growth for one season prior to commissioning of watercourse realignments, if possible or conduct planting of aquatic vegetation immediately following commissioning of channel realignments to promote the establishment of vegetation within the newly constructed habitats ▪ Use appropriate erosion control methods	Level I Less than 10% of lotic habitat (stream length - m) and /or lentic habitat (lake area - m^2) within the local study area.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Upland Plant Community Types	Continued vegetation loss due to site clearing in the construction phase. The Project is predicted to alter approximately 1,800 ha of the land cover.	▪ Rehabilitate habitat for plants and wildlife as practicable ▪ Limit / prevent the transfer of invasive plant species from equipment and imported soil	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology	Wetlands	Continued loss of wetland areas due to site clearing during the construction phase. The Project is predicted to alter approximately 185 ha of wetlands.	Not applicable	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Vegetation Species at Risk, Species of Special Concern and Provincially Rare Species	No predicted effect on Species at Risk, Species of Special Concern and Provincially Rare Species as none were identified during baseline data collection. Therefore, this effect is not assessed.	Not applicable	—	—	—	—	—	—	—
Terrestrial Biology	Ungulates	Continued potential for change in ungulates population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated 1,106 ha of suitable moose winter habitat and 1,074 ha of suitable moose summer habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology	Furbearers	Continued potential for change in furbearers population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated 355 ha of suitable beaver habitat. Between 1,074 and 1,266 ha of suitable black bear, eastern wolf, and American marten habitat will be removed from construction of the Project. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Migratory Birds	Continued potential for change in migratory birds population abundance and distribution due to habitat removal during the construction phase. Site construction will remove between 99 and 216 ha of suitable nightjar, olive-sided flycatcher, rusty blackbird, and waterbird habitat. The Project is predicted to remove 1,203 and 1,233 ha of suitable Canada warbler and tree-nesting raptor habitat, respectively. The Project is not anticipated to remove any suitable short-eared owl habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Limit risk of nest destruction and mortality of migratory birds ▪ Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable ▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology	Wildlife Species at Risk	Continued potential for change in wildlife species at risk population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated 1,233 ha of suitable bat habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce the risk of mortality to birds and bats ▪ Reduce risk of mortality to wildlife ▪ Include Common Nighthawk and Bank Swallow identification as part of site induction to improve success of wildlife reporting programs ▪ Contact the MNRF and Environment Canada within 24 hours if Common Nighthawk or Bank Swallow are recorded nesting on site	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology - TL	Vegetation Communities	Continued vegetation loss due to transmission line ROW clearing during the construction phase. The Project is predicted to result in the removal of 549.2 ha of forested communities including 146 ha of coniferous swamp.	▪ Vehicles to drive slowly along the transmission line ROW ▪ Ensure that ongoing clearing is constrained to the necessary area of clearance (the ROW) ▪ Use mechanical brushing	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Ungulates - Moose	Continued potential for change in moose population abundance and distribution due to habitat removal during the construction phase.	▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Furbearers - Wolves	Continued potential for change in wolves population abundance and distribution due to habitat removal during the construction phase. Increased levels of trapping or hunting can negatively affect local wolf population through increased mortality rates and increased noise from recreational use can displace wolves as well as their prey.	▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Furbearers - American Marten	Continued potential for change in american marten population abundance and distribution due to habitat removal during the construction phase. Increased levels of trapping have the potential to negatively affect local marten populations.	▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Furbearers - Black Bear	Continued potential for change in black bear population abundance and distribution due to habitat removal during the construction phase. Increased levels of trapping or hunting can negatively affect local populations.	▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Bats	Continued potential for change in bats population abundance and distribution due to habitat removal during the construction phase.	▪ Enforce speed limits along Project roads ▪ Reduce the risk of mortality to birds and bats	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Migratory Birds	Continued potential for change in migratory birds population abundance and distribution due to habitat removal during the construction phase. Additional potential effects include collisions with power lines and electrocutions.	▪ Limit risk of nest destruction and mortality of migratory birds ▪ Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable ▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Raptors	Continued potential for change in raptors population abundance and distribution due to habitat removal during the construction phase. Additional potential effects include collisions with power lines and electrocutions.	▪ Limit risk of nest destruction and mortality of migratory birds ▪ Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable ▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife ▪ Minimize the level of potentially disturbing activities near any known or subsequently discovered active raptor nest sites during the raptor breeding season until nests are vacated ▪ Remove carcasses of road-killed animals or any other carcasses found onsite in a timely manner to limit the attraction of wildlife	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Species at Risk, Species of Special Concern and Provincially Rare Species	Continued potential for change in population abundance and distribution for species at risk, species of concern and provincially rare species due to habitat removal during the construction phase. Additional potential effects include collisions with power lines and electrocutions.	▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife ▪ Include Common Nighthawk and Bank Swallow identification as part of site induction to improve success of wildlife reporting programs ▪ Contact the MNRF and Environment Canada within 24 hours if Common Nighthawk or Bank Swallow are recorded nesting on site	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Land Use Plans and Policies	Potential effects on land use planning areas during the operations phase of the Project may include overlapping of land use policy area where the use would not be allowed and creating land use conflicts.	▪ Incorporate the MOECC D-series guidelines	Level II The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Mineral Exploration	Changes in access to other claim areas or effects on the ability to exercise exploration activities within these claim areas during the operations phase.	▪ Work with claim holders to identify access changes and negotiate access agreements if there is any requirement to use or cross IAMGOLD properties	Level II The Project overlaps or changes access to other mining claims but does not limit the ability to exercise exploration activities.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Forestry	The potential effects on forestry due to the operations phase of the Project include overlapping, and therefore, loss of Forest Management Units (FMUs) area, long-term removal of forest resources (at the Project site footprint and along transmission line alignment) and changes to access along the Cross-Country TLA and at the Project site.	▪ Re-route the Chester Access Road south of the Project site	Level II The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Hunting	Potential effects on hunting during the operations phase of the Project include overlapping of, and therefore, limiting use of or access to WMUs, overlapping of, and therefore, limiting use of or access to BMAs, increased access to BMAs along the TLA alternatives and changes to the abundance and distribution of wildlife that could affect hunting success rates due to operations activities.	▪ The MNRF has advised that the affected BMA holder can apply to obtain licenses to additional BMAs in the Timmins District to augment the loss of access to the northern portion of the affected BMA ▪ Enforce speed limits and warn IAMGOLD personnel of areas of high wildlife activity and crossings ▪ Prohibit hunting on IAMGOLD property ▪ Food wastes generated on-site will be appropriately disposed of to reduce the attraction of wildlife	Level II The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Trapping	A number of trapline areas overlap with the Project site and TLA alternatives. Potential effects on trapping during the operations phase of the Project include loss of trapline areas or trap cabins, changes to access to trapline areas or trap cabins and changes to the abundance and distribution of furbearers that could affect trapping success rates, and therefore, trapping income due to changes in biophysical or anthropogenic conditions.	▪ Based on discussion with the MNRF no compensation is required for trap line losses	Level II The Project overlaps with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Recreational and Commercial Fishing	The Project site and TLAs overlap with Fisheries Management Zone (FMZ) 8 and several bait harvest areas. Potential effects on fishing during the operations phase of the Project include loss of bait harvest areas or recreational fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish that could affect fishing success rates, and therefore, any commercial fishing income (such as for bait fish harvesters) due to changes in biophysical or anthropogenic conditions.	Not applicable	Level II The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Cottages and Outfitters	Numerous cottages and outfitters are located near the Project site. Potential effects on the cottagers may include decreased enjoyment and leisure lifestyle associated with cottaging due to operation noise and dust; perceived effects to water quality, quantity and area aesthetics) and increased vehicle traffic. The potential effects of the Project on the outfitters may include decrease in areas recommended by outfitters to clientele (related to effects on BMAs), perception that the area is not pristine or natural which could detract clientele and increased local clientele due to increased workforce in area (staying or hunting, etc).	▪ Limit recreational boating for workers while they are staying at the work camp on-site ▪ Potential purchase of cottages	Level II The Project is proximal to cottage areas or areas used by outfitters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers / outfitters.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Land Use	Navigable Waters	Due to the continued presence of the watercourse realignments and retention dams during the operations phase, use of canoe routes may be disturbed during the operations phase.	▪ To be determined through consultation with any potential canoe route users to facilitate navigation during construction and operations.	Level II The Project is proximal to canoe routes/waterways used for canoeing/ portaging and does not limit the ability to use these navigable waters.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Land Use	Other Recreational Uses	The potential effects on other recreational uses include changes to access to areas that may have previously been used for other recreational uses and changes in the natural aesthetic of the area which may detract some recreational users.	Not applicable	Level II The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Traditional Land Use	Plant Harvesting	There is a potential for blueberry harvesting to be affected during the operations phase of the transmission line due to periodic clearing of vegetation.	▪ Vegetation clearing will avoid the use of chemical agents	Level II The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.	Level I Effect is restricted to the Project footprint.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Traditional Land Use	Traditional Hunting	Potential effects on traditional hunting during the operations phase include changes in access to and overlapping of the waterfowl hunting site and waterfowl hunting route and therefore limiting its use, enhanced access to hunting areas and travel corridor resulting from transmission line ROW clearing and changes to the abundance and distribution of wildlife due to operations activities that have the potential to affect hunting. Additionally, the transmission line corridor may attract non-traditional hunters to hunt in the area that is currently principally used for hunting by the Mattagami First Nation.	▪ Prohibit hunting on IAMGOLD property to provide safety for both hunters and workers	Level II The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Traditional Land Use	Fishing	Potential effects on fishing during the operations phase of the Project include loss of traditional fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish due to operations activities.	▪ No fishing by Project personnel will be permitted while working or residing on-site	Level II The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Traditional Land Use	Canoeing	Due to the continued presence of the watercourse realignments and retention dams during the operations phase, use of canoe routes may be disturbed during the operations phase.	▪ To be determined through consultation with any potential canoe route users to facilitate navigation during construction and operations	Level II The Project is proximal to traditional canoe routes/waterways used for canoeing/ portaging and does not limit the ability to use these navigable waters.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Traditional Land Use	Cultural, Spiritual and Ceremonial Sites	Changes in ability of Aboriginal people to access sites that may be of cultural, spiritual, ceremonial value or may increase or decrease intrinsic values such as privacy, in using sites.	▪ Inform workers of locally nesting raptors	Level I The Project does not overlap important cultural, spiritual or ceremonial sites.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape from Receptor Locations	Changes in landscape due to the development of Project components (TMF, MRA and low-grade ore stockpile) that could potentially be seen from receptor locations.	▪ Limit the design height of the MRA to 150 meters ▪ Purchase and remove the trapper's cabin on Three Duck Lakes	Level II Perceptible change in landscape which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape from Non-Receptor Locations	Changes in landscape due to the development of Project components (TMF, MRA and low-grade ore stockpile) that could potentially be seen from nearby waterbodies.	▪ Limit the design height of the MRA to 150 meters	Level II Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape due to the Transmission Line	Changes in landscape due to the presence of the transmission line that could potentially be seen from receptor locations.	Not applicable	Level II Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Archaeology	Effect on Heritage Sites	Changes to physical or cultural heritage resources including structures, sites or things of historical, archaeological, paleontological or architectural importance that may be overprinted by Project components.	▪ Completed mitigation - archaeological assessments Stages 1, 2, 3 and 4, as required ▪ Buffer zones are established, as required	Level I The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the *Heritage Act*.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level III Effect is not reversible.	Not significant	Not likely
Cultural Heritage Landscapes and Built Heritage Resources	Effect on Heritage Resources	Changes to cultural heritage resources including built heritage and/or cultural heritage landscapes, as regulated by the Ontario Heritage Act. Heritage resources could potentially be affected by the Project.	Not applicable	Level I The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Socio-Economic	Labour Market	Direct, indirect and induced employment levels are expected to increase due to Project operations activities. The effect on employment is positive and highly distinguishable in the regional study area and lasts for the life of the Project.	▪ Support employment of local community members where possible ▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Cultural awareness training ▪ Provide on-the-job Common Core training to workers ▪ Provide training and education in local communities ▪ Identify and implement basic skills and technical training for Aboriginal and local community members to upgrade marketable skills and increase capacity	—	—	—	—	—	—	—

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Business opportunities	The operation of the Project is expected to result in increased business opportunities. There will be a positive highly distinguishable effect in the regional study area and will last for the life of the Project.	▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Implement a procurement policy that structures opportunities in terms of package size and bid evaluation to reflect Aboriginal and local capabilities ▪ Establish a system to monitor and report on local and regional content with mechanisms to adapt procurement policies where required ▪ Support capacity building for local businesses	—	—	—	—	—	—	—
Socio-Economic	Government Finances	The Project is expected to produce substantial revenues for Federal and Provincial governments through corporate taxes and royalties, indirect taxes on products, indirect taxes on production and direct taxes on income earned from economic activity. The residual effect is considered positive effect that lasts for the life of the Project and is expected to result in a measurable change in revenues outside of the normal range of variability for the Provincial and Federal governments.	Not applicable	—	—	—	—	—	—	—
Socio-Economic	Population and Demographics	The Project has the potential to affect the population of the local and regional study area communities through the employment which would provide reason for people to remain in the region or by causing migrants to move to the area for jobs that cannot be filled locally. Regionally: Residual positive (growth) effects but not likely to be noticeable are expected in Timmins and Sudbury Locally: positive, highly distinguishable effect and may result in the need for investment by the community or government.	▪ Support employment of local community members where possible ▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Cultural awareness training ▪ Provide on-the-job Common Core training to workers ▪ Provide training and education in local communities ▪ Identify and implement basic skills and technical training for Aboriginal and local community members to upgrade marketable skills and increase capacity	—	—	—	—	—	—	—

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Community Health Conditions	The Project is likely to interact with community health through the provision of long-term employment and a stable income which could positively or negatively affect an individual's health depending on life style choices.	▪ Provide access to long distance phone service for employees ▪ Provide for basic worker health care ▪ Provide information on health-related issues such as nutrition, sexually transmitted infections, alcohol abuse etc. to workers ▪ Provide worker transportation to and from Project site	Level I Effects are within the normal range of variability.	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Housing and Temporary Accommodation	The Project will interact with permanent and temporary housing through the need to provide housing to the temporary workforce, migrants seeking work and others who are attracted to the region as it becomes a more robust economy. Locally: Residual housing effects in the local study area, while considered positive, are distinguishable and require investment by the community or government to address.	▪ Maintain on-site camp during operations ▪ Monitor indicators of Project housing effects and adapting management measures	Level I Effects are manageable within the stock of existing housing and temporary accommodations.	Level III Effect extends into the regional study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Public Utilities	The Project has the potential to create additional demands on water and wastewater treatment facilities, solid waste facilities and power supplies from population increases in local and regional study area communities. Regionally: Population changes in Timmins and Sudbury are low and therefore not expected to result in noticeable increased demands for any public utilities.	▪ Work with Gogama Local Service Board	Level II Effects may require investment to meet Project needs that are within the capabilities of communities or governments.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Education	The residual effect on primary and secondary education is considered positive since it results in a slight increase in enrolment in elementary schools in the local study area and in enrolment in high schools in the regional study area (Timmins and Sudbury).	▪ Support post-secondary education of workers	—	—	—	—	—	—	—

Table ES-4: Impact Assessment Matrix for the Operations Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Emergency Services	The Project will affect emergency services due to increases in population; increases in disposable income levels due to direct and indirect employment related to the Project; and through increases in Project-related accidents that require medical attention.	▪ Maintain open communication with local service providers to monitor existing social issues	Level II Effects may require investment to meet Project needs that are within the capabilities of emergency service providers.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Socio-Economic	Other Community Services	During operations, the Project is expected to result in population changes which, in turn, could affect the delivery of community services such as employment assistance, shelters and victims, child care, recreation, and health care services. Regionally: Residual effects on community services in Timmins and Sudbury are expected to be within the normal range of variability and last throughout the life of the Project. Locally: Positive effects for recreation services and negative due to lack of services in local study area communities (for shelters, victims' services, child care and health care).	▪ Implement the Zero Harm policy at the Project site	Level II Effects may require investment to meet Project needs that are within the capabilities of community service providers.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Transportation	During operations, the Project is likely to affect the transportation system within the local and regional study area through the transport of products, general goods and workers.	▪ Road safety awareness training ▪ Schedule major equipment delivery and removal ▪ Schedule shuttle bus travel and shifts ▪ Ensure heavy load sizing and seasonal load restrictions ▪ Transport oversized loads in parts ▪ Report wildlife sightings on highways	Level II Traffic may increase but does not require investment in roadway infrastructure to accommodate Project demands.	Level II Effect extends into the local study area.	Level II The duration of the effect is between 2 and 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Suspended Particulate Matter (Dust) as Total Particulate Matter ($PM_{tot.}$)	Changes in air quality due to particulate emissions from closure activities. These activities include site demolition and rehabilitation and onsite road traffic.	▪ DBMP ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<120 µg/m^3).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Particulate Matter (PM_{10}); 24 Hour Average	Changes in air quality due to particulate emissions from closure activities. These activities include site demolition and rehabilitation and onsite road traffic.	▪ DBMP ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<50 µg/m^3).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter ($PM_{2.5}$); 24 Hour Average	Changes in air quality due to particulate emissions from closure activities. These activities include site demolition and rehabilitation and onsite road traffic.	▪ DBMP ▪ IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	Level II Concentrations are below Federal and/or Provincial criteria (<25 µg/m^3).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter ($PM_{2.5}$); Annual Average	Changes in air quality due to particulate emissions from closure activities. These activities include site demolition and rehabilitation and onsite road traffic.	▪ DBMP	Level I Concentrations are comparable to baseline levels (4.2 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Sulphur Oxides (SO_x), Mainly as Sulphur Dioxide (SO_2)	Changes in air quality due to gaseous emissions from closure activities, mainly vehicle exhausts. Very limited emission of sulphur oxides due to the fact that the cyanide destruction will be decommissioned.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emissions requirements ▪ Use of low sulphur fuel	Level II Concentrations are below Federal and/or Provincial criteria.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level II Effect occurs intermittently or with a certain degree of regularity.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Nitrogen Dioxide (NO_2); 24 Hour Average	Changes in air quality due to gaseous emissions from closure activities, mainly vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emissions requirements	Level II Concentrations are below Federal and/or Provincial criteria (<200 µg/m^3).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Nitrogen Dioxide (NO_2); 1 Hour Average	Changes in air quality due to gaseous emissions from closure activities, mainly vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emissions requirements	Level II Concentrations are below Federal and/or Provincial criteria (<400 µg/m^3).	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Arsenic; 24 Hour Average	Changes in air quality due to particulate emissions from closure activities. No blasting is planned during the closure phase, emissions of metals are limited.	▪ DBMP	Level I Concentrations are comparable to baseline levels (0.0018 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Lead	Changes in air quality due to particulate emissions from closure activities.No blasting is planned during the closure phase, emissions of metals are limited.	▪ DBMP	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Manganese; 24 Hour Average	Changes in air quality due to particulate emissions from closure activities. No blasting is planned during the closure phase, emissions of metals are limited.	▪ DBMP	Level I Concentrations are comparable to baseline levels (0.0055 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	VOCs	Changes in air quality due to gaseous emissions from closure activities, mainly operation of the landfill and vehicle exhausts.	▪ Engine Maintenance Program ▪ Equipment compliant with Transport Canada vehicle emissions requirements	Level II Concentrations are below Federal and/or Provincial criteria.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Air Quality	Other Key Metals	Changes in air quality due to particulate emissions from closure activities. No blasting is planned during the closure phase, emissions of metals are limited.	▪ DBMP	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Hydrogen Cyanide (HCN); 24 Hour Average	No cyanide is used during the closure phase. Therefore, this effect is not assessed during the closure phase.	Not applicable	—	—	—	—	—	—	—
Noise & Vibration	Daytime Noise Level	Changes in noise levels due to closure activities. These activities include site demolition and rehabilitation and onsite road traffic.	Not applicable	Level II Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Noise & Vibration	Nighttime Noise Level	No nighttime activities are planned during the closure phase. Therefore, this effect is not assessed during the closure phase.	Not applicable	—	—	—	—	—	—	—
Noise & Vibration	Blasting Noise Level	No blasting is planned during the closure phase. Therefore, this effect is not assessed during the closure phase.	Not applicable	—	—	—	—	—	—	—
Noise & Vibration	Blasting Vibration Level	No blasting is planned during the closure phase. Therefore, this effect is not assessed during the closure phase.	Not applicable	—	—	—	—	—	—	—
Hydrology	Change in Flow	Streamflow changes due to various Project components, such as watercourse realignments, TMF and MRA.	▪ Realignment channels and dams	Level I <10% or a change in flow which does not affect the hydrological characteristics.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Water Quality	Change in Water Quality	Changes in water quality due to erosion and runoff which could potentially increase total suspended solids in water courses. Best Management Practices will be used during the closure phase, which will prevent changes in water quality.	▪ Best Management Practices (BMPs) and engineering design to limit soil erosion and mobilization/transport of sediments from disturbed areas ▪ Management of solid domestic and industrial waste in a permitted landfill, including the use of BMPs ▪ Inclusion of PAG rock within the bulk of the MRA ▪ Construction and operation of engineered water management systems to collect runoff and seepage; monitoring and treatment of effluent, as required	Level II Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Hydrogeology	Groundwater Levels (Water Table)	Changes in groundwater levels due to lowered groundwater levels in the open pit. Pumping activities will be terminated and the water level in the open pit will begin to rise in response to direct precipitation inputs and groundwater inflow	Not applicable	Level II Change in the water table elevation is predicted to be between 1 and 5 m.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Aquatic Biology	Aquatic Toxicity	Effects on aquatic species due to changes in water quality. Best Management Practices will be used during the closure phase, which will prevent changes in water quality. No planned discharge.	Not applicable	Level I Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Aquatic Biology	Commercial, Recreational and Aboriginal Fisheries	Effects on sport fish due to site runoff during closure. Best Management Practices will be used during the closure phase, which will prevent changes in water quality. No planned discharge.	Not applicable	Level I There is no measurable residual effect to communities or populations.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Aquatic Biology	Loss of Aquatic Habitat	Continued loss of aquatic habitat due to Project footprint. Lotic habitat affected includes Mollie River, Clam Creek and Bagsverd Creek. Lentic habitat affected includes Côté Lake, Beaver Pond, Clam Lake, Little Clam Lake, Unnamed Pond #3 and East Beaver Pond.	Not applicable	Level I Less than 10% of lotic habitat (stream length - m) and /or lentic habitat (lake area - m^2) within the local study area.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Upland Plant Community Types	Continued vegetation loss due to site clearing in the construction phase. The Project is predicted to alter approximately 1,800 ha of the land cover. However, once closure activities are completed, vegetation will be allowed to re-establish itself.	▪ Rehabilitate habitat for plants and wildlife as practicable ▪ Limit / prevent the transfer of invasive plant species from equipment and imported soil	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Wetlands	Continued loss of wetland areas due to site clearing during the construction phase. The Project is predicted to alter approximately 185 ha of wetlands. However, once closure activities are completed, vegetation will be allowed to re-establish itself.	Not applicable	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Vegetation Species at Risk, Species of Special Concern and Provincially Rare Species	No predicted effect on Species at Risk, Species of Special Concern and Provincially Rare Species as none were identified during baseline data collection. Therefore, this effect is not assessed.	Not applicable	—	—	—	—	—	—	—

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology	Ungulates	Continued potential for change in ungulates population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Furbearers	Continued potential for change in furbearers population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence. ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology	Migratory Birds	Continued potential for change in migratory birds population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Limit risk of nest destruction and mortality of migratory birds ▪ Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable ▪ No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife ▪ Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Wildlife Species at Risk	Continued potential for change in wildlife species at risk population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Reduce the risk of mortality to birds and bats ▪ Reduce risk of mortality to wildlife ▪ Include Common Nighthawk and Bank Swallow identification as part of site induction to improve success of wildlife reporting programs ▪ Contact the MNRF and Environment Canada within 24 hours if Common Nighthawk or Bank Swallow are recorded nesting on site	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology - TL	Vegetation Communities	Continued vegetation loss due to transmission line ROW clearing during the construction phase. The Project is predicted to result in the removal of 549.2 ha of forested communities including 146 ha of coniferous swamp. However, once closure activities are completed, vegetation will be allowed to re-establish itself.	▪ Time removal of transmission line infrastructure to minimize the potential for ground disturbance and soil erosion by equipment and vehicles ▪ Retain existing low-lying vegetation ground cover thereby minimizing vegetation clearing ▪ Minimize the speed of service vehicles along Project roads and along the transmission line ROW ▪ Encourage natural revegetation and recolonization of the ROW as part of the reclamation process	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Ungulates - Moose	Continued potential for change in moose population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where other alternatives exist ▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along proposed access roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Furbearers - Wolves	Continued potential for change in wolves population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where other alternatives exist ▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along proposed access roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Furbearers - American Marten	Continued potential for change in american marten population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where other alternatives exist ▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along proposed access roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Furbearers - Black Bear	Continued potential for change in black bear population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where other alternatives exist ▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along proposed access roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Bats	Continued potential for change in bats population abundance and distribution due to habitat removal during the construction phase.	▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist ▪ Project personnel will be advised not to interfere or harass wildlife	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Migratory Birds	Continued potential for change in migratory birds population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist ▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Raptors	Continued potential for change in raptors population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist ▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Species at Risk, Species of Special Concern and Provincially Rare Species	Continued potential for change in population abundance and distribution for species at risk, species of special concern and provincially rare species due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	▪ Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist ▪ Include wildlife awareness information in regular safety and environmental inductions ▪ Project personnel will be advised not to interfere or harass or feed wildlife ▪ Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence ▪ Project personnel will be required to handle food and food wastes in a responsible manner ▪ No hunting by Project personnel will be permitted while working or residing on-site ▪ Enforce speed limits along Project roads to reduce the potential for collisions with wildlife ▪ Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity ▪ Include Common Nighthawk and Bank Swallow identification as part of site induction to improve success of wildlife reporting program ▪ Contact the MNRF and Environment Canada within 24 hours if Common Nighthawk or Bank Swallow are recorded nesting on site	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Land Use Plans and Policies	Potential effects on land use planning areas during the closure phase of the Project may include overlapping of land use policy area where the use would not be allowed and creating land use conflicts.	▪ Incorporate the MOECC D-series guidelines	Level II The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Mineral Exploration	Changes in access to other claim areas or effects on the ability to exercise exploration activities within these claim areas during the closure phase.	▪ Work with claim holders to identify access changes and negotiate access agreements if there is any requirement to use or cross IAMGOLD properties	Level II The Project overlaps or changes access to other mining claims but does not limit the ability to exercise exploration activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Forestry	The potential effects on forestry due to the closure phase of the Project include overlapping, and therefore, loss of Forest Management Units (FMUs) area, long-term removal of forest resources (at the Project site footprint and along transmission line alignment) and changes to access along the Cross-Country TLA and at the Project site.	▪ Re-route the Chester Access Road south of the Project site	Level II The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Hunting	Potential effects on hunting during the closure phase of the Project include overlapping of, and therefore, limiting use of or access to WMUs, overlapping of, and therefore, limiting use of or access to BMAs, increased access to BMAs along the TLA alternatives and changes to the abundance and distribution of wildlife that could affect hunting success rates due to closure activities.	▪ The MNRF has advised that the affected BMA holder can apply to obtain licenses to additional BMAs in the Timmins District to augment the loss of access to the northern portion of the affected BMA ▪ Enforce speed limits and warn IAMGOLD personnel of areas of high wildlife activity and crossings ▪ Prohibit hunting on IAMGOLD property ▪ Food wastes generated on-site will be appropriately disposed of to reduce the attraction of wildlife	Level II The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Trapping	A number of trapline areas overlap with the Project site and TLA alternatives. Potential effects on trapping during the closure phase of the Project include loss of trapline areas or trap cabins, changes to access to trapline areas or trap cabins and changes to the abundance and distribution of furbearers that could affect trapping success rates, and therefore, trapping income due to changes in biophysical or anthropogenic conditions.	▪ Based on discussion with the MNRF no compensation is required for trap line losses	Level II The Project overlaps with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Recreational and Commercial Fishing	The Project site and TLAs overlap with Fisheries Management Zone (FMZ) 8 and several bait harvest areas. Potential effects on fishing during the closure phase of the Project include loss of bait harvest areas or recreational fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish that could affect fishing success rates, and therefore, any commercial fishing income (such as for bait fish harvesters) due to changes in biophysical or anthropogenic conditions.	Not applicable	Level II The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Cottages and Outfitters	Numerous cottages and outfitters are located near the Project site. Potential effects on the cottagers may include decreased enjoyment and leisure lifestyle associated with cottaging due to closure activities noise and dust; perceived effects to water quality, quantity and area aesthetics) and vehicle traffic. The potential effects of the Project on the outfitters may include decrease in areas recommended by outfitters to clientele (related to effects on BMAs), perception that the area is not pristine or natural which could detract clientele and increased local clientele due to increased workforce in area (staying or hunting, etc).	▪ Limit recreational boating for workers while they are staying at the work camp on-site ▪ Potential purchase of cottages	Level II The Project is proximal to cottage areas or areas used by outfitters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers / outfitters.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Land Use	Navigable Waters	Due to the continued presence of the watercourse realignments and retention dams during the closure phase, use of canoe routes may be disturbed during the closure phase.	Not applicable	Level II The Project is proximal to canoe routes/waterways used for canoeing/ portaging and does not limit the ability to use these navigable waters.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Land Use	Other Recreational Uses	The potential effects on other recreational uses include changes to access to areas that may have previously been used for other recreational uses and changes in the natural aesthetic of the area which may detract some recreational users.	Not applicable	Level II The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Traditional Land Use	Plant Harvesting	There is a potential for blueberry harvesting to be affected during the closure phase of the transmission line due to closure activities.	Not applicable	Level II The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.	Level I Effect is restricted to the Project footprint.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Traditional Land Use	Traditional Hunting	Potential effects on traditional hunting during the closure phase include changes in access to and overlapping of the waterfowl hunting site and waterfowl hunting route and therefore limiting its use, enhanced access to hunting areas and travel corridor resulting from transmission line ROW clearing and changes to the abundance and distribution of wildlife due to operations activities that have the potential to affect hunting. Additionally, the transmission line corridor may attract non-traditional hunters to hunt in the area that is currently principally used for hunting by the Mattagami First Nation.	No hunting by Project personnel will be permitted while working or residing on-site.	Level II The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Traditional Land Use	Fishing	Potential effects on fishing during the closure phase of the Project include loss of traditional fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish due to closure activities.	No fishing by Project personnel will be permitted while working or residing on-site	Level II The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Traditional Land Use	Canoeing	Due to the continued presence of the watercourse realignments and retention dams during the closure phase, use of canoe routes may be disturbed during the closure phase.	Not applicable	Level II The Project is proximal to traditional canoe routes/waterways used for canoeing/ portaging and does not limit the ability to use these navigable waters.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Traditional Land Use	Cultural, Spiritual and Ceremonial Sites	Changes in ability of Aboriginal people to access sites that may be of cultural, spiritual, ceremonial value or may increase or decrease intrinsic values such as privacy, in using sites.	Not applicable	Level I The Project does not overlap important cultural, spiritual or ceremonial sites.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape from Receptor Locations	Changes in landscape due to the continued presence of Project components (TMF and MRA) that could potentially be seen from receptor locations.	▪ Carry out the revegetation program on the MRA and TMF	Level II Perceptible change in landscape which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape from Non-Receptor Locations	Changes in landscape due to the continued presence of Project components (TMF and MRA) that could potentially be seen from nearby waterbodies.	▪ Carry out the revegetation program on the MRA and TMF	Level II Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape due to the Transmission Line	Changes in landscape due to the activities surrounding the removal of the transmission line that could potentially be seen from receptor locations.	Not applicable	Level II Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Archaeology	Effect on Heritage Sites	Changes to physical or cultural heritage resources including structures, sites or things of historical, archaeological, paleontological or architectural importance that may be overprinted by Project components.	▪ Completed mitigation - archaeological assessments Stages 1, 2, 3 and 4, as required ▪ Buffer zones are established, as required	Level I The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the *Heritage Act*.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level III Effect is not reversible.	Not significant	Not likely
Cultural Heritage Landscapes and Built Heritage Resources	Effect on Heritage Resources	Changes to cultural heritage resources including built heritage and/or cultural heritage landscapes, as regulated by the Ontario Heritage Act. Heritage resources could potentially be affected by the Project.	Not applicable	Level I The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Labour Market	Direct, indirect and induced employment levels are expected to remaing increased compared to baseline levels but reduced compared to operations phase levels.	▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Offer company services linking workers with local social services that provide job placement assistance ▪ Develop an employment community relations program ▪ Identify and implement basic skills and technical training for Aboriginal and local community members to upgrade marketable skills and increase capacity ▪ Work with local communities to develop a Project closure strategy that will minimize potential adverse effects of Project closure on regional communities ▪ Engage and support local and regional communities and stakeholders in planning decisions relating to future use of the Project site ▪ Support the establishment of local/regional job opportunities roster/forum accessible for workers ▪ Post information on site for workers about other services agencies in the region that support small business ventures and planning	Level II Effects may result in a measurable change to the socio-economic indicator outside of the normal range of variability, although the changes are not substantive enough to require or result in a community or government response or investment.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Business opportunities	During closure, the Project's contribution to the economy will gradually lessen, eventually returning the regional economy to pre-Project, baseline conditions.	▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Implement a procurement policy that structures opportunities in terms of package size and bid evaluation to reflect Aboriginal and local capabilities ▪ Support capacity building for local businesses ▪ Support local entrepreneurial development ▪ Communicate with affected businesses to prepare for the effects of contract termination	Level II Effects may require investment or expansions to meet Project needs that are within the capabilities of existing businesses.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Government Finances	During closure, the Project's contribution to the economy will gradually lessen, eventually returning the regional economy to pre-Project, baseline conditions.	Not applicable	Level I Effects are expected to occur and are within the normal range of variability.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Population and Demographics	Workforce required for the closure phase is less than during the operations phase, forcing some of the population to look for jobs elsewhere. As a consequence, the population is forecasted to decrease.	▪ Implement a procurement process that encourages Aboriginal and local suppliers ▪ Offer company services linking workers with local social services that provide job placement assistance ▪ Develop an employment community relations program ▪ Identify and implement basic skills and technical training for Aboriginal and local community members to upgrade marketable skills and increase capacity ▪ Work with local communities to develop a Project closure strategy that will minimize potential adverse effects of Project closure on regional communities ▪ Engage and support local and regional communities and stakeholders in planning decisions relating to future use of the Project site ▪ Support the establishment of local/regional job opportunities roster/forum accessible for workers ▪ Post information on site for workers about other services agencies in the region that support small business ventures and planning	Level II Effects are outside of the normal range of variability, although the changes are not substantive enough to result in a community or government response.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Community Health Conditions	During Project closure, the direct employment from the Project will decline. The associated decrease in employment may negatively affect how people perceive their health due to diminished financial security and challenges associated to finding employment. Terminated employees may have to move or commute outside of the regional study area to find work which may increase stress on family and friend relations.	▪ Provide access to long distance phone service for employees ▪ Provide for basic worker health care ▪ Provide information on health-related issues such as nutrition, sexually transmitted infections, alcohol abuse etc. to workers ▪ Provide worker transportation to and from Project site	Level II Health conditions change from baseline conditions so that some investment in health care services to manage this change may be necessary.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Housing and Temporary Accommodation	With closure, the Project's contribution to the economy will gradually lessen, eventually returning the regional economy to pre-Project, baseline conditions. This would cause a negative effect on housing demand as workers leaving the area sell their homes, although some workers may choose to commute to a different mine from the same home community, or may retire in the same home community, or may migrate to a new community in search of employment.	▪ Maintain on-site camp during closure ▪ Monitor indicators of Project housing effects and adapting management measures ▪ Support local economic diversification programs that could facilitate resident retention after Project closure	Level II Effects may require investment to meet Project housing needs that are within the capabilities of communities / developers.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Public Utilities	During the two year closure phase direct employment from the Project will diminish. Population trends indicate a decline in Timmins, Gogama and Mattagami First Nation reserve and relatively steady state for Sudbury. Reduced population size will decrease demands on public utilities as use decreases.	Not applicable	Level I Effects are manageable within the existing capacities of public utilities.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-5: Impact Assessment Matrix for the Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Education	It is expected that there will be a decline in primary school enrolment, and an increase in demands for post-secondary training to transition workers to other employment.	▪ Support post secondary education of workers	Level I Effects are manageable within the existing capacities of schools and/or education institutions.	Level III Effect extends into the regional study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Emergency Services	A decrease in employment and potential out-migration of workers to seek other job opportunities has the potential to create adverse social effects such as depression, substance abuse, and domestic violence that would require emergency and/or police response.	▪ Maintain open communication with local service providers to monitor existing social issues	Level I Effects are manageable within the existing capacities of emergency service providers.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Socio-Economic	Other Community Services	During closure, direct employment from the Project is expected to decline. As a result of this and other factors included in population projections for the regional study area, populations are expected to continue to decline resulting in corresponding declines or, in some cases increases, in demands for other community services and infrastructure to pre-Project levels.	▪ Implement the Zero Harm policy at the Project site ▪ Inform and/or provide employees with access to resources to support transition to other employment	Level II Effects may require investment to meet Project needs that are within the capabilities of community service providers.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Transportation	During the closure phase of the Project, Highway 144 will be used to transport material and equipment from the Project site decommissioning.	▪ Road safety awareness training ▪ Schedule major equipment delivery and removal ▪ Schedule shuttle bus travel and shifts ▪ Ensure heavy load sizing and seasonal load restrictions ▪ Transport oversized loads in parts ▪ Report wildlife sightings on highways	Level I Effects are manageable within the existing capacities of highway service levels.	Level II Effect extends into the local study area.	Level I The duration of the effect is less than or equal to 2 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Suspended Particulate Matter (Dust) as Total Particulate Matter ($PM_{tot.}$)	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels (21.4 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Particulate Matter (PM_{10}); 24 Hour Average	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels (13.9 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter ($PM_{2.5}$); 24 Hour Average	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels (9.8 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter ($PM_{2.5}$); Annual Average	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels (4.2 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Sulphur Oxides (SO_x), Mainly as Sulphur Dioxide (SO_2)	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Nitrogen Dioxide (NO_2); 24 Hour Average	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels (24.6 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Nitrogen Dioxide (NO_2); 1 Hour Average	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels (24.6 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Air Quality	Arsenic; 24 Hour Average	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels (0.0018 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Lead	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Manganese; 24 Hour Average	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels (0.0055 µg/m^3).	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	VOCs	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level II Concentrations are below Federal and/or Provincial criteria.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Air Quality	Other Key Metals	Once closure activities are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is greatly reduced.	Not applicable	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Air Quality	Hydrogen Cyanide (HCN); 24 Hour Average	No cyanide is used during the post-closure phase. Therefore, this effect is not assessed during the post-closure phase.	Not applicable	—	—	—	—	—	—	—
Noise & Vibration	Daytime Noise Level	Changes in noise levels due to post-closure activities, including water management around the MRA and the flooding open pit. Site activities during the post-closure phase will be very limited.	Not applicable	Level II Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level I Effect occurs infrequently.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Noise & Vibration	Nighttime Noise Level	No nighttime activities are planned during the post-closure phase. Therefore, this effect is not assessed during the post-closure phase.	Not applicable	—	—	—	—	—	—	—
Noise & Vibration	Blasting Noise Level	No blasting is planned during the post-closure phase. Therefore, this effect is not assessed during the post-closure phase.	Not applicable	—	—	—	—	—	—	—
Noise & Vibration	Blasting Vibration Level	No blasting is planned during the post-closure phase. Therefore, this effect is not assessed during the post-closure phase.	Not applicable	—	—	—	—	—	—	—
Hydrology	Change in Flow	Streamflow changes due to various Project components, such as watercourse realignments, TMF and MRA. In post-closure stage II the reconfiguration of the realignments will result in watersheds that more closely resemble baseline conditions.	▪ Realignment channels and dams	Level I <10% or a change in flow which does not affect the hydrological characteristics.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Water Quality	Change in Water Quality	Changes in water quality due to site runoff and, eventually, overflow from the flooded open pit.	▪ Best Management Practices (BMPs) and engineering design to limit soil erosion and mobilization/transport of sediments from disturbed areas ▪ Management of solid domestic and industrial waste in a permitted landfill, including the use of BMPs ▪ Inclusion of PAG rock within the bulk of the MRA ▪ Monitoring and water collection and treatment as required	Level II Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Hydrogeology	Groundwater Levels (Water Table)	Groundwater levels will continue to rise and over time, will approximate pre-mining conditions except in the immediate vicinity of water realignment structures where these are to remain in place.	Not applicable	Level II Change in the water table elevation is predicted to be between 1 and 5 m.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Aquatic Biology	Aquatic Toxicity	Effects on aquatic species due to site runoff and, eventually, overflow from the flooded open pit.	Not applicable	Level I Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Aquatic Biology	Commercial, Recreational and Aboriginal Fisheries	Effects on sport fish due to site runoff and, eventually, overflow from the flooded open pit.	Not applicable	Level I There is no measurable residual effect to communities or populations.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Aquatic Biology	Loss of Aquatic Habitat	In post-closure stage II the reconfiguration of the realignments will result in watersheds that more closely resemble baseline conditions, which will provide additional habitat. This phase will result in substantial increase in fish habitat.	▪ Time construction of water realignments to allow for vegetation growth for one or more growing seasons prior to commissioning of watercourse realignments or conduct planting of aquatic vegetation immediately following commissioning of channel realignments to promote the establishment of vegetation within the newly constructed habitats ▪ Open pit edge will be sloped to support the development of productive habitat	—	—	—	—	—	—	—
Terrestrial Biology	Upland Plant Community Types	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site. No activities during the post-closure phase will further disrupt vegetation.	Not applicable	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Wetlands	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site. No activities during the post-closure phase will further disrupt vegetation.	Not applicable	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology	Vegetation Species at Risk, Species of Special Concern and Provincially Rare Species	No predicted effect on Species at Risk, Species of Special Concern and Provincially Rare Species as none were identified during baseline data collection. Therefore, this effect is not assessed.	Not applicable	—	—	—	—	—	—	—
Terrestrial Biology	Ungulates	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to ungulates population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Furbearers	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to furbearers population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Migratory Birds	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to migratory birds population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely
Terrestrial Biology	Wildlife Species at Risk	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to wildlife species at risk population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Not likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Vegetation Communities	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. No activities during the post-closure phase will further disrupt vegetation.	Not applicable	Level I There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Ungulates - Moose	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to moose population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Furbearers - Wolves	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to wolves population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Furbearers - American Marten	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area Activities during the post-closure phase are not anticipated to further result in effects to American marten population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Furbearers - Black Bear	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to black bear population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Bats	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area Activities during the post-closure phase are not anticipated to further result in effects to bats population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Migratory Birds	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to migratory birds population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Terrestrial Biology - TL	Raptors	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to raptors population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Terrestrial Biology - TL	Species at Risk, Species of Special Concern and Provincially Rare Species	During the post-closure phase, vegetation will be allowed to re-establish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in effects to species at risk, species of special concern and provincially rare species population abundance and distribution.	Not applicable	Level I There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Land Use	Land Use Plans and Policies	Once closure activities are completed, no more effects on land use plans and policies are expected.	Not applicable	—	—	—	—	—	—	—
Land Use	Mineral Exploration	Changes in access to other claim areas or effects on the ability to exercise exploration activities within these claim areas during the post-closure phase.	Not applicable	Level II The Project overlaps or changes access to other mining claims but does not limit the ability to exercise exploration activities.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Forestry	During the post-closure phase, vegetation and therefore habitat will re-establish itself with time. As habitat re-establishes, effects on forestry are expected to cease.	Not applicable	Level II The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Hunting	During the post-closure phase, vegetation and therefore habitat will re-establish itself with time. As habitat re-establishes, effects on hunting are expected to cease.	Not applicable	Level II The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Trapping	During the post-closure phase, vegetation and therefore habitat will re-establish itself with time. As habitat re-establishes, effects on trapping are expected to cease.	Not applicable	Level II The Project overlaps with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Land Use	Recreational and Commercial Fishing	Once closure activities are completed, no more effects on recreational and commercial fishing are expected.	Not applicable	—	—	—	—	—	—	—
Land Use	Cottages and Outfitters	Once closure activities are completed, no more effects on cottages and outfitters are expected.	Not applicable	—	—	—	—	—	—	—

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Land Use	Navigable Waters	Due to the continued presence of the watercourse realignments and retention dams during post-closure phase I, use of canoe routes may be disturbed. Following the removal of retention dams and decommissioning of watercourse realignments, the effects on canoeing are expected to cease.	Not applicable	Level II The Project is proximal to canoe routes/waterways used for canoeing/ portaging and does not limit the ability to use these navigable waters.	Level I Effect is restricted to the Project footprint.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely
Land Use	Other Recreational Uses	Once closure activities are completed, no more effects on other recreational uses are expected.	Not applicable	—	—	—	—	—	—	—
Traditional Land Use	Plant Harvesting	Once closure activities are completed, no more effects on plant harvesting are expected.	Not applicable	—	—	—	—	—	—	—
Traditional Land Use	Traditional Hunting	During the post-closure phase, vegetation and therefore habitat will re-establish itself with time. As habitat re-establishes, effects on traditional hunting are expected to cease.	Not applicable	Level II The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Traditional Land Use	Fishing	Once closure activities are completed, no more effects on fishing are expected.	Not applicable	—	—	—	—	—	—	—

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Traditional Land Use	Canoeing	Due to the continued presence of the watercourse realignments and retention dams during post-closure phase I, use of canoe routes may be disturbed. Following the removal of retention dams and decommissioning of watercourse realignments, the effects on canoeing are expected to cease.	Not applicable	Level II The Project is proximal to traditional canoe routes/waterways used for canoeing/ portaging and does not limit the ability to use these navigable waters.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Traditional Land Use	Cultural, Spiritual and Ceremonial Sites	Changes in ability of Aboriginal people to access sites that may be of cultural, spiritual, ceremonial value or may increase or decrease intrinsic values such as privacy, in using sites.	Not applicable	Level I The Project does not overlap important cultural, spiritual or ceremonial sites.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape from Receptor Locations	Changes in landscape due to the continued presence of Project components (TMF and MRA) that could potentially be seen from receptor locations.	▪ Continue to maintain the MRA and TMF revegetation program, as required	Level II Perceptible change in landscape which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape from Non-Receptor Locations	Changes in landscape due to the continued presence of Project components (TMF and MRA) that could potentially be seen from nearby waterbodies.	▪ Continue to maintain the MRA and TMF revegetation program, as required	Level II Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Visual Aesthetics	Change in Landscape due to the Transmission Line	As the transmission line will be removed during the closure phase, no effects are anticipated during the post-closure phase.	Not applicable	Level I No perceptible change in landscape.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Archaeology	Effect on Heritage Sites	Changes to physical or cultural heritage resources including structures, sites or things of historical, archaeological, paleontological or architectural importance that may be overprinted by Project components.	Not applicable	Level I The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the *Heritage Act*.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level III Effect is not reversible.	Not significant	Not likely
Cultural Heritage Landscapes and Built Heritage Resources	Effect on Heritage Resources	Changes to cultural heritage resources including built heritage and/or cultural heritage landscapes, as regulated by the Ontario Heritage Act. Heritage resources could potentially be affected by the Project.	Not applicable	Level I The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Not likely
Socio-Economic	Labour Market	Post-closure activities will be very limited, such that Project staffing and expenditures will be close to baseline conditions.	Not applicable	Level I Effects are expected to occur and are within the normal range of variability.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Business opportunities	Post-closure activities will be very limited, such that Project staffing and expenditures will be close to baseline conditions.	Not applicable	Level I Effects are within the capabilities of existing businesses.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Government Finances	Post-closure Project contributions are not expected to be noticeable since they would only result from direct taxes on post-closure monitoring workers, for example.	Not applicable	Level I Effects are expected to occur and are within the normal range of variability.	Level III Effect extends into the regional study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Population and Demographics	The population is forecasted to decrease to baseline conditions due to very limited work opportunities during the post-closure phase.	Not applicable	Level II Effects are outside of the normal range of variability, although the changes are not substantive enough to result in a community or government response.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Community Health Conditions	During post-closure, the direct employment from the Project will be negligible. The associated decrease in employment may negatively affect how people perceive their health due to diminished financial security and challenges associated to finding employment. Terminated employees may have to move or commute outside of the regional study area to find work which may increase stress on family and friend relations.	Not applicable	Level I Effects are within the normal range of variability.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Housing and Temporary Accommodation	With closure, the Project's contribution to the economy will gradually lessen, eventually returning the regional economy to pre-Project, baseline conditions. This would cause a negative effect on housing demand as workers leaving the area sell their homes, although some workers may choose to commute to a different mine from the same home community, or may retire in the same home community, or may migrate to a new community in search of employment.	Not applicable	Level II Effects may require investment to meet Project housing needs that are within the capabilities of communities / developers.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Public Utilities	During the two year closure phase direct employment from the Project will diminish. Population trends indicate a decline in Timmins, Gogama and Mattagami First Nation reserve and relatively steady state for Sudbury. Reduced population size will decrease demands on public utilities as use decreases.	Not applicable	Level I Effects are manageable within the existing capacities of public utilities.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Education	It is expected that there will be a decline in primary school enrolment, and an increase in demands for post-secondary training to transition workers to other employment.	Not applicable	Level I Effects are manageable within the existing capacities of schools and/or education institutions.	Level III Effect extends into the regional study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Emergency Services	A decrease in employment and potential out-migration of workers to seek other job opportunities has the potential to create adverse social effects such as depression, substance abuse, and domestic violence that would require emergency and/or police response.	Not applicable	Level I Effects are manageable within the existing capacities of emergency service providers.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

Table ES-6: Impact Assessment Matrix for the Post-Closure Phase (cont'd)

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance	Likelihood of the Effect
Socio-Economic	Other Community Services	During post-closure, direct employment from the Project will be negligible. As a result of this and other factors included in population projections for the regional study area, populations are expected to continue to decline resulting in corresponding declines or, in some cases increases, in demands for other community services and infrastructure to pre-Project levels.	Not applicable	Level I Effects are manageable within the existing capacities of community service providers.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level II Effect is partially reversible.	Not significant	Likely
Socio-Economic	Transportation	During the post-closure phase, highway traffic volumes are expected to return to pre-Project volumes.	Not applicable	Level I Effects are manageable within the existing capacities of highway service levels.	Level II Effect extends into the local study area.	Level III The duration of the effect is beyond 15 years.	Level III Effect occurs frequently or continuously.	Level I Effect is fully reversible.	Not significant	Likely

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